



Senato della Repubblica



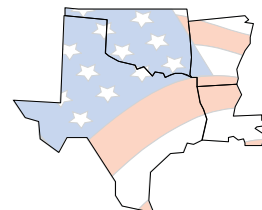
Camera
dei
Deputati

*UNDER THE AUSPICES OF THE
Presidenza della Repubblica
Senato della Repubblica
Camera dei Deputati
Presidenza del Consiglio dei Ministri
Ministero degli Affari Esteri
Ministero della Difesa
Ministero dell'Interno
Ministero della Salute
Istituto Superiore della Sanita'
State of Texas Governor*



COM.IT.ES

**Comitato degli Italiani all'Estero
Committee for Italians Abroad**



In cooperation with

CONSULATE GENERAL OF ITALY IN HOUSTON

Present:

The 9th Conference of Italian Researchers in the World



2013 ANNO DELLA CULTURA ITALIANA
YEAR OF ITALIAN CULTURE

December 14th 2013
Italians Consulate Auditorium
1330 Post Oak Blvd
Houston, Texas 77056



Messaggio del Chairman

Cari Connazionali,

Desidero rivolgere il benvenuto più caloroso a nome del Comitato per gli Italiani all'estero della circoscrizione consolare di Houston, ai partecipanti alla Nona Conferenza dei Ricercatori Italiani nel Mondo.

Anche quest'anno grazie al volontariato dei singoli membri del Comites e del Comitato organizzatore con la stretta collaborazione del CTIM e del Consolato Generale d'Italia a Houston si è arrivati alla nona edizione.

Questa edizione ha il privilegio simbolico di chiudere il sipario per il 2013, dedicato come "Anno della Cultura Italiana negli Stati Uniti d'America", anche se ritengo il non limite di tempo in termini di promozione della nostra lingua e cultura.

Significativa la premiazione che si svolgerà oggi, con giovani studenti delle scuole medie inferiori e superiori, che per la XIII settimana della lingua italiana, hanno partecipato ad un concorso letterario promosso dal Comites in cooperazione con il Consolato Generale d'Italia con il titolo: Ricerca, Scoperta, Innovazione, "L'Italia dei Saperi".

8 i vincitori su 365 partecipanti, con l'elaborazione di tematiche riguardanti il genio tricolore, le grandi invenzioni e grandi scoperte che hanno cambiato il mondo.

Numerosi sono stati i messaggi di apprezzamento arrivati ed indirizzati agli organizzatori ed a tutti i partecipanti, dalle più alte cariche dello Stato Italiano, da Membri del Governo Italiano e dal Governatore dello Stato del Texas, per il costante lavoro e per la promozione delle eccellenze italiane nel mondo.

Oggi, però, l'evento che si è sempre prefisso sin dalla nascita per il potenziamento del networking dei nostri professionisti, assume una valenza molto più significativa del passato. Infatti l'attuale crisi economica e politica del nostro Bel Paese, ha portato tanti giovani connazionali a fare delle scelte obbligate dalla necessità, di lasciare per la maggior parte dei casi i propri cari ed i luoghi di origini per emigrare in cerca di nuove opportunità.

Gli addetti ai lavori che si occupano oltre confine di Italiani all'estero, secondo la mia modesta opinione, si devono assumere l'impegno di potere dare accoglienza e disponibilità ai connazionali che arrivano con tanta voglia di fare, con meritocrazia e capacità. Non ho dubbi che la generosità e l'operatività dimostrata non verrà a mancare.

La nostra Nazione ha bisogno del sostegno dell'altra Italia, molte volte dimenticata, ma oggi sempre più fondamentale con l'appuntamento di oggi, nell'arricchire e potenziare i legami con la Madre Patria, in settori di avanguardia tecnologia e scientifica, per le imprese e per il commercio.

Non bisogna scoraggiarsi, la dimostrazione è nella voglia di fare con positività. Gli accordi bilaterali crescono nel settore della biomedicina tra l'Università di Palermo e quella dell'UTMB di Galveston, la presenza di 3 Dottori-Ricercatori provenienti dall'Italia è testimonianza della concretezza e di alcuni risultati post conferenza.

L'interesse da parte di Imprese ed Aziende Italiane all'estero ed americane nel settore della ricerca è molto rilevante.

Sono convinto che la strada da intraprendere per creare nuove invenzioni che possano servire all'umanità ed opportunità di lavoro, deriverà dal contributo sostanziale delle Aziende pubbliche e private nel campo scientifico.

Certo che, anche da questo incontro si svilupperanno nuovi progetti ed ulteriori progressi, desidero ringraziare tutti i collaboratori del Comites, del Comitato Organizzatore, del Consolato Generale, per aver contribuito ad esaltare una giornata di Italianità e per valorizzare i nostri Talenti dei diversi settori che si distinguono e che sono l'orgoglio Italiano nel Mondo.

Con profonda ammirazione.

Com.Te.Vincenzo Arcobelli
Presidente Comitato per gli Italiani all'estero



Dear All,

It is an honor to host again scientists and researchers from Italy and other Countries that will join us in Houston for the 9th Conference of Italian Researchers in The World. Again we have an exciting program with many presentations in the fields of Medicine, Biology, Genetics, Technology, Aerospace, Archeology and Literature and for the first time Media. This year we are particularly proud to present the work of the Italians researchers of the XXIX Italian Expedition to Antarctica working at the Research Station "Mario Zucchelli" who will connect with us live during the conference.

For this 2013 edition we would like to highlight the work of three groups of Italian researchers who excel internationally in their fields; the Italian scientists at Jet Propulsion Laboratory in Pasadena, CA, who are on the frontline of space exploration from driving the Curiosity Rover on Mars to sending space probes to the outer planets of our solar system: the bio-medical researchers from the Sbarro Health Research Organization (SHRO) in Philadelphia who are extremely active in the field of genetics and cancer research: the Italian faculty at University of Texas Medical Branch and University of Palermo who started their collaboration for an international PhD program at our conference few years back.

I want to thank the organizing committee for their commitment, the sponsoring organizations and the Italian Consulate for their support. Again thanks to all participants, Italians and not, who show us how research makes us all come together for the progress of humanity.

Andrea Duchini, MD, FACP
Director 9th Conference
Member Comites TX



**STATE OF TEXAS
OFFICE OF THE GOVERNOR**

Greetings:

As Governor of Texas, I am pleased to welcome you to the 9th Conference of Italian Researchers in the World.

Texas boasts a population of dedicated, innovative and highly skilled people from all walks of life, each of whom contributes to Texas' economic success. Italians and Italian-Americans have played an important role in the prosperity and diversity of our state. I commend everyone working to promote valuable cultural exchange, research opportunities and commerce between Texas and Italy.

I have every expectation that this conference will be a great success. This forum provides you with opportunities to network, share expertise and discuss ways to meet the demands of the future. Communities across Texas, in Italy and around the world will benefit from your work.

First Lady Anita Perry joins me in sending best wishes for an enjoyable and informative conference.

Sincerely,

A large, stylized handwritten signature of Rick Perry in black ink.

Rick Perry
Governor



*Il Consigliere Diplomatico
del Presidente della Repubblica*

Roma, 12 novembre 2013

Caro Presidente,

faccio seguito alla Sua lettera del 3 ottobre u.s. per augurare, anche a nome del Presidente della Repubblica, pieno successo alla IX Conferenza dei Ricercatori Italiani nel Mondo di Houston che arricchisce i contenuti dell'“Anno della Cultura Italiana negli Stati Uniti”.

Il costante impegno profuso dai ricercatori italiani nelle più svariate discipline da sempre contribuisce al progresso ed all'avanzamento verso nuove frontiere scientifiche e tecnologiche, dando lustro e prestigio al nostro Paese nel mondo.

Sono certo che i qualificati partecipanti alla IX Conferenza dei Ricercatori Italiani nel Mondo sapranno non solo dare un importante stimolo allo sviluppo della ricerca ma anche alla riflessione sulle modalità per valorizzare ed incentivare il talento e le energie delle giovani generazioni di ricercatori che all'estero e in Italia si dedicano con passione e determinazione al loro lavoro.

Nella certezza che, anche quest'anno, la Conferenza segnerà un momento importante per l'Italia e per i suoi ricercatori, mi è gradita l'occasione per fare pervenire agli organizzatori e ai partecipanti, i saluti del Capo dello Stato, ai quali volentieri unisco i miei personali.

(Amb. Antonio Zanardi Landi)

Dottor Vincenzo Arcobelli
Presidente Com.It.Es.
Circoscrizione Consolare di Houston
7684 Green Meadow Ct
Flower Mound, Texas
75022 - USA
atexpress@yahoo.com

Senato della Repubblica
Il Presidente

Roma, 14 ottobre 2013



la ringrazio per il cortese invito a partecipare alla IX Conferenza dei Ricercatori Italiani nel mondo che si svolgerà il prossimo 14 dicembre a Houston e che sono certo, offrirà ai tanti ricercatori italiani che lavorano all'estero l'opportunità di dimostrare non solo la loro professionalità, competenza e capacità di saper lavorare in un *team* multidisciplinare e di fare "*rete*" con altri ricercatori provenienti da diverse parti del mondo, ma anche il loro sempre più penetrante inserimento nei sistemi internazionali scientifici trovandovi motivi di riconoscimento economico e professionale e stimoli alla conoscenza delle "*res novae*".

Alla luce delle sfide che la Comunità internazionale è chiamata ad affrontare, a seguito del processo di globalizzazione, la ricerca scientifica e l'innovazione costituiscono la "*linfa vitale*" della crescita economica di un Paese in quanto producono ricchezza, tecnologia, competitività, occupazione, benessere, consentendo, quindi, ai suoi cittadini un miglioramento della loro vita.

In questo senso e in perfetta sintonia con i principi supremi "*sacralizzati*" nelle Carte costituzionali di uno Stato di diritto, costituisce un preciso dovere delle istituzioni, della politica, del governo e di tutta la società promuovere lo sviluppo della cultura e della ricerca scientifica e tecnica nella consapevolezza che una più intensa cooperazione e collaborazione "*inter nationes*" nel campo della ricerca scientifica, una maggiore sinergia tra i rappresentanti del mondo politico, accademico ed imprenditoriale mirante a elaborare politiche sulla competitività che sappiano valorizzare le qualità professionali necessarie ad un ricercatore perchè possa partecipare alla competizione a livello internazionale, destinare maggiori investimenti ed incentivi alla ricerca per finanziare gli studi e sostenere chi ha deciso di passare parte della sua vita in centri sperimentali in cui hanno la loro sede naturale la "*scienza e gli esploratori del futuro*", rappresentano le linee direttrici di un lungimirante cammino a cui tutti noi dobbiamo dare il nostro specifico contributo per costruire una "*società della conoscenza*" caratterizzata da nuovi saperi sempre più "*accelerati*", grazie al flusso continuo delle scoperte scientifiche e del progresso tecnologico, "*globalizzati*" grazie alla interrelazione sempre più forte tra eventi, processi e saperi indipendentemente dalla loro localizzazione spazio-temporale e "*complessi*", in quanto le trasformazioni della società producono fenomeni sempre più articolati che richiedono per il loro studio curiosità intellettuale, coraggio nell'accettare nuove sfide, apertura mentale, capacità di coinvolgimento e attrazione da tutto ciò che ancora risulta "*senza una spiegazione scientifica*".

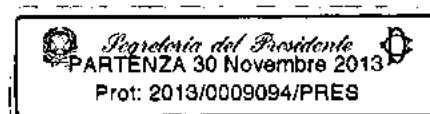
Senato della Repubblica
Il Presidente

Purtroppo improrogabili impegni legati al ruolo di Presidente del Senato non mi consentiranno di essere presente, ma desidero esprimere idealmente la mia partecipazione e il mio plauso personale ed istituzionale alla vostra Conferenza dal così alto valore scientifico ed accademico, grazie alla presenza di autorevoli esponenti del mondo scientifico. Sono certo che questa iniziativa costituirà un prezioso momento di confronto e di riflessione sulla necessità di riconoscere il giusto tributo alla ricerca scientifica intesa come la "*forza trainante*" dello sviluppo globale dell'umanità capace, quindi, con la sua "*vis roboris*" di superare i confini degli Stati e delle discipline, aumentando in tal modo il tasso di collaborazione nel campo della sperimentazione scientifica, la mobilità dei nostri ricercatori all'estero e, al tempo stesso, la capacità di attrarre ricercatori stranieri in Italia nella convinzione che la "*scientia est potentia et progressio populorum*" e che, quindi, non si può assistere a nessun progresso sociale ed umano senza investire in termini di capitale umano e di risorse economiche nella crescita culturale e scientifica.

Sono convinto che il progresso e il benessere di tutti noi passi attraverso questa consapevolezza ed è in questo cammino e nel perseguimento di questi obiettivi che si gioca la più alta avventura dell'individuo come singolo e come membro di una collettività.

Augurando pieno successo alla Conferenza, agli organizzatori e a quanti saranno presenti, invio il mio più cordiale saluto.





LA PRESIDENTE DELLA CAMERA DEI DEPUTATI

*Al Presidente del Com.It.Es
Circoscrizione consolare di Houston
Vincenzo Arcobelli*

Messaggio

In occasione della IX Conferenza “Ricercatori italiani nel mondo”, promossa dal Com.It.Es e dal Consolato Generale d'Italia a Houston, desidero rivolgere a Lei, signor Presidente, e a tutti i partecipanti il mio caloroso saluto ed un sincero augurio di riuscita dell'evento.

La presenza di una significativa e qualificata comunità di ricercatori e studiosi italiani negli Stati Uniti costituisce certamente un motivo di grande orgoglio per tutti noi. La loro brillante attività intellettuale e scientifica è la dimostrazione dei risultati che si possono conseguire quando il talento e la professionalità sono assecondati da una politica lungimirante e perciò consapevole che lo sviluppo e il sostegno alla ricerca può fare la differenza per lo sviluppo di un Paese.

Credo fermamente nel valore della ricerca e dell'innovazione e considero di particolare importanza la determinazione e la passione scientifica di tanti studiosi che, anche di fronte agli ostacoli, non cedono alla rassegnazione e non rinunciano all'ambizione di dare il proprio contributo per migliorare il futuro di tutti noi.

Sono però anche convinta che l'Italia tornerà a crescere quando saprà offrire a molti di voi un percorso professionale sostenibile, di medio e lungo termine. Quando andare all'estero, che considero comunque un arricchimento, sarà per un ricercatore italiano il frutto di una libera scelta e non di una strada obbligata.

Per tali ragioni, sono convinta che garantire alla ricerca strutture e finanziamenti adeguati costituisca il primo passo per crescere e per affrontare le sfide che ci attendono.

Ritengo che la Conferenza dei ricercatori italiani nel mondo sia un appuntamento di grande rilevanza proprio perché, favorendo l'incontro tra studiosi e ricercatori italiani delle due sponde dell'Atlantico, ne valorizza il talento, promuove la condivisione di risultati e di esperienze professionali e ravviva, anche sotto questo aspetto, il senso di appartenenza all'Italia.

Laura Boldrini



Ministero degli Affari Esteri

MESSAGGIO DI SALUTO

desidero rivolgere il mio più caloroso saluto a tutti i partecipanti alla Conferenza dei Ricercatori Italiani nel Mondo che si svolgerà a Houston il prossimo 14 dicembre e la cui organizzazione è stata resa possibile anche quest'anno grazie al locale COM.IT.ES., che pur nelle difficoltà – a me ben note - riesce a mantenere ben saldi i legami con l'Italia e continua nel meritorio impegno di promozione delle eccellenze italiane negli Stati Uniti.

La Conferenza, giunta ormai alla nona edizione, rappresenta una preziosa occasione per valorizzare il lavoro dei nostri talenti scientifici operanti in Arkansas, Louisiana, Oklahoma e Texas. L'importanza assunta da questo appuntamento nel corso degli anni riflette l'altissimo valore aggiunto che la professionalità dei nostri ricercatori negli Stati Uniti apporta per il miglioramento della vita e per l'innovazione tecnologica.

La Conferenza dei Ricercatori Italiani nel Mondo è fra le centinaia di eventi che si stanno svolgendo in tutti gli Stati Uniti in occasione de "L'Anno della Cultura Italiana negli Stati Uniti" e contribuisce in modo rilevante al consolidamento dei già forti legami che uniscono i nostri due Paesi, in settori di grandi opportunità per le gli scienziati, i ricercatori italiani all'estero e le imprese.

Emma Bonino

*Il Ministro della Difesa*

Roma, 25 NOV. 2013

Caro Presidente,

La ringrazio per il cortese invito a partecipare alla Nona Conferenza dei Ricercatori Italiani nel mondo.

Inderogabili impegni istituzionali mi impediscono di essere tra voi, ma desidero formulare il mio più sentito apprezzamento per una iniziativa che ha il merito di porre in evidenza i nostri ricercatori, indiscusse eccellenze italiane nel mondo in un anno, il 2013, dedicato alla cultura italiana negli Stati Uniti d'America.

Quest'anno l'iniziativa assume un significato particolare, poiché offre l'occasione di rimarcare l'importante ruolo che l'industria e i Governi possono e devono rivestire in termini di investimenti nel campo della ricerca, oltre che un prezioso momento di confronto tra i rappresentanti della comunità scientifica all'estero.

La globalizzazione impone sfide sempre più elevate nel campo dell'innovazione, della ricerca e della competitività e un'economia moderna non può sottrarsi alla quanto mai attuale necessità di investire in tali settori. Ricerca scientifica e tecnologica sono essenziali, soprattutto nell'attuale fase di crisi economica, se vogliamo puntare ad una crescita sostenibile, ma, sono anche convinto che occorra un cambiamento culturale per cogliere la reale portata di tale opportunità.

Un cambiamento culturale che riconosca alla ricerca scientifica il suo ruolo fondamentale come motore delle politiche di sviluppo, rilancio e innovazione.

La conferenza che avete organizzato è pertanto di basilare importanza e non solo per porre in rilievo l'alto valore del lavoro svolto dai ricercatori italiani in svariati campi, come Scienze Bio Mediche, Medicina, Fisica, Ingegneria, Aerospazio, Geologia, Energia e Studi Umanistici ma anche per rilanciare con forza il messaggio che l'Italia e il mondo intero, possono e devono guardare ancora con fiducia al futuro realizzando un nuovo patto tra ricerca e sistema produttivo.

Nel ringraziarLa nuovamente per l'invito e nel congratularmi per il lavoro che il Comitato svolge quotidianamente, colgo l'occasione per augurarLe il pieno successo dei lavori della Conferenza.

Sen. Mario Mauro

Dottor
Vincenzo ARCOBELLI
Presidente COMITES
HOUSTON



Il Ministro dell'Interno

Roma,

11 DIC. 2013

Caro Presidente,

sono particolarmente lieto di rivolgere agli organizzatori di questo incontro, ed in particolare al Comm. Vincenzo Arcobelli, Presidente del Comitato degli Italiani all'Estero, un sincero ringraziamento per l'organizzazione di questa Nona Conferenza dei Ricercatori Italiani nel Mondo, che nel corso degli anni è cresciuta notevolmente diventando non solo un appuntamento atteso dalla comunità e specifico per la ricerca, ma anche un momento che esalta l'italianità nel campo scientifico, sociale e culturale.

Sarebbe stato mio vivo desiderio partecipare a tale significativa riunione dedicata non solo alla Ricerca ma soprattutto al ruolo fondamentale che in una società sempre più globale hanno avuto e continuano ad avere i Ricercatori ed i Professionisti Italiani nel Mondo, ma con mio sincero rammarico non posso rinunciare ad impegni istituzionali assunti da tempo e dai quali non posso esimermi.

Nel formulare gli auguri più fervidi per la migliore riuscita dell'evento, invio a tutti i partecipanti ed addetti ai lavori, un caloroso saluto.

Angelino Alfano

Comm. Vincenzo Arcobelli
Presidente Comites Houston
7684 Green Meadow Ct
Flower Mound, Texas 75022 - USA

*Il Ministro della Salute*

Roma, 13 DIC. 2013

832/CONJ/BL/13

Coro Reside

E' con vero piacere che saluto i ricercatori italiani nel mondo che orgogliosamente rivendicano la loro italianità e che si riuniscono a Houston il prossimo 14 dicembre nella IX Conferenza mondiale.

La ricerca è per sua natura senza alcun limite territoriale, le idee non hanno confini. La situazione discende semplicemente da un epifenomeno legato alla rigidità del sistema italiano che di fatto costringe ad affidarsi ad altri sistemi più dinamici e reattivi.

Però sull'onda emotiva si potrebbe cadere nell'errore di riservare finanziamenti, anche consistenti che, se non sono preceduti da altri sulle infrastrutture e sulla attenta valutazione dell'impatto del nuovo sull'esistente, rischiano di essere o inutili o incapaci di integrarsi.

Pertanto il primo punto è quello relativo alla creazione di opportunità e non necessariamente alla destinazione di risorse direttamente alle istituzioni.

La nostra idea è quella di creare un terreno di cultura capace di promuovere un'integrazione controllata con le realtà estere, di importare in Italia esperienze più avanzate ed infine avere la capacità di tradurre le idee in attività che possano portare risorse aggiuntive.

Infatti i tre momenti fondamentali della ricerca moderna sono la sua internazionalizzazione, la capacità di lavorare in gruppo anche con partner al di fuori dei confini nazionali, la capacità di trasformare le idee in occasioni produttive che portino ricchezza e nuove risorse da reinvestire.

L'elemento determinante è dunque creare occasioni e opportunità presso le sedi di formazione dei giovani rendendo la fuga fisiologica. La strategia che si intende implementare per il raggiungimento degli obiettivi dell'iniziativa consta essenzialmente di tre azioni tra loro coordinate e sinergiche. La prima è finanziare i giovani in Italia facendoli collaborare con tutor italiani residenti all'estero; creare opportunità di inserimento in Italia di queste nuove figure per integrarsi nel SSN; utilizzare procedure per convogliare il capitale privato in questo sforzo.

L'idea è quella di coinvolgere i ricercatori che operano all'estero utilizzandoli come risorsa; nello stesso tempo si cerca di dare a questo Paese l'idea della ricerca diversa da quella fino ad ora esistente che si sostanzialmente nel finanziamento pubblico a prescindere dalla qualità, nel finanziamento alla struttura e non alla persona e nel completo disinteresse o mancanza di risorse per l'investimento preindustriale.

Noi stiamo cercando di modificare questa tendenza a partire dal progetto giovani ricercatori; abbiamo proseguito per questa strada arricchendola con progetti in cui l'industria ha un ruolo importante ed inoltre sono previsti progetti con i ricercatori italiani operanti stabilmente all'estero. Questo con lo scopo ben preciso di "importare" anche in Italia il sistema internazionale che i ricercatori italiani all'estero conoscono e garantiscono.

Penso che questa sia la strada per dare un futuro a questo Paese e Voi sarete, per quanto detto, direttamente coinvolti.

Beatrice Lorenzin
Beatrice Lorenzin

Dr. Vincenzo Arcobelli
Presidente Comites
Houston

*Istituto Superiore di Sanità*

IL PRESIDENTE

00181 ROMA
16 OTT 2013
VIALE REGINA ELENA, 299

Pre 685/13

Comm. Vincenzo ARCOBELLI
Presidente Comites Houston
7684 Green Meadow Ct
Flower Mound, Texas 75028
U.S.A.

Gentile Presidente,

ho molto gradito il Suo cortese invito alla "9th Conference of Italian Research in the World", che si svolgerà a Houston il 14 dicembre p.v. Sono spiacente di comunicarLe che i numerosi impegni istituzionali connessi al mio recente ruolo di Presidente dell'Istituto Superiore di Sanità non mi consentiranno di essere presente.

Sono lieto di assicurare il patrocinio dell'Istituto Superiore di Sanità a questo importante evento, che sottolinea l'importanza del dialogo interculturale, della collaborazione tra ricercatori e della valorizzazione dei risultati della ricerca scientifica e tecnologica, finalizzate a favorire la trasmissione delle nuove conoscenze al mondo produttivo.

Mi è gradita l'occasione per porgere a nome mio personale e dell'istituzione che rappresento i miei più sinceri auguri di un sereno e proficuo lavoro a Lei e a tutti i partecipanti all'evento.

Con molti cordiali saluti.

Fabrizio Oleari

*L'Ambasciatore**Caro Presidente,**Ambasciata d'Italia
Washington***N° 4887**

24 ottobre 2013

desidero esprimere sentite congratulazioni per la prossima Conferenza dei Ricercatori Italiani nel Mondo, una riunione che e' cresciuta negli anni e che, alla sua nona edizione, si conferma un importante appuntamento per la comunità dei ricercatori e degli studiosi italiani nel mondo.

Essa si inserisce nell'Anno della Cultura Italiana negli Stati Uniti, che presenta il nostro come un Paese all'avanguardia nella modernità innovativa, nella scienza e nelle produzioni di qualità.

La conferenza organizzata dal COMITES di Houston offre l'occasione di poter apprezzare il lavoro dei molti ricercatori italiani, oltre che un momento d'incontro con colleghi americani.

Sono quindi molto dispiaciuto di non poter partecipare personalmente: purtroppo concomitanti impegni mi impediscono di farlo.

Nel ringraziarLa, Presidente Arcobelli, e per il suo tramite il comitato organizzatore, e nell'esprimere il mio apprezzamento per l'iniziativa, formulo auguri per un proficuo svolgimento dei lavori.

Con molto cordiale saluto,

Claudio Bisogniero

Dott. Vincenzo Arcobelli
Presidente
COMITES Houston
7684 Green Meadow Ct.
Flower Mound, Texas 75022



2013 ANNO DELLA CULTURA ITALIANA
YEAR OF ITALIAN CULTURE



Sono lieto di presentare il mio saluto ai partecipanti alla Nona Conferenza dei Ricercatori Italiani nel Mondo.

Questa riunione è il risultato della fattiva collaborazione tra il COMITES ed il Consolato Generale di Houston, ed è cresciuta nel corso degli anni sino a diventare il principale appuntamento per la comunità dei ricercatori e degli studiosi italiani che vivono e operano in questa regione, dove onorano il nostro Paese con il loro lavoro.

E' motivo di particolare prestigio per questo Consolato Generale che la Conferenza dei Ricercatori Italiani nel Mondo si svolga a Houston.

Houston è la capitale mondiale dell'energia, in cui sono presenti tutte le principali Corporation mondiali del settore ed all'avanguardia nella ricerca in campo energetico, come dimostrato dalla recente rivoluzione energetica generata dallo sfruttamento delle risorse contenute nelle rocce scistose. Houston è però anche un importantissimo centro per la ricerca medica e spaziale grazie all'eccellenza degli Istituti, Agenzie e Centri Medici che ospita, dal Johnson Space Center della NASA al Texas Medical Center di Houston. Ed è motivo di particolare orgoglio per l'Italia sottolineare che i nostri ricercatori contribuiscono alla vitalità di tutti e tre questi settori.

In questa ottica, la Conferenza dei Ricercatori consente di incoraggiare e sostenere il dialogo tra il mondo della ricerca italiano e le realtà locali, e di dimostrare che, nonostante le distanze, Houston e l'Italia sono unite da un legame forte che trova le sue radici proprio nella ricerca. Tale chiave di lettura può e deve essere estesa anche ad altre realtà nel più ampio ambito delle relazioni scientifiche tra Italia e USA, la cui importanza cruciale per entrambi i Paesi non ha bisogno di essere ulteriormente sottolineata.

Mi è gradita l'occasione per presentare a tutti voi i miei migliori saluti ed auguri di buon lavoro.

A handwritten signature in blue ink, which appears to read 'F. Nava'.

Fabrizio Nava



CITY OF HOUSTON

Annise D. Parker

Mayor

P.O. Box 1562
Houston, Texas 77251-1562

Telephone – Dial 311
www.houstontx.gov

December 14, 2013

Greetings:

As Mayor of Houston, I extend a warm welcome to those attending the **9th Conference of Italian Researchers in the World**, organized by the Committee for Italians Abroad and the Consulate General of Italy in Houston.

Houstonians take great pride in the diversity of our city and in our international ties. Public and private investments have built the world's largest medical center, a leading international port and NASA's Johnson Space Center. These investments have helped make Houston a capital of the energy industry and a major center for international commerce and research. We appreciate the contributions of citizens of Italian heritage to our city's innovation and expertise.

Please accept my best wishes for a pleasant and productive experience in Houston.

Sincerely,

A handwritten signature in dark ink, reading "Annise D. Parker".

Annise D. Parker
Mayor



Council Members: Helena Brown Jerry Davis Ellen Cohen Wanda Adams Dave Martin Al Hoang Oliver Pennington Edward Gonzalez
James G. Rodriguez Mike Laster Larry Green Stephen C. Costello Andrew Burks Melissa Noriega C.O. "Brad" Bradford Jack Christie
Controller: Ronald C. Green

Città di Palermo
N. Ludovico

I would like to thank Professor Giovanni Zummo and Professor Francesco Cappello for giving me the opportunity to address you directly through this message.

The Houston COMITES and the Confederation of Sicilians of North America have provided a valuable and solid support for the ongoing collaboration between the University of Palermo and the University of Texas Medical Branch of Galveston, that has led to the establishment of the international PhD School of Biomedicine and Neuroscience.

It would certainly be worthwhile to introduce such initiatives to those who wonder whether organizations such as the COMITES are still needed.

Moreover, this meeting in Houston is of special interest to me given that I have created a service in my city that handles the relations with Italian expatriate communities worldwide.

In fact, in my opinion it is important to maintain our ties with the resource represented by the Italian expatriate communities all over the world, since we are increasingly being called to live "multi-level citizenships" with a multiplicity of identities.

Your experiences, never simple, as Italian expatriates abroad, should be used to help us to find new forms of participation and integration. Bolivia, for example, has recently been officially defined as a plurinational state in recognition of the indigenous identities within the country.

Accepting the complexities involved in emigration is a sign of great political intelligence, but also a motivation for recovering our traditions and putting them in the service of modernity.

In the recent months, we have repeatedly come across the issue of our young graduates who emigrate, sometimes referred to as talents on the run. Surely, in today's globalized world, these young people have every right to gain work experience anywhere in the world, but they also have every right to return to their homeland whenever they wish to do so. However, this is a right that they are currently not able to exercise. We, as a community, within and beyond national borders, must ask ourselves how to address this issue. We must help our young people and try to prevent the phenomenon of "brain waste".

The city of Palermo wants to promote this project that allows a large number of Sicilians working abroad, especially in North America, to engage in scientific collaborations with groups of excellence that do exist within our region.

In fact, I am convinced that the bonds Sicilian expatriates share with their country of origin are still strong, and that through this project, we can nurture our dream of placing Sicily at the center of a project

promoting the cultural and scientific revival of the Mediterranean region, economic contingencies – at the moment very unfavorable – allowing.

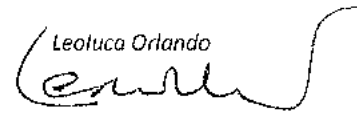
Italy is a country that risks to live in the memory of its glorious past, while not being able to look ahead. Even worse, at the moment it is unable to ensure a bright future to its young people.

I am convinced that this generation, with the additional benefit of having gained work and living experience abroad, can help Italy to not only remember its past, but also to learn to look into the future.

However, this issue is relevant in the entire world, suffering due to a crisis caused by ill-chosen development models and not just economy.

Yet there is the doubt of whether the countries, companies, and, why not, cities and regions able to recognize and exploit this "generation of expatriates" can drive the growth of this century?

Let's explore the road of possible collaborations without being afraid to get involved. It is not a matter of building a monument to erect in a town square in Italy in memory of its emigrants. No, today we are being asked to do much more. We are being asked to be worthy of the illustrious past that we represent in the world by building a bright future for the young people. For our talents, but also for talents from abroad.

Leoluca Orlando


Città di Palermo
Il Sindaco

Leoluca Orlando

desidero complimentarmi con Lei e con il COMITES di Houston, da Lei presieduto, per la lodevole iniziativa della "Conferenza dei ricercatori italiani nel mondo" che si svolgerà il prossimo 14 dicembre a Houston.

Una iniziativa davvero importante, peraltro giunta alla sua nona edizione, svolta in collaborazione e con il Patrocinio del Consolato Generale d'Italia, e che sicuramente anche quest'anno porterà risultati eccellenti.

Sono certo, caro Presidente, che questa Conferenza sarà di grande aiuto per i ricercatori che lavorano con l'Italia, un'occasione per incontrarsi e per condividere ricerche e risultati anche con la comunità italiana e con le aziende che finanziano e promuovono queste ricerche.

Ai dottor Roberto Mazzearella (+39 3389461292, e-mail r.mazzearella@comune.palermo.it), che mi coadiuva in questi rapporti con la comunità italiana nel mondo, potrete senz'altro rivolgervi per inviare aggiornamenti sulla conferenza, proposte di iniziative e quant'altro riterrete utile per mantenere un rapporto utile e proficuo

Leoluca Orlando

Leoluca Orlando

Leoluca Orlando

Al Signor Presidente

Del COMITES di Houston

Com.te Vincenzo Arcobelli

presso Ufficio del Consolato Generale d'Italia

1300 Post Oak Blvd

Houston, Texas, 77056



Comitato Tricolore per gli Italiani nel Mondo

Associazione fondata nel 1968 da Mirko Tremaglia

Via della Mercede, 27 – 00187 Roma
tel. 06/69200379 – fax 06/69970005
sito: www.comitatotricolore.org
e-mail: ctim.roma@tin.it

Roma, 10 dicembre 2013

Caro Vincenzo,

Ti informo che il CTIM - Comitato Tricolore per gli Italiani nel Mondo ha deciso anche quest'anno di dare il proprio patrocinio alla **Conferenza dei Ricercatori Italiani nel mondo** che si svolgerà a Houston il 14 dicembre prossimo.

Questa vostra iniziativa, giunta alla nona edizione, sta assumendo negli anni un sempre maggiore valore perché unisce agli aspetti scientifici quelli sociali e culturali, coinvolgendo studiosi nei campi delle scienze biomediche, della medicina, della fisica, dell'ingegneria e dell'aerospazio, ma anche di geologia, energia e studi umanistici. L'evento è divenuto una manifestazione tradizionale per la città di Houston.

Nell'esprimere la mia soddisfazione per l'iniziativa presa, mi è gradita l'occasione per inviare a Te e a tutti i partecipanti i miei più cordiali saluti.

On. Roberto Menia
Segretario Generale
Comitato Tricolore per gli Italiani nel Mondo

Com.te Vincenzo Arcobelli
Presidente Comites Houston
Coordinatore Nord America CTIM



Carissimo Presidente Arcobelli,

a nome dello I.E.M.E.S.T. - Istituto Euro-Mediterraneo di scienza e Tecnologia di Palermo, desidero esprimere i sensi della mia più sincera considerazione per l'alta missione culturale, scientifica, civile e umana che porta avanti con l'organizzazione della Conferenza "Ricercatori Italiani nel Mondo" sotto le prestigiose insegne del Comitato per gli Italiani all'estero.

Credo infatti che ad unirci oltre ogni distanza è la convinzione che, in un tempo di forte crisi morale, politica, economica, e sociale, è dalla cultura che può venire il riscatto dei popoli.

In questo senso ritengo doveroso sottolineare come ai nostri occhi di uomini che hanno scelto la via della conoscenza e della ricerca come fondamentale dimensione esistenziale risulta impagabile il lavoro da Lei svolto non soltanto per lo spessore delle personalità e delle Istituzioni scientifiche e culturali coinvolte, ma soprattutto nell'interesse di tutta l'umanità.

Con la Vostra iniziativa realizzate una perfetta combinazione tra valori che messi insieme possono davvero fare la differenza per la crescita civile e ed economica di tutti i popoli: senso dell'appartenenza al destino comune di una comunità nazionale aperta e inclusiva, valorizzazione dei meriti e delle intelligenze più vive, creazione di reti tra sistemi geoeconomici e strategici di livello internazionale.

Grazie quindi per tutto quello che insieme ai nostri connazionali americani del COMITES avete fatto e farete negli anni a venire per la scienza, la cultura e la libertà dei popoli, e grazie di cuore anche a tutte le istituzioni diplomatiche italiane e governative americane che dimostrano tutta la qualità della rappresentanza più alta dei nostri principi democratici.

Palermo, 21 novembre 2013

Il Presidente
On. Prof. Bartolomeo Sammartino



Il Comites della circoscrizione consolare di Houston in rappresentanza della collettività Italiana degli stati del Arkansas, Louisiana, Oklahoma e Texas si unisce alle celebrazioni per l'anno 2013 dedicato alla lingua e cultura italiana negli Stati Uniti d'America

PROGRAM**9:00-9:15 AM**

National Anthems and Welcome Messages

Opening remarks Vincenzo Arcobelli, Conference Chairman, Presidente Comites
Fabrizio Nava, Italian Consul General, Houston
Renato Turano, Italian Republic Senator, Member of the Italians Living Abroad Committee
Oliver Pennington, City of Houston Council member
Andrea Duchini, Conference Director, Comites Councilor

9:15-10:15 AM

International PhD Program, University of Texas Medical Branch-Universita' di Palermo
Moderators; Cristiana Rastellini

Luca Cicalese, (UTMB)

The Establishment of the International PhD Program between Galveston and Palermo: The collaboration has started; The UTMB prospective.

Giulio Taglialatela, (UTMB)

The Establishment of the International PhD Program between Galveston and Palermo: The collaboration has started; The Graduate School prospective.

Francesco Cappello, (University of Palermo)

The Establishment of the International PhD Program between Galveston and Palermo: The collaboration has started; The University of Palermo prospective.

Tiziana Corsello, PhD student in Neuroscience and Cell Biology (University of Palermo/UTMB)

Human Wharton's jelly-derived mesenchymal stem cells (WJ-MSC) in type I diabetes (TID)

Mauro Montalbano, PhD student in Neuroscience and Cell Biology (University of Palermo/UTMB)

Isolation and Characterization of Liver Cancer Stem Cells from Human Hepatocellular Carcinoma.

10:15-10:35 AM**Keynote lecture**

Moderator; Fabio Triolo

Giulio Draetta, MDACC

Understanding Context-Dependent Relevance of Potential Cancer Drug Targets.

10:35-12:30 AM**General session**

Young Investigators

Moderators; Ennio Tasciotti, Davide Cattano

Ahmad Salameh, UT Houston
Angela Lombardi, UT San Antonio
R. Molinaro, TMHRI
Flavia Vitale, Rice University
Daria Zorzi, UTMB
Giuseppe Damiano, UTMB
B. Corradetti, TMHRI
Esmeralda Moscatelli, UT Austin
Moiria Di Mauro-Jackson, TSU

12:30-1:00 PM

Lunch Break

1:00-1:45 PM

Italian Literature

Moderators; Marina Mocci, Alex Di Bagno, Francesca Behr, Tiziana Triolo

Special presentation;

Tatiana Yakushkina, University of St Petersburg

Russia and Italy: Close Encounters at the Crossroads of Saint-Petersburg

HISD Program: Italian as foreign language. Award ceremony.

1:45-2:30 PM

Media and Technology

Moderators; Paolo Papi, Rodolfo Ambrosetti

Romina Olson, Sergio Carvajal-Leoni

The ITAL project

Brando Ballerini

Industry Finding Value in New Product Development

2:30-4:45 PM

Aerospace

Moderators; Francesco Fusco, Orazio Chiarenza

A film by Valentina Martelli, Luca Severi:

The magnificent Journey; The Italian endeavor in space exploration: Produced by Ibiscus Media Inc. and Italian Consulate of Los Angeles, featuring Italian Researchers at NASA's Jet Propulsion Laboratory Paolo Bellutta, Daniela Biccari, Simone Tanelli, Cinzia Zuffada

Jeff Siders, Orbital Sciences Corporation

Orbital Sciences Cargo Resupply Service to the ISS

Simone Lolli, NASA

0.355- μ m Direct Detection Wind Lidar under testing during a field campaign in consideration of ESA's ADM-Aeolus Mission

Francesco de Dilectis, Texas A&M

Trajectory determination based on data acquired via image processing

Udrivolf Pica, JSC/La Sapienza

A value proposition for Q-Thruster enabled interplanetary missions

Andrea Terracciano, Purdue/La Sapienza

Experimental Study of Combustion Instabilities in a Longitudinal Mode-Rocket Combustor

Kamlesh Lulla, NASA

Collaborating with NASA Johnson Space Center

The XXIX Italian Expedition to Antarctica; Live connection with the Italian Research Station "Mario Zucchelli"

Silvia Illuminati, Eva Pisano

4:45-5:00 PM Coffee Break

5:00-5:20 PM

Giuseppe Martini, CNR

Campania Bioscience and the new opportunities for Research and Innovation in Southern Italy

Round Table/Questions

Nicola Abate

Francesco Cappello

Andrea Duchini

Fabrizio Nava

Cristiana Rastellini

Stefano Sdringola

6:00 PM Closing Remarks Vincenzo Arcobelli

Organizing Committee:

Vincenzo Arcobelli

Orazio Chiarenza

Luca Cicalese

Francesca D'Alessandro-Behr

Andrea Duchini

Francesco Fusco

Paolo Papi

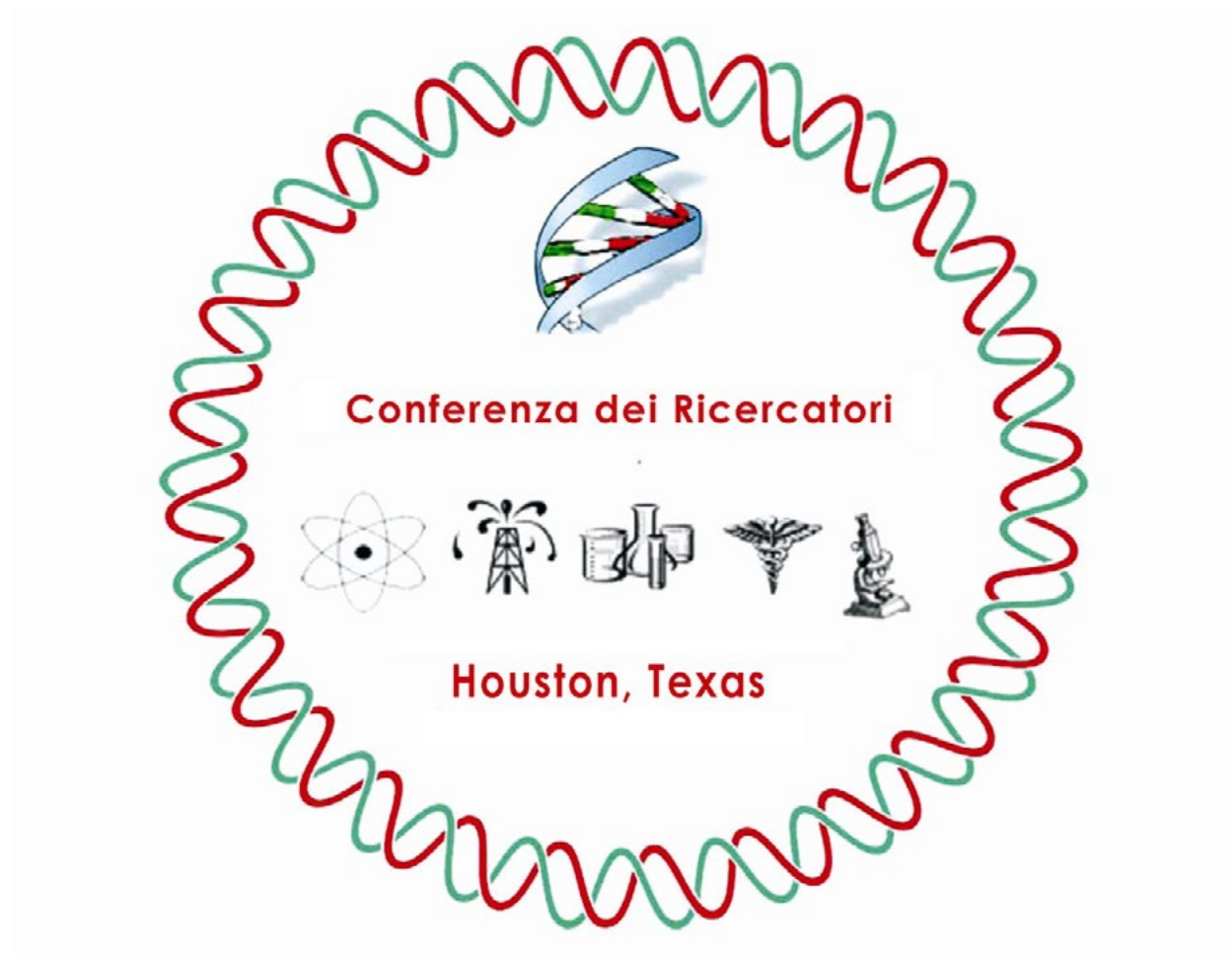
Stefano Sdringola

Giulio Tagliatela

Manuela Tentoni

Fabio Triolo

Tiziana Triolo



ABSTRACTS AND AUTHORS 2013



*Sono lieto di presentare il mio saluto ai partecipanti della
Nona Conferenza dei Ricercatori Italiani nel Mondo.*

Luca Parmitano

The XXIX Italian Expedition



Italian Research in Antarctica

Small molecules as new anticancer drugsAgnese A. Abate¹ and Antonio Giordano¹¹Sbarro Institute for Cancer Research and Molecular Medicine, College of Science and Technology,
Temple University Philadelphia

In eukaryotic cells, protein kinases regulate most cellular processes including growth, metabolism, proliferation and transcription through phosphorylation events that trigger the activation/inactivation of multiple complex pathways. The human genome sequencing revealed 518 protein kinases containing a eukaryotic protein kinase catalytic domain, which were classified into a hierarchy of 134 families and 201 subfamilies. Members of one of these families are the cyclindependent kinases (CDKs) that control key progression steps of cell division cycle, generally, but not only, under the timely regulation of heterodimeric cyclin partners. Loss of ability in controlling cell cycle is a hallmark of cancer cells and, consistently, cell cycle regulatory proteins are often altered in cancer leading to aberrant cell growth. CDK overexpression can be caused by gene amplification, chromosome translocation, point mutations impairing the kinase interaction with endogenous inhibitors, such as p16, p21 and p27 (as the case of CDK6 in some melanoma patients), cyclin overexpression or alterations of endogenous CDK inhibitors. So far, 24 ATP-competitive CDK inhibitors are in Phase I and II clinical trials and numerous compounds have been patented. Despite different chemical structures, which include purines, alkaloids and flavonoids, all of them bind the ATP-binding pocket of CDK proteins mimicking ATP structure. Owing to the high degree of amino acids chain conservation in the ATP-binding pocket, many result to be *pan*-CDK inhibitors, even if some have shown more or less selectivity for specific CDKs.

A good strategy to target specifically the CDK2-cyclin A complex has been described by our group. By comparing different proteins biologically active as CDK2-cyclin A inhibitors, such as p107, pRb2/p130, E2F1 and others, we identified a small sequence of 39 amino acids, belonging to the spacer domain of RB2/p130 (Spa310), which is essential to block the CDK2-cyclin A complex. Moreover, we demonstrated that Spa310 exhibits activity as tumor growth suppressor in nude mice. In fact, mice treated with Spa310 have shown significant reduction of tumor volume, suggesting a new prospective of its use as therapeutic antitumor drug. Additional studies, based on the Spa310 mode of function, are currently being developed to show that the specific inhibition of CDK2 activity toward RB2/p130 is an effective antitumor strategy for various cancer types.

Agnese A. Abate, PhD is currently Adjunct Assistant Professor at the College for Science and Biotechnology at Temple University, teaching undergraduate students and working as director of chemical lab at Sbarro Health Research Organization with Prof. Antonio Giordano. During her Italian career, she worked as medicinal chemist for European Institute of Oncology, Milan in a drug discovery unit. Since 2001, she has written seventeen papers and two patents and her research has focused on drug discovery of new small molecules, having biological activity, in particular for cancer therapy. She has developed research projects concerning the cure of cancer, with an interest in histone deacetylase (HDAC) inhibitors and recently in CDK inhibitors.

Abstract of the presentation by Brando Ballerini
Title: Industry Finding Value in New Product Development

New Product Development is a key tool as will deliver new technological solutions to the Industry.

This presentation wants to show to Researchers how Industry organizes the development of new products and how it will be important for them to be focused on the fact that the market will dictate the characteristic and technical specification of the new product.

Researchers will also understand the economic impact of the new development as combination of cost and profit.

When Researchers understand these key factors: Market, Cost and Profit; then their new technical solutions will generate the success of the new product.

MR. BRANDO PAOLO BALLERINI

Brando Paolo Ballerini began his career in the drilling industry with his family's company Ballerini S.p.a., a firm specialized in drilling rigs and equipment design and manufacturing, after he was receiving a BS degree in mechanical engineering at the Polytechnic University of Milan, Italy in 1980.

He is a Registered Professional Engineer in Italy and member of the Society of Petroleum Engineers.

Since 1986 he has been appointed as member of the Board of Directors and since 1989 as Chairman of Ballerini S.p.a. Since 1993 he has been appointed as President and C.E.O. of Massarenti & Ballerini S.p.a.

In 1997 he joined the Trevi / Drillmec Group and since 2004 he has been appointed as President and as Member of the Board of Directors of Drillmec, Inc., Houston, TX.

From 2005 till 2010 he has been Vice President of COMITES – Houston Chapter (Committee for Italians living abroad)

Since November 2010 he is the President of the Italy-America Chamber of Commerce of Texas, Inc.

In 2011 he has received from Giorgio Napolitano, President of Italy, the Legion of Merit of Italy (Cavaliere della Repubblica-Stella della Solidarieta').



The zebrafish as model for burns-induced pain studies

Gianfranco Bellipanni^{1,2}, Valentina Malafoglia^{1,3}, William Raffaeli³ and Antonio Giordano^{1,2}

¹Sbarro Institute for Cancer Research and Molecular Medicine & ²Department of Biology, College of Science and Technology, Temple University, Philadelphia, PA 19122, USA.

³ISAL-Foundation. Via San Salvador 204 - 47922 Torre Pedrera (RN), Italy.

Skin burns have several negative effects in patients due to continuous suffering caused by neuropathic pain-like symptoms that may derive from the burned area. Neuropathic pain is caused by injury of the central or peripheral nervous systems, which is a rather complex event involving not only neuronal pathways but also immune cells and glia. In response to neuropathic pain and inflammation, the synthesis of several genes is *de-novo* induced or augmented in mammals. Some of the factors are up-regulated in response to neuropathic pain and inflammation in mammals. We called this group of genes pain markers genes (PMGs).

Studying neuropathic pain in humans or in mammalian animal models is difficult for the obvious ethical and technical complexity. Thus, the implementation of the old models with a new approach is desirable. Ideally, we need an animal model that is easy to keep, simple to manipulate, that shows a high degree of similarity in nociceptive responses with mammals. We have chosen the non-mammalian vertebrate zebrafish for our studies.

First we have analyzed the effect of the noxious heat stimulus to the motor axons of zebrafish larvae and determined that the majority of these innervations were damaged by the assay. Then, we have analyzed quantitatively and qualitatively the expression levels of the transcripts of PMGs. In our treated larvae we found stronger up-regulation in single putative neurons of the spinal cord and/or gut of most of the PMGs analyzed. These augmented expressions were also limited in time between 4h and 6h after the stimulus. At 24h after the noxious stimulus the larvae returned to express normal levels of PMGs and recovered most of the neuronal damages induced to the motor axons.

We have established a new noxious assay in zebrafish larvae that induces effects similar to post-burn neuropathic pain as seen in mammals. We think that with this work we have provided evidence supporting the use of zebrafish larvae to study cellular and genetic networks related to neuropathic and/or inflammatory pain symptoms.

Gianfranco Bellipanni, Ph.D.: is Assistant Professor at the Department of Biology and the Sbarro Institute for Cancer Research and Molecular Medicine (SHRO) at the College of Science and Technology, Temple University (USA).

Dr. Bellipanni received his BS and Ph.D. in Cellular and Developmental Biology from the University of Palermo, Italy. He worked at the University of Pennsylvania with Prof. Eric Weinberg and at the GSF of Munich with Prof. Laure Bally-Cuif. In 2000, he won the Alberto Monroy Fellowship to attend the prestigious Embryology Course at the Marine Biological Laboratory (MBL) in Woods Hole, MA. Since 2008 Dr. Bellipanni is director of the Developmental Biology unit of the SHRO leaded by Prof. Antonio Giordano and Assistant Professor at Temple University.

Paolo Bellutta**Jet Propulsion Laboratory, Pasadena, CA USA***Member of Technical Staff*

Paolo Bellutta is a member of the MER and MSL teams at NASA's Jet Propulsion Laboratory. He has been a rover driver for nine years for the MER Spirit and Opportunity vehicles and now is a rover driver for MSL Curiosity.

Currently I am part of the Activity Planning and Sequencing Subsystem team as a Rover Planner (=Rover Driver) and of the Mobility/IDD downlink report team for the MER (Mars Exploration Rover) project as well as part of the SSTB (Surface System TestBed) test lead team. I was the Rover Planner Team Lead for ingress, egress, and operations inside Victoria Crater of the Rover Opportunity. Past projects include engineering team lead for ST9 suborbital flight and Mars Focused Technology Subsonic Parachute Testing. Developed, designed, and built an image acquisition system installed on the payload, two-stage suborbital rocket and a high altitude (120,000 feet) flight test where down look imagery is collected and GPS-time tagged for subsequent testing of pin-point landing algorithms. I have designed the image acquisition system, procured the COTS equipment, electronic fabrication, environmental testing, and installation on payload and successfully completed one suborbital flight and three flight tests. MSL-HDA (Mars Science Laboratory - Hazard Detection and Avoidance) where I was responsible for software/hardware system design, components selection and SW development of the HDA testbed system. Other past projects include Demo III, an unmanned scouting vehicle funded by ARL, and PerceptOR a ground robot perception system prototype, funded by DARPA. For these, I was responsible for system design, efficient implementations of terrain classification and stereo vision algorithms as well as design and implementation of machine vision algorithms for water hazards detection. Additional responsibilities include the system administration of the various computing platforms for our HMMWV robotic testbed which include Solaris, Linux and VxWorks OSs.

Flight Projects:

2011 - Mars Science Laboratory

2003 - Mars Exploration Rover



BIOGRAPHICAL SUMMARY FOR DR. DANIELA BICCARI

Dr. Daniela Biccari is the Mission system engineer for the Surface Water Ocean Topography (SWOT) Mission. Her primary responsibility is the design of the mission operations system in cooperation with CNES.

In 2008 she joined JPL as a Senior Science System Engineer within the Payload Operations Support Team (POST) for the Mars Reconnaissance Orbiter (MRO) project at the Jet Propulsion Laboratory (JPL). She held this position for three years. In addition, she was the science system engineer for the EXM-TGO (Mars 2016) project in 2012.

Previously, while working for the University of Rome, Dr. Biccari was the Mission Operations Manager for the SHARAD instrument on MRO (2005-2008) after having been the Mission Operations Development Manager (2003-2004) for SHARAD. In 2001-2002, she was the Mission Operations Engineer for the MARSIS instrument on the Mars Express spacecraft.

Dr. Biccari received her Ph. D. in Remote Sensing Engineering from the University of Rome in February 2004. She has co-authored over a dozen technical papers on science and operations that have appeared in journals and conference proceedings.

GSTM1 and GSTT1 polymorphisms in population-based study of colorectal cancer risk

Silvia Boffo¹, Flavio Rizzolio¹, Antonio Giordano² and Giuseppe Toffoli¹

¹C.R.O. National Cancer Institute, Aviano (PN), Italy; ²S.H.R.O., Temple University, Philadelphia, PA, United States

Colorectal cancer (CRC) remains a significant cause of mortality accounting for 10% of all deaths of malignancies in European Caucasians. Glutathione S-transferases (GSTs) participate in the detoxification of chemotherapeutic agents used in therapy of CRC. Genetic polymorphisms in GST genes (copy-number variants of GSTM1 and GSTT1) that lead to diminished enzyme activity have been associated with CRC risk and survival increased chemotherapeutic treatment benefit in patients in most of the studies. In this study, we examined associations of GSTM1 and GSTT1 genotypes and clinical factors (age, gender, stage, localization of the tumor) with risk and we assessed the effect of genetic polymorphisms in GST genes on survival in CRC patients treated with adjuvant/palliative chemotherapy.

We followed 1,106 CRC patients treated with chemotherapy based on fluoropyrimidines and 1,343 unrelated controls. Polymorphisms were genotyped by a relative quantification method (copy-number variants of GSTM1 and GSTT1), and PCR followed by gel electrophoresis (null/non-null genotypes for GSTM1 and GSTT1). Statistical evaluations of risk were evaluated using the Pearson Chi-Square Test. Associations between genotypes and overall survival were assessed using Kaplan-Meier curves and Cox proportional hazards regression. GSTT1 null was associated with a small but significant increase in risk. Copy-number variant of GSTM1 was associated with a reduction of risk. The same associations were founded in male cases after gender stratification. There were no significant associations between GSTT1 and GSTM1 genotypes with other clinical factors (localization, stage and tumor node metastasis classification) in the total case group. However, following stratification by age (<70 vs ≥70 years at diagnosis), in young patients, GSTT1 null was associated with an increased risk. Furthermore, GSTM1 null and GSTT1 copy number variation were associated with low survival rates in younger patients. However, survival increase is observed in young patients with GSTM1 copy number variant.

This study confirms the association with the risk and the effect of GSTT1 and GSTM1 polymorphisms on survival in CRC patients who received chemotherapy.

We also suggest a specific risk association with GST null genotype in younger patients, particularly in those with presentation of tumor under the age of 70 years. The null GST genotype could be related to an improved immune response in younger patients, but less detoxification and increased rates of DNA damage in older patients.

The authors are part of multidisciplinary translational research collaboration between the National Cancer Institute - CRO Aviano (Italy) and SHRO (Philadelphia, PA, USA). Recently, in an attempt to improve anticancer treatment, the National Cancer Institute - CRO Aviano, in collaboration with pharmaceutical companies and University centers, has embraced a research program addressed to develop new anticancer delivery vectors based on targeted biomaterial and nanoparticles in order to guarantee selectivity of treatment.

Telemedicine Evaluation of Infants at Risk for Retinopathy of Prematurity.

Purpose: Retinopathy of prematurity screening is the key element for good ROP care allowing well timed treatment which can result in highly successful results from laser and early vitrectomy treatment. Customarily ROP screening has been done by doctors doing on average at our institution 6 exam per baby prior to discharge from the NICU. ROP is a very serious disease but only about 18% of eyes require treatment by a physician. In addition bedside exams are often documented by retinal drawing by the doctor which can lead to human error. A photograph can be studied and shared with accuracy with the neonatologist, NICU staff, and parents, and sent for remote readings by skilled readers in any location avoiding travel time for the examiner and time in the nursery. Handling of images must follow privacy laws and provide accurate representation of retinal findings that trigger bedside exam and treatment. It has been proven in several studies that telemedicine can transfer images accurately, but software also can be designed to reduce human error.

Methods: FocusROP software was designed to reduce human error and doctor time performing bedside ROP examinations in the NICU, thereby reducing cost of ROP screening and providing photographic documentation. Two areas of potential human error are image uploading by the NICU nurse and the determination of the appropriate timing of subsequent examinations based on clinical findings. Exams that incorrectly extend the next exam by only a few weeks can result in a disastrous sequence of events and missing a treatment opportunity. The FocusROP software overcomes these issues by using an standardized upload pattern rendering erroneous image loading less likely. In addition, the examination schedule is fixed based on the observed findings and randomized study recommendations and not changeable by the doctor, therefore error in exam schedule is not possible. We have used this system in a two hospital system for 3 years, well over 2 500 exams.

Results: We have reduced the indicated doctor preformed bedside exams by 84% and no baby has missed a treatment interval. After instruction there were only 10 uploading errors by NICU nurses.

Conclusions: Photographic documentation and telemedicine management of ROP care with intelligent software can provide better documentation, safer screening, and less doctor time going to and in the NICU therefore reducing cost of ROP screening . Telemedicine for ROP is the future of screening for ROP.

Antonio Capone Jr. M.D.

Biosketch

Dr. Capone is an internationally recognized clinician, surgeon and educator. His special interests include pediatric vitreoretinal diseases, complicated retinal detachment, ocular oncology and macular disease. He has authored or co-authored over 200 publications in peer-reviewed medical journals, book chapters, and publications from national clinical trials.

He has devoted much of his 20 year career to the surgical management of pediatric retinal disease in general, and retinopathy of prematurity in particular. He and his colleagues have been innovators of therapeutic advances for these conditions.

Over the last 10 years, in conjunction with Cav. Teresa P. Nascimbeni (President) and other devoted members of A.N.F.E. Of Michigan (Associazione Nazionale Famiglie Emigrati - www.anfeofmichigan.org) he and his colleagues have provided surgical care to over 312 infants and children from Italy with a range of pediatric vitreoretinal disorders. In addition, he and his colleagues have trained several young Italian physicians in the diagnosis and management of pediatric retinal disorders. Much of this work is made possible through the generosity of the Carlo, Sabrina and Melissa Pesce "Light of Life Memorial Fund".

Antonio Capone Jr. M.D.
Associated Retinal Consultants P.C.
3535 W. 13 Mile Road, Suite 344
Royal Oak, MI 48073
Office: 248-288-2280
Fax: 248-2880-5644
Email: acaponejr@arcpc.net

THE CHAPERONOPATHIES: DISEASES WITH DEFECTIVE MOLECULAR CHAPERONES

Francesco Cappello, MD;* Giovanni Zummo, MD; Everly Conway de Macario, PhD; Alberto J.L. Macario, MD

(FC & GZ: University of Palermo, Italy; ECdeM & AJLM: University of Maryland & IMET, Baltimore, MD, USA)

Many pathological conditions that have been known with various names and others, which were never precisely identified because the pathogenic mechanism was not elucidated, were recently grouped together in a coherent nosological category, the chaperonopathies. Abnormal chaperones are the etiologic-pathogenic factor in these diseases. Here, we present an introduction to the chaperonopathies for researchers and for practitioners in clinical medicine and pathology. We provide basic information and references relevant to chaperones and their participation in disease onset and progression. The typical functions of chaperones pertain to protein homeostasis (i.e., assisting in protein folding, protection from aggregation, refolding, translocation, degradation, dissolution of protein aggregates, and selective autophagy). In addition, chaperones play other roles unrelated to the typical ones. For instance, Hsp60 in mitochondria participates in protein folding but outside the cell interacts with innate immune system components, leading to production of cytokines and chronic inflammation. Illustrative examples will be briefly discussed.

Essential reference: Macario AJL, Conway de Macario E, Cappello F: The Chaperonopathies. Diseases with Defective Molecular Chaperones. Springer Dordrecht Heidelberg. New York, 2013. Available at: <http://www.springer.com/biomed/book/978-94-007-4666-4>

***FRANCESCO CAPPELLO, M.D.**

Associate Professor of Human Anatomy University of Palermo, Italy (www.unipa.it/francesco.cappello)



HONORARY AFFILIATIONS: Scientific Director, Euro-Mediterranean Institute of Science and Technology, Palermo, Italy (www.iemest.eu); Research Associate, Institute of Biophysics, National Research Council, Palermo, Italy (www.ibf.cnr.it/en/people); Scientific Committee Member, Institute "Paolo Sotgiu", L.U.de.S. University, Lugano, Switzerland (www.istitutopaolosotgiu.com).

PERSONAL DATA: Born in Palermo, Italy, in 1973. 1997: Degree with honors in Medicine and Surgery from the University of Palermo, Italy, awarded Best Thesis Prize. 2002: Specialist in Anatomical Pathology at the University of Palermo, Italy. March 2001 to October 2010: “Ricercatore/Professore aggregato” of Human Anatomy at the Schools of Medicine, Pharmacy and Biology of the University of Palermo, Italy. November 2010 - date: “Professore associato” of Human Anatomy, School of Medicine and Surgery, University of Palermo, Italy.

RESEARCH EXPERIENCE: ‘The Nathan S. Kline Institute for Psychiatric Research’ of the New York University, U.S.A (1996); ‘Department of Pathology’ at the University of Pittsburgh, U.S.A. (1999); ‘Department of Morphology’ of the University of Geneva, Switzerland (2002); Centre of Marine Biotechnology, University of Maryland Biotechnology institute (2009); Department of Microbiology and immunology, University of Maryland School of Medicine (2011).

RESEARCH INTERESTS. Role of chaperonins in tissue homeostasis and remodeling. Chaperonin secretion pathways. Role of chaperonins in carcinogenesis and in autoimmune/chronic inflammatory diseases arise and progression.

ACKNOWLEDGEMENTS: Lebanese Association for the Advancement of Science: “*In Recognition for his dedication to the Advancement of Science in Lebanon*”. 2013. Rotary Club ‘Costa Gaia’ A.R. 2012-2013: “*For achievements in the promotion of research and scientific culture*”. 2013.

WORKS: Publications in scientific journals with I.F.: >100 (I.F.: >400; HI: 20). Abstracts of presentations at scientific meetings: >150. Book authored: 3. Book chapters: 8.

OTHER: Extensive experience in teaching Human Anatomy. Received Grants from public and private entities. Collaboration with > 20 groups worldwide. Editor and Reviewer of scientific Journals and international funding agencies. Invited conferences/talks at scientific meetings: In Italy: 22; Out of Italy (Europe, USA, Japan): 17. Visiting examiner for PhD and Master Theses in Malta and Poland. Visiting Professor: Malta University. Currently, Chief of the Board of Professors of the PhD course of “Molecular and Experimental Medicine,” University of Palermo, Italy (www.unipa.it/asclepiade).



Dr Cappello with Dr Rastellini and Dr Cicalese

Davide Cattano

Davide Cattano, M.D., Ph.D. is born in Rome, Italy (1974). He graduated from Università Campus Bio Medico of Rome, Italy, Magna Cum Laude (1999). He graduated at the Anesthesiology Intensive Care-Critical Care Residency Program Medical School University of Pisa, Italy, Magna Cum Laude (2003). Dr. Davide Cattano obtained his Ph.D. in Morphology and Physiology and Pathophysiology of Cells and Tissues in the Department of Human Morphology and Applied Biology, University of Pisa, Italy (2007). Dr. Cattano is Associate Professor of Anesthesiology and Director of Clinical Research in the Department of Anesthesiology at The University of Texas Medical School at Houston, Medical Director of the Preoperative Anesthesia Clinic Memorial Hermann Hospital and service Chief for ENT/OMF, plastic and eye surgery. He is currently PI at UTHSC for the largest multicenter study evaluating videolaryngoscopy in airway management.

Prospective Investigation of Preoperative Thrombelastography® Platelet Mapping™

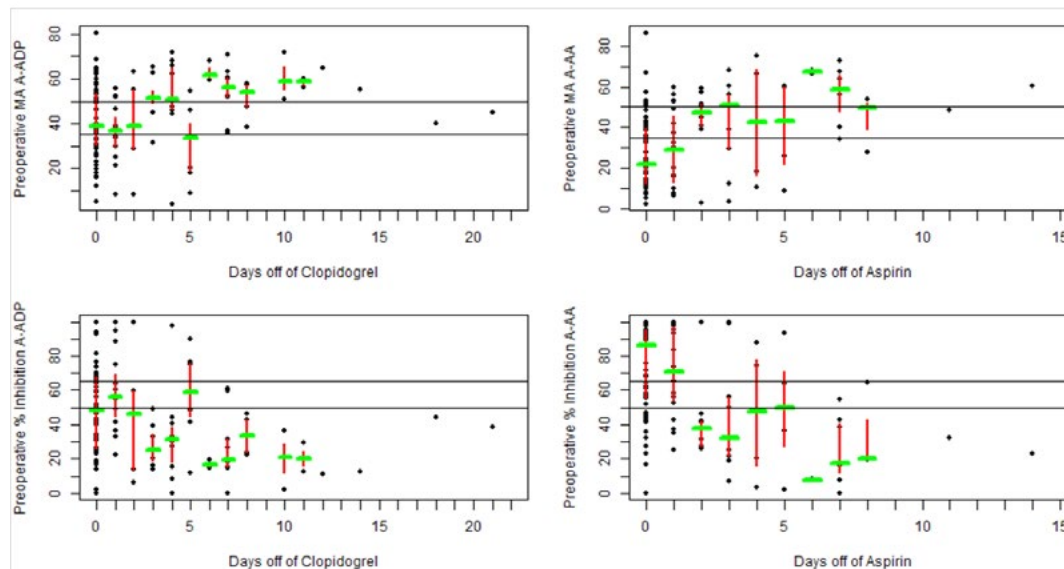
*Davide Cattano, MD, PhD, Alfonso Altamirano, MD, Rashida Callender, BS, Carin A. Hagberg, MD, Evan G. Pivalizza, MD. Presented at the 2013 American Society of Anesthesiologists meeting, San Francisco, USA.

Platelet inhibition is an integral part of treatment for patients with coronary artery disease (CAD). Drug eluting stents have become the most common intervention for patients with CAD and dual antiplatelet therapy (aspirin and clopidogrel) is effective in reducing risk of major cardiac event in these patients. Thrombelastograph platelet mapping (TEG-PM™)(Haemoscope Corp., Niles, IL) is a whole blood assay that measures clot strength, maximum amplitude (MA), and detects platelet inhibition (%) of arachidonic acid (AA)-induced aggregation (aspirin) and/or inhibition of ADP-induced aggregation (clopidogrel). The aim of our prospective observational study is to assess the ability of TEG®-PM™ to detect platelet inhibition secondary to clopidogrel and/or aspirin therapy in patients presenting to the preoperative anesthesia clinic or day surgery unit. Presented is an enrollment update from previously reported preliminary data.

After IRB approval, informed consent was obtained in the preoperative anesthesia clinic or day surgery area from 128 adult patients who were receiving or had recently suspended aspirin and clopidogrel therapy. Our analysis included 128 patients (mean age 65.4 ± 10.6 yrs). Average interruption was 3.5 ± 6.5 days for clopidogrel and 2.0 ± 3.7 days for aspirin. Preoperative clopidogrel (ADP) % inhibition for 128 patients was $41.3 \pm 26.7\%$ (median 37.7, 25-75 inter-quartile range 19.9–59.4%). Preoperative aspirin (AA) inhibition for this cohort was $57.5 \pm 33.4\%$ (median 56.8, 25-75 inter-quartile range 27.3-93.0%). Patient distribution based on days off antiplatelet therapy is shown in figure 1 for both ADP and AA % inhibition.

Resistance to antiplatelet therapy may be a clinically relevant problem. Our observations suggest that preoperative assessment of the antiplatelet effects of aspirin and clopidogrel is not only feasible, but also necessary as the level of preoperative inhibition after short-term interruption was low, with decreasing inhibition with longer interruption of therapy.

Figure 1. Patient distribution based on days off antiplatelet therapy



The median and corresponding 25-75 interquartiles are displayed for each day off clopidogrel and aspirin. The solid, horizontal lines represent the cutoff ranges for normality for MA (35-55 mm) and % inhibition (35-50%).

Biomimetic materials for regenerative medicine and immune control

B. Corradetti, F. Taraballi, S. Minardi, M. Balliano, E. Tasciotti.

Biomimetic strategies have recently gained momentum in tissue engineering and regenerative medicine with the aim to recreate the composition, architecture and function of native tissues. The understanding of the fundamental steps occurring during the different steps of tissue homeostasis and wound healing is the starting point to develop synthetic biomaterials that can efficiently integrate in the body of the recipient. Inside a tissue, cells of different phenotypes are interconnected by a complex network of macromolecules comprising of proteins and polysaccharides secreted by the cells themselves. This natural environment - the extracellular matrix (ECM) - has the role to structurally and functionally organize the overall tissue. A synthetic biomaterial that successfully mimics ECM's functions should ideally: *i)* give the tissue its structural and mechanical properties associated with the tissue functions; *ii)* provide structural support for the cells residing in that tissue; *iii)* provide bioactive cues to the residing cells to migrate, attach, grow, and respond to differentiating stimuli; *iv)* act as a reservoir of growth factors; *v)* provide a plastic environment that allows neovascularization and remodeling; *vi)* regulate and integrate different and consecutive processes during the healing process. The ultimate design of a biomaterial is to create multi-component and multifunctional biomaterials able to guide tissue regeneration at multiple levels. We will describe our collection of biomimetic materials and their impact on the biology of the cells and the tissue. The translation of our tissue engineering applications to the clinic could provide an alternative solution to the therapies and surgical procedures currently used to rescue tissues' loss of function.

Bruna Corradetti, Ph.D.

Postdoctoral Fellow
Department of Nanomedicine
Houston Methodist Research Institute
Spine Advanced Technology Lab

E-mail: bcorradetti@houstonmethodist.org

Phone: 832-727-8523

Education

B.Sc. Polytechnic University of Marche - Italy (Biological Sciences)
M.Sc. Polytechnic University of Marche - Italy (Biotechnology)
Ph.D. Polytechnic University of Marche (Italy) - University of Milan (Italy) (Biomolecular sciences)

Positions and Training

Dec 2012-present: **Assistant Professor** - Applied Genetics Laboratory, Department of Life and Environmental Sciences, Polytechnic University of Marche (Ancona, Italy)

Jan-Dec 2012: **Postdoctoral Fellow** - Large Animal Hospital, Reproduction Unit, University of Milan (Italy)

Jan-Aug 2011: **Visiting Scientist** - Pluripotent Cell Translation Laboratory, Scottish Centre for Regenerative Medicine, University of Edinburgh (United Kingdom)

June-Sept 2009: **LaborLab dote Ricercatore fellowship** - Large Animal Hospital, Reproduction Unit, University of Milan (Italy)

May-Aug 2007: **Leonardo da Vinci Training** - Centro de Investigación del Cáncer, Laboratorio di Citometria, Universidad de Salamanca (Spain).

Biography

Dr. Corradetti earned her doctoral degree in Molecular Biosciences at the Polytechnic University of Marche (Italy) in collaboration with the Large Animal Hospital at University of Milan (Italy). Her research focused on the isolation, in vitro culture and characterization of presumptive mesenchymal stem cells from extra-fetal tissues in the horse. The aim of the research was to define an effective and suitable banking system for the treatment of tendon injuries by allogeneic cell transplantation. In 2011 Dr. Corradetti joined the Pluripotent Cell Translation Laboratory, Scottish Centre for Regenerative Medicine (University of Edinburgh, UK) in order to better understand the nature of pluripotent stem cells and control their behaviour to enable their use in regenerative medical therapies. In collaboration with the Biomedical Engineering Department at Yale University (US) a spatial and temporal controlled strategy to improve the efficiency of stem cell culture was developed. In December 2012 she has been appointed Assistant Professor at the University of Marche (Italy) and in January 2013 joined THMRI as postdoctoral fellow at the Department of Nanomedicine. Dr. Corradetti is currently leading the tissue engineering team for what pertains cellular and molecular studies.

Description of Research

Dr. Corradetti's research is focused on the deep understanding of the interaction between cells and artificial extracellular matrices, to recapitulate specific signals found in the natural environment and provide a clinical solution toward the local treatment of damaged tissues.

Major Areas of Research

Stem cell therapy, regenerative medicine, immunomodulation, tissue engineering

Publications

1. L. Rutigliano*, **B. Corradetti***, L. Valentini, D. Bizzaro, A. Meucci, F. Cremonesi, A. Lange-Consiglio "Molecular characterization and in vitro differentiation of feline progenitor-like amniotic epithelial cells." Accepted by Stem Cells and Therapy, Oct, 2013
2. **B. Corradetti**, D. Bizzaro, F. Cremonesi, A. Lange Consiglio. "Derivation of presumptive stem cells from bovine amnion and amniotic fluid." Reproduction, 145(4):391-400. 2013.
3. A. Lange-Consiglio, S. Tassan, **B. Corradetti**, A. Meucci, R. Perego, D. Bizzaro, F. Cremonesi. "Investigating the efficacy of amnion-derived compared with bone marrow-derived mesenchymal stromal cells in equine tendon and ligament injuries." Cytotherapy. doi: S1465-3249(13)00449-0. 10.1016/j.jcyt.2013.03.002. Apr 17, 2013.
4. A. Lange-Consiglio, **B. Corradetti**, A. Meucci, R. Perego, D. Bizzaro, F. Cremonesi. "Characteristics of equine mesenchymal stem cells derived from amnion and bone marrow: in vitro proliferative and multilineage potential assessment." Equine Vet J. doi: 10.1111/evj.12052. Jan 17, 2013.
8. **B. Corradetti**, P. Freile, S. Pells, P. Bagnaninchi, J. Park, T. M. Fahmy, Paul A. De Sousa. "Paracrine signaling events in embryonic stem cell renewal mediated by affinity targeted nanoparticles". Biomaterials. 33(28): 6634-43. 2012.
9. A.B. Lovati (*), **B. Corradetti** (*), A. Lange Consiglio, D. Bizzaro, F. Cremonesi. "Tenogenic differentiation effects of tendon-derived soluble factors on equine mesenchymal progenitor cells under indirect co-culture system." Int J Artif Organs. 35(11):996-1005. 2012.
10. A. Lange Consiglio, **B. Corradetti**, D. Bizzaro, M. Magatti, L. Ressel, S. Tassan, F. Cremonesi, O. Parolini. "Characterization and potential applications of progenitor-like cells isolated from horse amniotic membrane." J Tissue Eng Regen M. doi: 10.1002/term.465. 2012.
11. **B. Corradetti**, A. Lange-Consiglio, M. Barucca, F. Cremonesi, D. Bizzaro. "Size-Sieved Subpopulations of Mesenchymal Stem Cells From Intervascular And Perivascular Equine Umbilical Cord Matrix." Cell Proliferation, 44(4):330-42. doi: 10.1111/j.1365-2184.2011.00759.x. 2011.
12. F. Cremonesi (*), **B. Corradetti** (*), A. Lange Consiglio (*). Review: "Fetal adnexa derived stem cells from domestic animal: progress and perspectives." Theriogenology. 75(8):1400-15. 2011.
13. A. Lange-Consiglio, **B. Corradetti**, L. Rutigliano, F. Cremonesi, D. Bizzaro. "In vitro studies of horse umbilical cord matrix-derived cells and labeling efficiency with magnetic resonance contrast agents." Open J Tissue Eng Regen M. 4: 120-133. 2011.
14. A. Lange Consiglio, S. Tassan, **B. Corradetti**, D. Bizzaro, A. Bignotti, F. Cremonesi. "Cellule staminali mesenchimali dell'amnios equino per il trattamento delle tendinopatie del cavallo sportivo: prima segnalazione." Ippologia. Anno 22 (3): 13-28. 2011.
15. A.B. Lovati, **B. Corradetti**, A. Lange Consiglio, D. Bizzaro and F. Cremonesi. "Comparison of equine bone marrow and tendon derived mesenchymal stem cells." Journal of Biological Regulators & Homeostatic Agents. 25 (Suppl 2): S75-84. 2011.
16. A.B. Lovati, **B. Corradetti**, A. Lange Consiglio, C. Recordati, E. Bonacina, D. Bizzaro and F. Cremonesi. "Comparison of equine bone marrow, umbilical cord matrix and amniotic fluid- derived progenitor cells." Vet Res Comm. 35:103-121. 2011.

Human Wharton's jelly-derived mesenchymal stem cells (WJ-MSC) in type I diabetes (T1D)

Tiziana Corsello^{1,2}, Luca Cicalese², Giampiero La Rocca¹, Cristiana Rastellini²

¹Department of Biomedicine and Neuroscience, Palermo (Italy)

²University of Texas Medical Branch, Galveston (TX – USA)

Type I diabetes (T1D) is an immune disease characterized by T-lymphocytes-mediated pancreatic beta cells destruction. T1D is usually diagnosed in children and young adults and presents itself with a rapid and aggressive onset. Currently the causes leading to the immune system activation targeting the beta cells are not fully understood. Different hypothesis, including genetic and viral, have been postulated and are under investigation. Patients affected by T1D require daily insulin injections and are at risk of short- and long-term complications associated to the disease, including blindness, renal and heart failure.

While insulin is instrumental for diabetic patient survival, pancreas and pancreatic islet transplantation are two potential treatments for the disease. Pancreatic islet transplantation consists in transplanting only the insulin-producing cells and this is accomplished through a minimally invasive procedure. Although this approach is known to be feasible and to treat diabetes, more research is needed to improve the outcome so that it can be offered to a larger population of diabetics. It has been previously shown that Wharton's jelly- Mesenchymal stem cells (WJ-MSC), obtain from umbilical cords can have immunomodulatory and pro-differentiation effects, representing potentially a very valuable tool in regenerative medicine.

Currently we are investigating the effect of WJ-MSC as adjuvant in pancreatic islet transplantation to cure diabetes in an animal model. Following in vitro characterization of human WJ-MSC we are planning to co-transplant stem cells and pancreatic islets and investigate any potential beneficial effect. Based on our preliminary data, improvement could be achieved through immunomodulation, anti-inflammatory effect and enhanced vascularization.

The overall goal of our project is to improve pancreatic islet transplantation through perinatal MSC.

Biosketch

Dr. Tiziana Corsello was born in Sicily, Italy in 1988. She graduated in Chemistry and Pharmaceutical Technology at the University of Palermo in 2012, presenting the experimental thesis, entitled: "Characterization of new markers derived from mesenchymal stem cells (Human umbilical cord)". She was accepted in the Molecular and Experimental Medicine PhD course at the University of Palermo that she is currently attending. In addition, she has been admitted into the Neuroscience Graduate Program at the University of Texas Medical Branch, Galveston (TX), USA, as a graduate student in Neuroscience and Cell Biology. She is currently working in the transplant research laboratory at the University of Texas Medical Branch mentored by Dr. Cristiana Rastellini, Director of the laboratory and Dr. Giampiero La Rocca, scientist at the University of Palermo, Department BIONEC.

Trajectory determination based on data acquired via image processing

Francesco de Dilectis was born in Naples the 12th of May, 1983. He received his Bachelor and Master degrees in Aerospace Engineering at the University of Naples “Federico II”. After working for a year at Sintesi S.c.P.A., a robotic research facility in Bari, he was selected by the Fulbright Program to apply for a PhD position at several universities in the United States. He is currently in his fourth year at Texas A&M in College Station, working for Dr. Daniele Mortari. His research focuses on celestial mechanics, orbit determination and estimation and attitude control.

This research investigates a new approach to estimate the trajectory of a spacecraft based on observations of a known body and on a dynamics environment difficult or impossible to model is presented. One example is observing the Moon in a cislunar trajectory in presence of perturbations difficult to model (solar pressure, pipe leaking, etc.). The trajectory is estimated by a nonrational B´ezier function, whose control points and parameters are derived using least-squares. JPL-SPICE and GSFC-GMAT software have been used for simulations. This approach has the advantage of not requiring any knowledge of the dynamics, which gives it great generality. The method has been compared with iterative batch least-squares, requiring knowledge of the dynamics and perturbations, and obtaining trajectory estimates by numerical integration of the equation of motion. One motivation is to obtain autonomy for trajectory estimation on cislunar trajectories to guarantee accurate navigation in case of communications loss. For the specific application discussed here, the measurements are obtained by processing images of the Moon captured with an optic camera, to extract the distance vector between Spacecraft and Moon. Understanding Context-Dependent Relevance of Potential Cancer Drug Targets.

Biosketch (Giuseppe Damiano)

Born in Palermo, Italy 1979; Degree in Medicine at Università degli Studi di Palermo, Italy 2005; Ph.D. on Physiopathology of Liver Disease at Università degli Studi di Palermo, Italy 2009; Early Stage Training Researcher (Marie Curie Grant) at University of Bath, UK 2007; Resident in Digestive Surgery at Università degli Studi di Catania, Italy 2009-current. Co-author of 43 Internationally peer-reviewed papers. Field of interest: application of bioscaffold for tissue repair, organ transplantation, cell therapy for diabetes. Currently working at UTMB as Visiting Scientist in Drs. Cristiana Rastellini and Luca Cicalese's Laboratory.

Porcine small intestine submucosal tunica scaffold for intestine elongation/expansion in rat model. Translational application for human short bowel syndrome.

Giuseppe Damiano^{1,2}, Cristiana Rastellini², Luca Cicalese²

¹Department of Surgery, University of Palermo (Italy)

²University of Texas Medical Branch, Galveston (TX – USA)

Short bowel disease is a condition affecting pediatric population for developmental defects, and adult patients undergone surgical removal of long intestinal segments for tumors or ischemia. The result is a chronic malabsorption condition that brings the patient to cachexia and death. The simple substitution of intestinal tract with synthetic prosthesis is unsuccessful due to the absence of absorption function. Intestinal transplant is still limited because of immunogenicity of this kind of transplant and shortage of donor. Bioabsorbable scaffolds seem to offer a new promising ground to guide normal tissue growth originating from the residual organ.

Surgisis® mesh (Cook Medical, US) is an advanced biomaterial with a scaffold-like matrix derived from small intestinal submucosa of the porcine small intestine. It has been already demonstrated its efficacy for tracheal reconstruction (Gazal Ann Thorac Surg 2012;93:2076–7). The small intestinal submucosa that constitutes Surgisis® is a readily available, abundant extracellular matrix (ECM). The ECM is a complex scaffold consisting of structural and functional proteins, proteoglycans, glycoproteins and glycosaminoglycans arranged in a tissue-specific orientation. Working and interacting together, the individual ECM components direct the processes of acute inflammation, healing, and tissue remodeling to achieve tissue function and restore homeostasis when tissue integrity is disrupted.

Published works on hernia on the clinical use of biological ECM mesh provides evidence of safe and efficacious use of these materials for hernia and abdominal wall surgery.

Mechanical characteristics of Surgisis® assure resistance, absence of permeability, and lately a complete integration of along the months. We are currently testing this prosthesis onto in-vivo rat model to observe the intestinal tissue growth guided by mesh. The success of this assumption could provide basis to transfer this application on human for small intestine elongation, in these cases of patients affected by severe intestinal insufficiency.

The “I” in CALL: a question of design in the Foreign Language Classes

Scott Meyers once said, “*Make interfaces easy to use correctly and hard to use incorrectly*” (IEEE, 2004). The activity of “design” precludes many steps, and certainly one of the most important aspects is interface specification. Interfaces are everywhere: they’re the “I” in GUI (graphical user interface) and API (application programming interface). According to Meyers, “Interfaces determine which aspects of a component are accessible and to whom; they thus determine encapsulation. Interfaces specify what functionality (data, properties, methods, and so forth) is available to students. Interfaces reflect how a system is broken down into its constituent components” (Meyers, 14).

In my own experience experimenting with CALL and teaching two foreign languages (French and Italian), I have found interfacing quite pervasive. Classes have interfaces; functions and methods have interfaces; templates and namespaces have interfaces; subsystems and modules have interfaces; libraries and applications have interfaces, I feel one can clearly say our own brain has interfaces as well. Regardless of your role in the development of a learning system, it almost always involves some interface design, so it is helpful to have some heuristics that indicate when you are doing it well—or poorly.

As a Foreign language educator who uses computers generally, I can postulate that personal computers provide powerful tools for students to learn languages and appreciate cultures, only if used correctly. This paper wants to look beyond the system and would like to offer a solution within the notion of interfacing. The first year, I explored the experience of students with technology-enhanced Foreign language learning. The second year, I showed how the Sakai Project is used to enhance Foreign language teaching, learning and testing to meet student academic and professional needs at Texas State University through a course management system called TRACS (for Teaching, Research and Collaboration System). This year I would like to show how an interface of technology and pedagogy, converging Howard Gardner’s theory of Multiple Intelligence (MI) and CALL, along with specific pedagogical goals, can promote what Laurence M. Dryden calls, “the individualization of learning and the promotion of education for deep understanding” (p61). I believe that identifying the students’ various abilities and developing a theory that supports the many factors of intelligence, interface design and CALL is a significant contribution to the field.

Moira Di Mauro-Jackson

Moira Di Mauro-Jackson completed her PhD at the University of Texas at Austin in Comparative Literature. Her field of study revolves around French, Italian, and English Narrative and Drama of the late 19th and early 20th Centuries. Her field of interest is metatextuality, that is, the tension between art and life, art and artifice, and the use of masks and masquerade in modern works. Her major focus lies in the French decadent period, those works following D’Annunzio’s time in Italian Literature as well as various Irish writers of the turn of the century such as Bernard Shaw, Oscar Wilde, and Yeats. Since 1987, Moira, a native Italian, has been teaching French at Texas State University, from where she received a Master of Arts. In 2005 she brought Italian Language Studies to Texas State University & presently leads a Study Abroad Program to Florence, Italy every summer. She has traveled extensively throughout the world and currently divides her time between study and teaching in Central Texas and Florence. Her paper entitled “There Is No Place On Earth Like The World: Cultural and Sexual Politics in Behan’s *The Quare Fellow* and *The Hostage*.” has recently appeared in the volume on Prison Plays of the Rodopi Modern Literature Series.

Giulio Draetta

Presentation will focus on highlighting current Oncology drug discovery and development challenges, the impact of the “omics’ revolution: role of functional genomics. Will also describe recent work on targeting the mitochondria in pancreatic cancer, including the discovery of a novel inhibitor of mitochondria respiration.



Giulio Draetta, MD PhD is Director, Institute for Applied Cancer Science and Professor, Molecular and Cellular Oncology and of Genomic Medicine at the The University of Texas MD Anderson Cancer Center.

The Institute for Applied Cancer Science is dedicated to discovering cancer genes essential for tumor maintenance, and translating these basic discoveries into new therapies for cancer. The integration of basic research and drug discovery programs in the Institute has provided Dana-Farber with a unique opportunity to convert critical basic discoveries in the laboratory into novel targeted therapies that may prolong the lives of cancer patients. This represented a new academic concept that provides an unprecedented opportunity to change the way anti-cancer therapeutics are discovered and developed. Prior to joining MD Anderson, Dr. Draetta was Chief Research Business Development Officer and Presidential Scholar at the Dana Farber Cancer Institute and Deputy Director, Belfer Institute for Applied Cancer Science. He held academic appointments at Cold Spring Harbor Laboratory, the European Molecular Biology Laboratory and the European Institute of Oncology, He was formerly head of oncology drug discovery at Pharmacia and Merck. He is a scientific advisor to Taiho Pharmaceuticals, Karyopharm, Forma Therapeutics, Blueprint Medicines, Symphogen.

Silvia Illuminati

Silvia Illuminati, was graduated in biology at the Marche Polytechnic University, Ancona, in 2001 and she has a Ph.D in Biology and Marine Ecology, achieved at the Marche Polytechnic University, Ancona, in 2005. Actually she is research associate at the Department of Marine Science of the Marche Polytechnic University in the research-disciplinary sector CHIM01, on the argument "Heavy metals in different environmental antarctic matrices (marine organisms and snow)".

She is the author of several scientific publications. Her scientific interests have focussed principally in the field of environmental analytical chemistry, with particular attention to the determination and speciation of trace heavy metals in different environmental matrixes at different anthropization degrees (seawater, snow, aerosol). Moreover, she is interested to the analysis of organic pollutants in environment and food. She also devoted attention to environmental chemometrics with application to marine science.

She has taken part in five Italian Expeditions to Antarctica. During the present Antarctic season, 2013/2014, she participates in the XXIX Italian Expedition, by studying the biogeochemical cycles of some metals in the Ross Sea ecosystem. Her research is focused on the metal distribution in different matrices, with particular attention to phytoplankton, which is at the base of the Antarctic trophic chain.



Stazione Mario Zucchelli

La Stazione Mario Zucchelli (MZS), intitolata a colui che per ben 16 anni è stato alla guida del Programma Nazionale di Ricerche in Antartide (PNRA), è stata costruita nel 1986, sulla costa della Baia Terra Nova (74°42' Sud e 164°07' Est), e poggia su una scogliera di roccia granitica di una piccola penisola della Terra Vittoria settentrionale, tra le lingue dei ghiacciai *Campbell* e *Drygalski*.

Oggi la Stazione italiana dispone di una superficie coperta pari a circa 7.500 mq in cui oltre ai laboratori, ai magazzini, agli impianti, agli alloggi ed ai servizi per il personale si vanno ad aggiungere numerosi moduli laboratorio satelliti dislocati in un'area urbanizzata estesa su circa 50.000 mq.

La Stazione italiana è dotata di 3 eliporti, 3 piste su ghiacciaio continentale, poste nelle vicinanze, di cui una idonea per aerei pesanti, oltre ad 1 o più piste su ghiaccio marino, lunghe 1.000 m per aerei leggeri, e di 1 pista di 3.000 m di lunghezza, preparata ogni anno sul ghiaccio marino ed utilizzata da ottobre a novembre per il traffico aereo pesante (*Hercules*) e leggero (*Twin Otter*). Questi ultimi velivoli, utilizzati come supporto alle attività scienitfiche, sono dotati di sci che permettono di atterrare su qualsiasi superficie naturale innevata o ghiacciata.

Nel periodo di campagna verranno realizzati diversi progetti di ricerca nell'ambito di:

- Scienze della vita (biodiversità, evoluzione ed adattamento degli organismi antartici)
- Scienze della Terra (glaciologia, contaminazioni ambientali, esplorazioni)
- Scienze dell'atmosfera e dello spazio (Cambiamenti climatici, monitoraggio della atmosfera e della ionosfera, misure astronomiche)
- Tecnologia (strumentazioni tecnologicamente avanzate per misure atmosferiche e geologiche)
- Osservatori permanenti (meteo-climatici, astronomici, geofisici)

Oltre a queste attività, altre verranno condotte nell'ambito di progetti speciali per la divulgazione e nell'ambito di accordi e/o collaborazioni internazionali.

Una posizione privilegiata

MZS, per la sua posizione privilegiata, dispone di accessi direttamente dal mare, infatti la piccola penisola offre delle insenature, relativamente agevoli, che possono, a seconda delle stagioni, risultare più o meno idonee per lo scarico ed il carico dei materiali via mare.

A fine primavera (ottobre-novembre) ed all'inizio dell'estate (dicembre-gennaio) quando il mare si libera in parte dai ghiacci, la Nave Italica, effettua lo scarico utilizzando come banchina lo stesso ghiaccio marino; in tal modo, i materiali raggiungono la Stazione italiana mediante convogli di trattori gommati o cingolati trainanti rimorchi gommati o slitte.

Alla fine dell'estate (gennaio-febbraio), invece, quando il ghiaccio spezzatosi in lastroni, per effetto del moto ondoso, lascia il posto all'acqua, si utilizza un natante simile ad una chiatta per i collegamenti tra terra e nave ed un piccolo molo di interscambio da cui con veicoli ci si collega con il piazzale ai magazzini della Stazione.

LE INFRASTRUTTURE

La Stazione viene normalmente utilizzata per le principali funzioni:

- ricovero per il personale di Spedizione (ricettività di circa 90 persone);
- supporto logistico per il personale scientifico operante presso i diversi campi remoti e in transito verso la Stazione italo-francese Concordia;
- supporto logistico-operativo per la nave *Italica*;
- supporto per le attività di ricerca con laboratori interni (chimica, biologia, geologia, glaciologia, astronomia, elettronica e calcolo, acquario, ecc.) ed avanzate strumentazioni;
- attività di ricerca scientifica nei siti circostanti, dedicate alle osservazioni astronomiche, geomagnetiche, ionosferiche, sismologiche, mareali, aurorali e meteorologiche. Per queste ultime, esiste anche un'intera rete di stazioni meteo, i cui dati sono inviati su satellite, che copre parte della Terra Vittoria e che risulta di fondamentale ausilio anche ai fini dell'operatività della Stazione stessa.

I servizi tecnico-logistici di cui è dotata la Stazione includono le telecomunicazioni, l'infermeria e il pronto soccorso, la mensa e il tempo libero, i magazzini (vestiario, generale, da campo, da mare, ecc.) le officine, i serbatoi di stoccaggio carburante, per una capacità massima di 1.800.000 litri di kerosene avio, e le relative pompe di distribuzione. A questo si aggiunge una moderna Sala Operativa attiva nell'intero arco delle 24h per il coordinamento di tutte le operazioni (terrestri, aeree e marittime), sia locali che remote.

Inoltre a MZS sono disponibili:

- laboratori adeguatamente attrezzati;
- acquario dotato di vasche termostate con riferimento alla temperatura dell'acqua del mare in sito (-1 °C / -2 °C);
- 4 container refrigerati (+4 °C e -30 °C);
- 2 tipologie di freezer a pozzetto per la conservazione ed il trasporto dei campioni (-80 °C e -150 °C);
- 4 rimorchi e 4 slitte rigide per il trasporto dei materiali pesanti;
- 8 slitte leggere per il trasporto materiali con motoslitte;
- 2 mezzi cingolati per il traino dei materiali;
- 5 mezzi battipista e da operazioni su ghiaccio e/o neve;
- 16 mezzi tra motoslitte e motocicli 4x4;
- 9 mezzi da cantiere, 4 sollevatori e 1 Merlo betoniera;
- 3 mezzi antincendio;
- 1 autocisterna per combustibile kerosene avio;
- 2 autoambulanze ed altre attrezzature di pronto intervento;
- 10 fuoristrada e 1 Fiat Ducato per trasporto di personale e materiale;
- 1 battello oceanografico, denominato *Malippo*, della lunghezza di 15 m;
- 2 gommoni per attività di ricerca oceanografica sottocosta.

Stazione Italo-Francese Concordia

La Stazione Concordia si trova sul plateau antartico nel sito denominato Dome C (75°06' Sud e 123°23' Est) ad un'altezza di circa 3.233 m ed a circa 1.200 km dalla Stazione Mario Zucchelli a Baia Terra Nova e a 1.100 km dalla Base francese di Dumont d'Urville.

Con un accordo internazionale siglato nel 1993 tra l'Ente per le Nuove tecnologie, l'Energia e l'Ambiente (ENEA) e l'Istituto Polare Francese Paul Emile Victor (IPEV) è stata costruita la Stazione Concordia che ha avuto la sua prima apertura invernale durante la XX Spedizione (8 febbraio – 8 novembre 2005).

Le necessarie attività, sia per il definitivo completamento della costruzione che per la manutenzione ordinaria, sono possibili grazie alla presenza di un Campo di montaggio, composto da un insieme di alloggi e locali in container e tende speciali. L'area totale è di circa 1.500 mq e fornisce l'alloggio e gli ambienti di lavoro ad una piccola comunità internazionale.

Attività estiva ed invernale

La Stazione Concordia può ospitare fino ad un massimo di 32 persone nella stagione estiva (novembre – febbraio) e 16 persone in quella invernale (febbraio – novembre).

Il numero dei ricercatori e tecnici italiani effettivamente presenti è determinato sulla base delle indicazioni dello *Steering Committee* del Progetto Concordia che ogni anno si riunisce nel mese di luglio.

Lo scopo principale della Stazione Concordia è quello di fornire alla comunità scientifica internazionale il supporto atto a sviluppare la ricerca nei molti campi che coinvolgono il continente, come l'astronomia, l'astrofisica, la sismologia, la fisica dell'atmosfera e la climatologia, nonché le ricerche di biologia e medicina volte a comprendere i meccanismi di adattamento dell'uomo alle condizioni ostili.

Durante la stagione estiva saranno sviluppate le attività relative ai seguenti Settori di Ricerca (SdR): Geodesia ed osservatori (SdR 2), Geofisica (SdR 3), Glaciologia (SdR 5), Fisica e chimica dell'atmosfera (SdR 6) e Relazioni Sole-Terra ed astrofisica (SdR 7); in quella invernale si svolgeranno attività riguardanti il Geomagnetismo e la Sismologia, l'Astrofisica, la Fisica dell'Atmosfera e la Glaciologia.

Le infrastrutture

La Stazione è costituita da 2 edifici cilindrici uniti da un passaggio coperto; ogni cilindro ha un diametro di 18,5 m ed un'altezza di 11 m su 3 piani, ciascuno di 250 mq. L'altezza totale dal suolo (ossia dal ghiaccio) supera i 14 m, perché ogni struttura (200 t in totale) è sostenuta da 6 grandi piedi di ferro che possono "sollevarsi" ed evitare in tal modo lo sprofondamento nella neve.

Gli edifici sono denominati "Calmo" e "Rumoroso" in funzione alla destinazione d'uso che è stata data ai diversi ambienti. Nel Calmo troviamo al 1° piano gli uffici e l'infermeria, nel 2° piano è distribuita tutta la zona notte e nel 3° piano sono stati installati i diversi laboratori. Per quanto riguarda l'edificio Rumoroso, al 1° piano troviamo le officine e una piccola parte di uffici, nel 2° piano i magazzini ed un'area per il tempo libero; nel 3° piano la mensa, la cucina ed un'altra piccola area per il tempo libero.

La produzione dell'acqua per la Stazione è ottenuta in parte dallo scioglimento della neve ed in parte dal riciclaggio delle acque reflue (trattate con un impianto ad osmosi inversa realizzato in collaborazione con l'Agenzia Spaziale Europea – ESA). L'energia elettrica è prodotta da 3 generatori diesel da 180 kVA, installati nella centrale elettrica. Ciascuno è in grado di soddisfare la necessità elettrica dell'intera stazione. Le comunicazioni a grande distanza (voce e dati) avvengono per mezzo di terminali

Inmarsat, Standard B, Inmarsat Fleet 77, Iridium fissi e portatili e radio HF.

Perche' il sito di Dome C?

La scelta del sito per la costruzione di questa Stazione è stata determinata principalmente da alcuni fattori climatici, quali ad esempio la temperatura (media -50,8 °C, minima -84,4 °C), la velocità del vento (3-20 m/sec), la pressione dell'aria (645 hPa), le precipitazioni nevose (2-10 cm/anno), che avrebbero potuto favorire alcuni importanti ricerche scientifiche. Infatti lo scopo principale della Stazione Concordia è quello di fornire alla comunità scientifica internazionale il supporto atto a sviluppare la ricerca nei molti campi che coinvolgono il continente, come l'astronomia, l'astrofisica, la sismologia, la fisica dell'atmosfera e la climatologia, nonché le ricerche di biologia e medicina volte a comprendere i meccanismi di adattamento dell'uomo alle condizioni ostili.

Il sito di Dome C si trova, infatti, su un punto in cui la calotta polare di ghiaccio raggiunge i 3.300 m, offrendo ai glaciologi incredibili opportunità per studi di paleoclimatologia. Basti pensare al progetto europeo EPICA che ha già ottenuto un grande riconoscimento internazionale grazie alla carota di ghiaccio lunga 3.270,2 m con la quale, dopo accurati studi, sarà possibile risalire ai dati climatici di circa 900.000 anni fa.

Inoltre, grazie all'elevata altitudine e alle caratteristiche dell'atmosfera (bassa temperatura ed umidità, precipitazioni ridottissime, scarsa turbolenza), gli studi di osservazione astronomica e cosmologia trovano nel sito di Dome C le condizioni ideali. Il sito di Dome C si trova anche all'interno del vortice polare che regola la circolazione stratosferica in Antartide ed è luogo ideale per lo studio del "buco dell'ozono".

Molto distante dalle altre stazioni antartiche e dalle perturbazioni marine, la sua posizione favorisce l'istallazione di osservatori geofisici per colmare un'ampia lacuna nelle grandi reti di osservatori del globo terrestre. Infine, date sia la posizione remota del luogo che le basse temperature e l'alta quota sul livello del mare, il sito di Dome C offre condizioni ambientali estreme per l'uomo, adatte quindi allo studio del comportamento umano in un ambiente ristretto ed estremo, condizioni simili a quelle che si ritrovano nei voli spaziali o sulle stazioni orbitanti.

(From *Vivi con noi la XXIX Spedizione Italiana in Antartide*; <http://www.italiantartide.it/spedizioni/xxix/>)



Base Concordia



Base Zucchelli



"Concordia Research Station", Antarctica



The research vessel *OGS Explora*

The research vessel *OGS Explora* is the only ocean research vessel with a capacity owned by a public entity currently existing in Italy. OGS has acquired it in 1989 and important scientific activities were carried out with it, among which we remember the ten research campaigns in Antarctica, an Arctic campaign at the Svalbard Islands, various campaigns for crustal seismic data acquisition in the Mediterranean and numerous multidisciplinary research projects in the Mediterranean. The ship also served the needs of the offshore industry (exploration for hydrocarbons, deployment of telecommunication cables, etc.) with ad-hoc service contracts. Surveys on behalf of foreign countries were also carried out (projects UNCLOS - United Nations Convention on the Law of the Sea) in order to collect data for delimiting the extent of the exclusive economic zones (EEZ).

The R/V *OGS Explora* infrastructure is the most complex among those existing in OGS as it involves a wide range of professionals for the management of electronic and mechanical instruments (navigation and positioning, multibeam, multi-channel seismic, gravimetry, magnetometry, samples of the seabed, physical oceanography, marine biology, wet and dry laboratories, analysis and quality control of data), the logistics and maintenance of naval platform. Management requires the finding of significant financial resources necessary to ensure the efficiency and functionality of the infrastructure.

Use and purpose

The main objective of the vessel *OGS Explora* is to enable the geophysical and oceanographic research of the scientists of OGS, of the scientific European and international community. In this context, the collaboration with international researchers, also outside Europe has always been intense, especially in the many Antarctic expeditions.



La Ogs Explora ancorata dinanzi alla Base italiana Mario Zucchelli

0.355- μ m Direct Detection Wind Lidar under testing during a field campaign in consideration of ESA's ADM-Aeolus Mission

S. Lolli, A. Delaval, C. Loth, A. Garnier, P.H. Flamant

The atmospheric wind field information is a key issue to Numerical Weather Prediction (NWP) and climate studies. The Atmospheric Dynamic Mission-Aeolus is currently developed by the European Space Agency (ESA) to launch a wind sensing Doppler lidar in mid 2015. The High Spectral Resolution lidar concept is using backscattered laser signals from molecules and particles to provide accurate horizontal wind velocity measurements in the depth of atmosphere. The Aeolus lidar so called ALADIN will operate in UV at 0.355- μ m. The combination of air molecules and UV laser light is intended to provide wind data evenly distributed everywhere in the lower atmosphere (below 30 km altitude). The goal of the ESA's Aeolus mission is to enhance the present meteorological observations system over sparse wind data regions, and more importantly to provide direct wind information in the tropics where no geostrophic wind can be derived from mass fields obtained from passive radiometer satellite. The 0.355- μ m lidar concept was under testing during a field campaign conducted at the Haute Provence Observatory, France, in 1999. Several active remote sensors were deployed on the site and it was the opportunity to address the self-consistency of wind measurements made by different lidars, 72-MHz radar, and conventional balloon radio soundings. The paper presents the comparison of different remote sensors using two criteria: Pearson Cross Correlation Coefficient and Root Mean Square Error. The methodology discussed is useful in future ESA's Aeolus validation campaigns involving different kinds of instruments.

Short bio:

Dr. Simone Lolli is a Research Associate in Joint Center for Earth System Technology and affiliated with the MPLNET NASA Goddard Space Flight Center group. He received the Laurea degree in Physics, at the University of Florence on Microwave remote sensing in 1996. In October 1999 he joined the Microwave Remote Sensing Group of the Institute of Applied Physics IROE of the Italian National Research Council (CNR), Firenze, for development and validation of models to study interaction between rough bar soils and microwaves. In 1999 he was visiting scientist in the group of applied physics of the University of Geneva to develop a direct detection Doppler Wind Lidar in the frame of ADM/Aeolus mission of the European Space Agency (ESA). In 2008 he joined the Atmospheric Lidar Group of Laboratoire de Meteorologie Dynamique (Prof. Pierre Flamant) to complete the Ph.D, obtained in December 2011, with the title: "Atmospheric wind profile measurements by Doppler Lidar means: development and validation in the frame of Earth Explorer Atmospheric Dynamic Mission (ADM-Aeolus). He is member of the American Geoscience Union, convener and member of scientific committee of several international conferences. Currently Dr. Lolli is researching on impact of aerosols anthropogenic and natural emissions on radiative transfer by lidar measurements of MPLNET NASA lidar network and sun-photometer Aeronet NASA network. Quantitative assessment on climate change and meteorology.

Email: simone.lolli@nasa.gov

Phone: 202-367-6950

Url: <http://science.gsfc.nasa.gov/sed/index.cfm?fuseAction=people.jumpBio&iPhonebookid=39955>

Restoring the Ecosystem: Provide a Sustainable Future for the Cultural Landscape of San Antonio River, Texas

Topic Areas: Cultural Heritage Preservation

The city of San Antonio is one of the most relevant historic cities in United States, world-wide renown as the 'Venice of Texas', characterized by its river and famous Riverwalk.

The city was founded by the Spaniards as a *presidio* in the first quarter of eighteenth century in a strategic location between two water features: the *Rio San Antonio* and the *Arroyo de San Pedro*. During the same period, were built along the river five Spanish-colonial missions, which are today, together with their 'cultural landscape', on the U.S. tentative list to be advanced as a possible UNESCO World Heritage Site.

The famed Riverwalk, created in the '30s after the construction of the Great Bend, is a unique experience of a river park within the city, but it has a limited extension, related only to the downtown area.

After 1941 flood, the 1954 Corps of Engineers channelization project drastically transformed the river landscape outside the city center: river channelization effectively protected the area from destructive floods, however, changed the river into a drainage channel. Without taking in consideration Leopold's 'land ethic', it interrupted the ancestral and laborious relationship between land and water.

This study analyzes 2001-2014 San Antonio River Improvement Project (SARIP) and subsequently focuses on the undertaken strategies for the 'Mission Reach Ecosystem Restoration Project'. SARIP enhances 13 miles of the river both north and south of downtown, the latter recovers an eight miles stretch of the river on the southern area of the city. It includes several steps assessed in this research study:

- flood management and reconfiguration of the river channel, criteria and limits;
- improvement of the river's ecology including aquatic habitat;
- restoration of the flora, reestablishing hundreds of acres of native grasses and wildflowers and reintroducing native trees and shrubs.

An ecosystem restoration changes the relationship between man and land: it will enhance inhabitants' circulation along the river beyond the Riverwalk, it will recreate the historical connections, interrupted for more than 50 years, to the Missions and, will re-link river banks and its surrounding land.

The culmination of these steps will result in an environmental sustainable water source, giving new meaning and new role to the river for future generations to come.

Keywords: San Antonio River, cultural landscape, restoration ecology

ANGELA LOMBARDI, Ph.D.

Angela Lombardi is Assistant Professor in the College of Architecture, University of Texas at San Antonio, Texas, since 2012.

MArch in Architecture (2000), School of Specialization in *Architectural Heritage and Landscape Conservation* (2009), PhD in *Retraining and Recovery Urban Heritage* (2008) at University of Rome Sapienza, she also holds a Post-master Diploma in *Integrated New Technologies for Seismic Protection of Historic Heritage* (2004) within a MIUR research program.

Her research, in the field of historic preservation, focuses on management of historic built heritage and archaeology within contemporary urban landscape in International context. Since 2009 she is researching on Latin American urban heritage and is one of the editors of the book *LIMA, Historic Center. Analysis and Restoration* (Rome: Gangemi, 2012). Since 2013 she is investigating cultural landscape conservation issues, with an in-dept analysis of San Antonio water resources.

She has ten year of experience on traditional construction techniques, STONE masonry conservation and, more recently, on EARTHEN MATERIALS conservation. She worked, among others, on: conservation projects of facade of Cathedral of Siena; Cathedral of Pienza; Bergamo opera theatre 'Teatro Sociale'; 16th century painted facade in via del Pellegrino, Rome; 19th sculporial group on one of the pediment of the Ministry of Finance, Rome.

After working in 2010 in the Middle East region, at the archaeological sites of Baalbek and Tyre in Lebanon, in 2013 she was UTSA instructor for a 4 week period, for the Archaeological Site Magement Workshop held in Erbil, Iraq. The workshop, dedicated to Iraqi professionals, is organized by WMF and sponsored by US Department of State.

Contacts:

Angela Lombardi

College of Architecture, University of Texas at San Antonio

501 W.Durango Blvd., San Antonio, Texas, 78207

(210) 458 8077 or (347) 863 8029

angela.lombardi@utsa.edu

Collaborating with NASA Johnson Space Center

Dr Kamlesh Lulla,

Director, University Collaboration and Partnership office
External Relations Office, NASA Johnson Space Center

The core mission of NASA/Johnson Space Center (JSC) is human spaceflight and human space exploration. For the past five decades JSC has focused on human spaceflight, making great strides in engineering, science and technology innovations and developments. As we look to the future, we are leading the way by investing in new innovations and technologies to pursue bold missions that will include sending humans to deep space to compelling destinations such as near earth asteroids and Mars. JSC's talented scientists and engineers bridge the boundary between conceptual laboratory and basic research and technology development, and the real-life spaceflight applications. These research and technology developments have matured and evolved over the years.

Each year our engineers and scientists innovate, collaborate and share knowledge with our cohorts in the U.S. government, aerospace companies, universities, industry, and various institutes to meet the new technological challenges. NASA's rigorous engineering and scientific demands to accomplish its mission result in either creating new technologies and improving and customizing the ones already available.

Encourage, Enable, JSC-University collaborations that:

- Enhance, entwine and further strategic goals of both institutions (JSC and the University)
- Facilitate joint access to JSC and university capabilities in science, technology and engineering
- Gain and maintain better understanding of state of the research in the broader community
- Support graduate student and postdoctoral research on topics of interest to JSC/NASA
- Encourage involvement of faculty in JSC research and technology program
- Ensure a pipeline to meet future technical challenges

Kamlesh Lulla



Dr. Kamlesh Lulla serves as the Director, Director, University Collaboration and Partnership office External Relations Office, NASA Johnson Space Center. Dr Lulla served as chief scientist for Earth Observations and Remote Sensing for the Space Shuttle missions and played a role in the development of window observational research facility onboard the International Space Station. Dr Lulla is a widely published author of many technical papers and editor of eight books on space related themes.

Marcella Macaluso¹ and Antonio Giordano¹

¹Sbarro Institute for Cancer Research and Molecular Medicine, College of Science and Technology, Temple University Philadelphia, PA USA

It is still unexplored if fluctuations in the fine balance between estradiol and progesterone (E2-P4) levels promote the formation of breast tumor initiating cells (BTICs) by inducing endoplasmic reticulum stress (ERS) and hypoxia in normal mammary epithelium. Estrogens and other steroids are known to have potent anti-oxidant activity but their effects on the ERS have not been well studied. The endoplasmic reticulum (ER) is a key site for protein folding. When cellular stresses perturb energy levels unfolded proteins accumulate and protein aggregation occurs; this condition is referred to as ERS. ERS is sensed by three upstream signaling proteins that, when activated, begin a cascade of corrective actions. The activity of these pathways collectively constitutes an ER-specific unfolded protein response (UPR). Increased oxidative stress and ERS have been implicated in a variety of pathologic processes. Moreover, hypoxia, low oxygen concentration in cells, has been widely associated with several diseases such as anemia, diabetes, kidney disease, cardiovascular disease, hypertension, sickle cell disease, and many cancers. Recently, it has been recognized that the UPR can also be activated through hypoxia. Characterization of breast cancer stem cells is an area of active research. It has been reported that normal-breast epithelial cell that are CD24-/CD44+ express higher levels of stem/progenitor cell associate-genes and cancer cells that have undergone epithelial to mesenchymal transition (EMT) reportedly display the CD24-/CD44+ phenotype.

Aim of this study is to investigate if E2 and P4 play a role as inducers of ERS and hypoxic microenvironment promoting the formation of BTICs is novel.

Understanding if hormone imbalance promotes breast cancer will empower us in preventing tumor formation, or altering tumor biology to tailor more specific endocrine therapies for the treatment of breast cancer patients.

Marcella Macaluso, Ph.D. is Associate Professor of Biology (Research) and Director of the Epigenetic and Genetic Program at S.H.R.O. Dr Macaluso's research focuses on understanding the molecular mechanisms underlying epigenetic and genetic alterations in human cells leading to cancer formation and progression. Dr. Macaluso's research has been supported by the Department of Defense, National Institute of Health, several private international foundations and organizations, including SHRO. She is the author of over 50 peer-reviewed publications and book chapters, serves as a member of editorial boards of professional journals, and is a frequent grant reviewer for federal and international funding agencies.

Community detection in Protein-protein interaction networksHassan Mahmoud¹, Francesco Masulli^{1,2}, Stefano Rovetta¹ and Giuseppe Russo²

¹DIBRIS - Dip. Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi, Università di Genova, Genova, Italy; ²Sbarro Institute for Cancer Research and Molecular Medicine, College of Science and Technology, Temple University Philadelphia, PA USA.

Various genomic processes are still unidentified, even our reasoning about numerous biological functions is subject to change with the aid of recent advances in high-throughput genome technologies such as next generation sequencing. Most of the biological processes in living beings are dependent on pathways or sequence of interactions between proteins and biomolecules components, a subtle change in genes co-expressions for instance may affect co-regulation and proteins binding scenario. This may cause mutations and hence lead to diseases like cancer.

Protein-protein interaction networks have been built to visualize possible protein bindings. These proteomic data are very complex and live in high dimensional manifolds. Community detection is a machine learning approach aimed at discovering dense aggregations tightly cooperate mutually, but sparsely interact with other entities. In addition to inferring biological processes entailed behind such relational interactions, these communities are the basis for motif finding studies, protein profiling, characterizing protein families, biological mapping between different organisms and predicting missing interaction scenarios, predicting disease evolutions and improving drug discovery.

Our studies develop and adopt community detection mechanisms in uncertain biological perspectives. We studied Protein-Protein interaction networks in yeast *Saccharomyces cerevisiae* considering possible linkage uncertainty. We are extending our analysis in complex interactome to improve our understanding of various diseases.

Hassan Mahmoud is a PhD researcher in the department of computer science & bioengineering, Genova University, Italy. His current research directed into computational biology, medical informatics and bioinformatics. He is a lecturer assistant in Egypt since 2006 till now. He is a software development team leader since 2005 in multinational companies; He is a reviewer of various journals and conferences, and published more than 10 papers in this field.

Francesco Masulli is Associate Professor of Computer Science with the University of Genoa (Italy) and Adjunct Associate Professor with the Sbarro Institute for Cancer Research and Molecular Medicine, Temple University, Philadelphia (PA, USA). Author of more than 140 scientific papers on Machine Learning, Neural Networks, Fuzzy Systems and Bioinformatics. Chair of the Task Force on Neural Networks of the Technical Committee on Bioinformatics and Bioengineering of the IEEE CIS.

Stefano Rovetta is Associate Professor of Computer Science at the Department of Informatics, Bioengineering, Robotics and Systems Engineering, University of Genova, Italy. He has a Laurea and a PhD in Electronic Engineering. His main research activity and projects are focused on machine learning and pattern recognition, with applications to bioinformatics and other fields of science, technology and everyday living. He has published more than 120 papers on these topics.

Giuseppe Russo, PhD is Assistant Professor in Biology (Research) and Director of the Cancer Systems Biology and eHEALTH Programs. Dr. Russo is author of different peer-reviewed articles, conferences proceedings, book chapters and abstracts in the fields of Molecular Biology, Cancer Research and Bioinformatics. He is invited reviewer of different peer review journals and serves as research advisor/mentor for Temple University Undergraduate Research Program students, international PhD students and Post Doc fellows. Dr. Russo's research has been supported by NIH, NIMH, private foundations and organizations, as well as by SHRO.

Giuseppe Martini**Campania Bioscience and the new opportunities for Research and Innovation in Southern Italy**

Giuseppe Martini obtained his Doctorate (Laurea) in Physics from University of Naples in 1975. His research work in Molecular Genetics, done at major research institutions in France, UK, US and Italy, mainly focused on G6PD deficiency in man and the analysis of oxidative stress response in mouse cells.

From 2001 to 2005 he was Science and Technology Adviser at the Italian Embassy in Ottawa, from 2006 to April 2012 he was Director of the Department of Life Sciences at the National Research Council of Italy (CNR). Over the past ten years, Dr Martini has been active in the start-up of several successful scientific organizations, including the start up of the European LifeWatch research infrastructure dedicated to the study of biodiversità and the constitution of a research consortium between CNR and the privately held IRBM Science Park.

Giuseppe is a member of the Italian Prime Minister's Advisory Committee on Life Sciences, Biosafety and Biotechnology, he has recently started his own biotech consulting and service company, Biostella srl and he is a member of the Board of Directors at Campania Bioscience, a partnership of more than fifty government, academic, and private institutions active in the region of Naples which he recently helped to come together to form an integrated research, business and social innovation fostering environment.





M. Sc. University of Genoa - Italy (Biological science)
Ph.D. University Genoa - Italy (pharmaceutical science)
PostDoc Houston Methodist Research Institute, Houston, Texas

Biography

Dr. Parodi earned his Master degree in Biology at University of Genoa - Italy and a Ph.D. in Pharmaceutical Sciences in 2013 under the supervision of prof. Annamaria Bassi. His PhD thesis was focused on the design and development of new alternative methods to predict skin inflammation potential under exposure to cosmetic fragrances. He spent his post-doc at the center for advanced biotechnology (Genoa) studying the impact of carbon nanotubes on the physiology of endothelial cells under the supervision of dr Albini and at the department of Nanomedicine of Houston Methodist Research Institute under the supervision of dr. Tasciotti to develop new surface

modification to overcome the biological barriers that characterize intravenous treatment. In 2013 he became an instructor of the lab of Dr. Tasciotti. His research is focused on the development of new bio-inspired drug delivery systems for different therapeutic applications.

Description of Research

Dr. Parodi's research is focused on:

- Understanding what are the molecular mechanisms that determines vascular wall permeability
- Development of bio-inspired carriers for the selective targeting of inflamed tissues
- Development of new protocols to purify leukocyte cell membrane to provide synthetic carriers of physiological targeting and self-tolerance.

Major Areas of Research

Nanotechnology, drug delivery.

Selected Publications

Parodi A, Quattrocchi N, van de Ven A.L., Chiappini C, Evangelopoulos M., Martinez J.O., Brown B.S., Khaled Sm.Z, Yazdi I.K., Enzo M.V., Isenhardt L., Ferrari M, Tasciotti E. Biomimetic functionalization with leukocyte membranes imparts cell like functions to synthetic particles. *Nature Nanotechnonology*.

Adriano E, G, Perasso L, Parodi A, Lunardi G, G and Balestrino M. Electrophysiology and biochemical analysis of cyclocreatine uptake and effect in hippocampal slices. *Journal of Integrative Neuroscience*, Vol. 12, No. 2 (2013) 285_297

Martinez J.O., Parodi A., Liu X., Kolonin M.G., Ferrari M., Tasciotti E. Evaluation of Cell Function Upon Nanovector Internalization. *Small*.

Biomimetic liposomal formulations to target inflamed blood vessels

Molinaro R., Parodi A., Corbo C., Palomba R., Evangelopolous M., Shilpa S., Tasciotti E.

The development of targeted treatments with increased therapeutic efficacy is still a major challenge in many fields of medicine. Active compounds often possess severe side effects and their use is limited by the potential toxicity they can exert on fundamental organs like heart, liver and kidney. Different strategies were developed to deliver and accumulate drugs into the tissue of interest by taking advantage, for instance, of pathological changes that occur in the sick tissues, as, for instance, the inflammatory process. Inflammation is often related to different pathological conditions, such as cancer, metabolic diseases, ischemic events just to cite a few. The exposure of adhesive molecules on the surface of blood vessels and the increased permeability of the vessel are some of the features that characterize the inflammatory process at the vascular level. Leukocytes evolved the ability to recognize, adhere and penetrate inflamed tissue. Inspired by the physiologic activity of leukocytes to accumulate at the cancer site we developed in our laboratory a new class of biomimetic delivery systems based on the plasma membranes of different classes of infiltrating cells. we focus mainly on cancer diseases and, inspired by the laws of nature, we developed biomimetic, hybrid vesicular nanocarriers. Leukosomes are lipidic particles enriched on their surface with self-tolerance and targeting proteins, directly isolated from the leukocyte membrane. Leukosome can be loaded with multiple drug and target in vivo tumor vasculature. We will describe leukosome's synthesis, physical, chemical and biological properties, and their ability to target the vasculature of different tumors.

**Roberto Molinaro, Ph.D.**

PostDoc Fellow

The Department of Nanomedicine

Houston Methodist Hospital Research Institute

Drug Delivery Lab

E-mail: rmolinaro@houstonmethodist.org

Phone: 832-461-7409

Education

M. Sc. University Magna Graecia of Catanzaro - Italy (Pharmacy)

Ph.D. University Magna Graecia of Catanzaro - Italy (Pharmaceutical Sciences)

PostDoc Houston Methodist Research Institute, Houston, Texas

Biography

Dr. Molinaro earned his Master degree in Pharmacy at University Magna Graecia of Catanzaro - Italy and a Ph.D. in Pharmaceutical Sciences in 2013 under the supervision of prof. Massimo Fresta. His PhD thesis was focused on the design and development of asymmetric vesicular carriers for gene delivery. He spent the last year of his Ph.D. program at the department of Nanomedicine of Houston Methodist Research Institute under the supervision of Prof. Mauro Ferrari. He is currently a postdoc fellow under the mentorship of Dr. Ennio Tasciotti. His research is focused on the design and development of drug delivery systems (polymeric nanoparticles, vesicular carriers, hybrid particles) for different applications (from transdermal to systemic administration).

Description of Research

Dr. Molinaro's research is focused on:

synthesis and functionalization of conventional nanoparticles for targeted drug delivery systems

development of bio-inspired vesicular carriers for the selective targeting of inflamed tissues

loading of active molecules (genetic material, proteins, chemotherapeutics) into carriers and their physical-chemical and biological characterization.

Major Areas of Research

Nanotechnology, drug delivery, gene therapy.

Selected Publications

Tudose A., Celia C., Cardamone F., Vono M., Molinaro R. and Paolino D. Regenerative properties of aloe vera juice on human keratinocyte cell culture. *Farmacia*, 57 (5): 590-597; 2009.

Paolino D., Cosco D., Molinaro R., Celia C. and Fresta M. Supramolecular devices to improve the treatment of brain diseases. *Drug Discov Today*, 16 (7-8): 311-24; 2011.

Cosco D., Molinaro R., Morittu V.M., Cilurzo F., Costa N. and Fresta M. Anticancer activity of 9-cis-Retinoic Acid encapsulated in PEG-coated PLGA-nanoparticles. *J. Drug Del. Sci. Tech.*, 21 (5) 395-400; 2011.

Molinaro R., Wolfram J., Federico C., Cilurzo F., Di Marzio L., Ventura C.A., Carafa M., Celia C. and Fresta M. Polyethylenimine and chitosan carriers for the delivery of RNA interference effectors. *Expert Opinion on Drug Delivery*. DOI:10.1517/17425247.2013.840286.

Esmeralda Moscatelli

Esmeralda Moscatelli is Senior Research Coordinator at the Institute of Classical Archaeology (ICA). She manages a large group of researchers and coordinates all the research activities at the three ICA sites (Metaponto, Croton, Chersonesos). Esmeralda was born in Rome. She graduated from the University of Rome "La Sapienza" in Contemporary History in 1997. She moved to Austin in 1999 and taught Italian at the French and Italian Department at the University of Texas at Austin. She obtained a Master degree at the LBJ School of Public Policy and Administration at the University of Texas at Austin in 2006. She is currently enrolled as a graduate student at the School of Information at UT where she is specializing in digital archives and records management.

Archeological study of the chora of Metaponto

The Institute of Classical Archaeology (ICA) carries out multi-disciplinary archaeological research, conservation, and cultural resource management projects in the rural territory (chora) of ancient Greek colonies in southern Italy and on the Black Sea coast of Ukraine. ICA was established as a research unit in the College of Liberal Arts at the University of Texas, Austin, in 1974. Over the past 30 years, with major support from public and private sources, ICA has developed long-term projects to explore the agricultural hinterlands of ancient Metapontum and Croton in Italy and Chersonesos in Crimea, Ukraine. The Director of ICA is Joseph Coleman Carter.

The Institute carries out multidisciplinary archaeological research including *Paleobotanical and Archeological Studies*, such as the study of ancient plant life in the chora of Metapontum with the discovery (at Pantanello in 1978) of rich and varied deposits of organic remains including pollen; *Physical Anthropology* such as the analysis of human skeletal remains from excavated burials and *Geo-archaeology and Geomorphology* that studies the existence of traces, unique in the West, of ancient features interpreted as evidence of land division. This discovery stimulated an investigation of the relation of human settlement in the chora of Metapontum to the underlying geological and hydrological structure of the landscape.

The intensive archaeological field survey of the chora of Metapontum, begun in 1981, and it was the first project of its kind at a Classical site in south Italy. It represents the principal evidence for the chronological and geographical distribution of the ancient Greek and Roman, as well as the prehistoric and medieval, populations in southern Italy. This pioneering work has evolved over the years, in terms of both scope and direction. In 2011, the three-volume Survey was published by the University of Texas Press (<http://utpress.utexas.edu/index.php/books/carch3>) after more than thirty years of field studies, ceramic analyses and scientific analysis.

Abstract – Section Humanistic Studies

My research started from a principle condensed in the Shakespeare's line, "No profit grows where is no pleasure taken" (Taming of the Shrew). That is, the key to learning any subject is to make that subject entertaining. The idea is to be applied and implemented across the education system, in schools and in adult education.

Therefore, I researched the two types of memories we are endowed with, analytic and visual. In learning, the main field where analytic memory is applied is reading. Conversely, visual memory is (or should be) deployed in memorization.

To develop, cultivate and strengthen analytic memory, while reading I created a system based on a simple device I designed to mark books non-destructively. System and device are called "Memex", an acronym for "Memory Exerciser".

To promote and strengthen visual memorization skills I designed a system called "Mnemonic Frames" based on a software I developed for the purpose.

The Memex system has obtained the unsolicited written endorsement by Mortimer Adler and Charles Van Doren, directors of the Encyclopedia Britannica. M. Adler also wrote the best seller "How To Read a Book".

Of the Mnemonic Frames system I define myself its living proof. Endowed with average memory, I can recall by heart over 500 Shakespearean quotations and over 200 Dante's quotation from the "Divine Comedy"

Coming from the field of industry (as opposed to academia), I decided to prove the worth of my research indirectly. To do so I have written two books for popular use, giving a "practical" and yes, entertaining bent to both Shakespeare and Dante.

On Shakespeare I wrote, "Your Daily Shakespeare – an Arsenal of Verbal Weapons to Drive your Friends into Action and your Enemies into Despair".

And the Region of Tuscany has recently published "Il Nostro Dante Quotidiano – 3500 Modi di Cavarsela con Dante"

As the titles suggest, both works attempt to give a contemporary and familiar image to two foremost classics, while preserving the essence, the spirit and the sound of their original respective words.

Both books are unique in their conception and structure. They are indexed by daily-life situations, more than 10,000 for Shakespeare and more than 3500 for Dante, supported by vast analytical indexes and a description of the context in which each quotation appears in the original.

The next edition of the Dante book will also include the "marriage" between the book and the Internet. A reader with an i-phone will hear the voice of an actor reciting the quote as he passes the i-phone on the printed quote.

Biography

An Electronic Engineer by training (Degree from the University of Genova), I first worked for a large US Company becoming their International Marketing Manager.

I then founded my computer company that I managed for 25 years. The company produced an ingenious electric device that proved immediately successful with over 350,000 units sold worldwide.

In 2010 I retired to follow my pursuit as described - in particular, the formation of teachers of Italian, so as to turn them into effective evangelists of our language and culture.

Jimmie Moglia
100 NW 86th Ave.
Portland OR 97229
Tel. 503 459 7992
Jimmie.moglia@gmail.com
www.yourdaillyshakespeare.com

Isolation and Characterization of Liver Cancer Stem Cells from Human Hepatocellular Carcinoma**Mauro Montalbano^{1,2}, Cristiana Rastellini¹, Luca Cicalese¹, and Renza Vento²**¹*Dipartimento di Scienze e Tecnologie Biologiche, Chimiche e Farmaceutiche (STEBICEF) and BioNec Department*

Università degli Studi di Palermo, Italy

²University of Texas Medical Branch, Galveston, USA

Hepatocellular carcinoma (HCC) is the most common primary malignant tumor of the liver and represents 80-90% of all liver cancer. HCC is the third leading cause of cancer related deaths in the world. Despite improvements in the diagnosis and treatment have increased the likelihood of a cure in the early stages, HCC remains largely incurable due to the late diagnosis and potential recurrence. In addition to surgical resection, the loco-regional ablation, and liver transplantation, treatment protocols include the current conventional cytotoxic chemotherapy. Because of the nature of the highly resistant disease, the efficacy of chemotherapy currently available is poor. It's well known that solid tumors are composed of heterogeneous cell populations, within which it was demonstrated the presence of stem-like cells. It has been shown that cancer stem cells (CSCs) are responsible for tumor drug resistance as well as recurrence of the disease after removal. In addition to chemotherapy resistance these cells are able to self-renew and produce a heterogeneous progeny, typical of stem cells. Understanding the mechanisms that regulate the growth, survival and expansion of these cells, is therefore crucial for the detection of specific treatments to those cellular targets and therefore the tumor.

The overall goal of our project is to isolate and characterize human HCC stem cells that can be targeted with chemical therapy.

In the first phase of our project we intend to generate primary culture from human HCC. Within those cultures we plan to identify the presence of cancer-related stem cells. Once stem cells will be identified we will proceed to their isolation and complete phenotypic characterization by FACS analysis. Subsequently the isolated stem cells will be investigated for staminal characteristics as well as tumorigenicity. Multi- and pluri-potency of the previously isolated stem cell line will be investigated (mesenchymal, endodermal and ectodermal) with specific inducing medium. Tumorigenicity will be studied by determining their invasive capacity in both in vitro and in vivo models. When fully characterized, we will proceed with the search for drugs capable of inducing cytotoxic effects. In vitro and in vivo (animal xenografted tumors) studies will be performed to identify innovative chemicals that can prevent growth through stem cell inhibition.

Biography

Dr. Mauro Montalbano, was born in Palermo, Italy in 1984. Dr. Montalbano is a PhD student in the newly established Neuroscience PhD Program of the University of Texas Medical Branch and University of Palermo. Dr. Montalbano obtained his B. D. in Molecular and Cellular Biology in 2008 and Master Degree cum laude in 2012 at the University of Palermo (Italy) with a research thesis on Histone Deacetylase III Sirt1 in breast cancer cell line MDA-MB-231, investigating its subcellular localization and possible post-translation modifications. Dr. Montalbano is currently conducting his research in the transplant research laboratory at the University of Texas Medical Branch under the mentorship of Drs. Luca Cicalese, Cristiana Rastellini and Renza Vento.



Contact information:

Romina Olson

italaustin@gmail.com

512-289-2997

The ITAL Project

There have been thousands of studies throughout the years from diverse academic disciplines which have demonstrated the significant impact that visual media products have in shaping people's attitudes, perceptions, and behavior. Nonetheless, the vast majority of these studies focus their attention on traditional media products (TV, Film), or they limit themselves to analyze visual media products in their finished form, as an already finalized video or film that is ready for the audience's consumption. Very limited research has been done in analyzing how other aspects of media creation - financing, conceptualization, production, post production and deployment – could potentially impact society, if media makers were to involve their audiences throughout these steps that are usually taken away from the public light.

The ITAL project is a collaborative media project, which combines the expertise of professional independent media makers, academics, and second language instructors to create media centered on Texan Italian culture. Through the course of 2 years, ITAL has loosely followed a participatory action research approach to analyze the impact that a community based model of media creation where every step of production involves the intended audience, could have in strengthening the Italian diaspora of Texas. The project uses a transmedia approach to media creation and deployment where diverse media products - educational videos, documentaries, fictional films, and even special screenings – are linked through a common idea, which is the celebration of the cultural intersection that has existed between Italy and Texas for a few centuries.

Given that the ITAL project is currently still being carried out and will be finalized in August 2014, on this conference we will use a multimedia approach to show examples, and results from the diverse ideas that are being implemented so far. Although ITAL focuses on Texan Italian culture, its results could be utilized by different other communities interested in developing their own media products, and enjoying the community strengthening benefits that could arise from the process of creating these media products in question if a community media creation model is implemented.

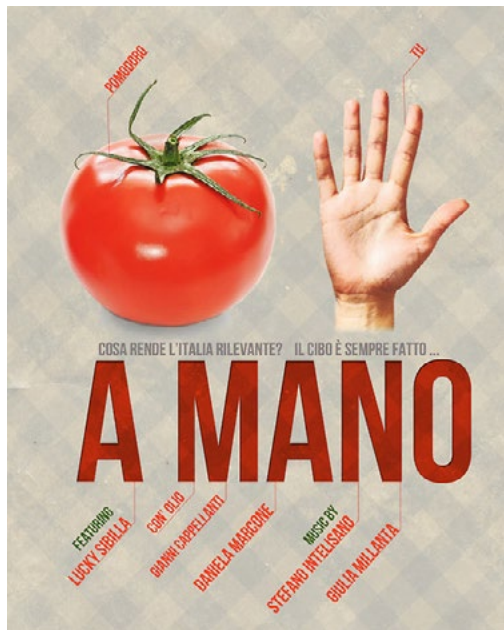
About the ITAL creators:

Sergio Carvajal-Leoni:

Sergio Carvajal-Leoni is an award-winning trans-media storyteller with experience in different areas of the entertainment industry such as film, music, show-making, gaming and interactive. In film, he has written and directed a variety of narrative, documentary and experimental shorts, which have been featured in such prestigious film festivals such as Tribeca, SXSW and Traverse City, as well as gathered the appraisal of legendary filmmakers such as Terrence Malick, Michael Moore, and John Pierson. In 2012, Carvajal-Leoni established his own company in San Marcos, Texas, from where he is currently finishing his first feature film titled "Tiramisu for Two," a bilingual story in Italian and English which follows his proposed model of "community media creation." He holds a Bachelor's of Science in Radio, Television and Film from The University of Texas at Austin. He also attended the American Film Institute Conservatory in Los Angeles as a director fellow, and is currently finishing a Masters in Mass Communications at Texas State University, where he is developing a final project that aims to empower niche communities to create and share their own media.

Romina Olson:

Romina Olson is an Austinite photographer, actress and independent film producer with an extreme case of Texan/Italian split personalities. She began her career in portraiture and street photography in both the highways of Texas and the streets of Rome. After earning her BFA in photography at Texas State University-San Marcos, Romina decided to expand her skill set by working as a "still photographer" for film sets, not knowing that this experience will eventually lead her deep into the world of filmmaking. Romina now works both as a Cinematographer and a Producer for her own company, Tiburon Transmedia, a Central Texas based company that specializes in creating original entertainment/educational content and providing digital video solutions for a wide array of clients. Romina is at the moment producing her first feature film titled "Tiramisu For Two."





IBM Watson Ecosystem Program*Scaling cognitive systems. Accelerating a new era of computing*

Ing. Paolo Papi

Software Group, IBM Corporation

ppapi@us.ibm.com

12605 Calistoga Way, Austin, TX, 78732

Abstract

In February 2011, tens of millions of people got their first glimpse of a new era of computing with the potential to forever change the way we live and work. A cognitive computing system called “IBM Watson” defeated the two most highly decorated champions of the TV quiz show, Jeopardy! The show, with its complex, contextual, punning wordplay, was a proxy for the problems that natural language data poses in the real world.

Watson represents a significant departure from traditional programmatic computing models. Not only can it communicate with people in plain English, but it can also extract knowledge from the same text sources that we humans use to learn and understand. Rather than generating answers defined by static business rules or decision trees, Watson provides confidence-rated responses with visibility into the supporting evidence. In addition, and perhaps most significantly, it learns and improves over time.

After the Jeopardy! proof-of-concept, IBM began establishing Watson’s real-world capabilities in healthcare in collaboration with industry leaders like Memorial Sloan Kettering Cancer Center, Cleveland Clinic, MD Anderson Cancer Center and WellPoint. Healthcare represented a great next-step for Watson because it posed an opportunity to bring meaningful improvement to an industry that affects the lives of entire populations. Healthcare also presents formidable information challenges with medical data doubling every five years, the vast majority of which resides as unstructured data that Watson is optimized to analyze.

In order to meet the changing dynamics of the market place, IBM is opening the Watson platform to support a new era of cognitive applications. Building on the momentum of past successes, IBM is assembling leading content providers, independent software vendors (ISVs), and talent providers to collaborate toward the development and release of “Powered by IBM Watson” applications. The initiative will leverage IBM’s extensive experience working with tens of thousands of business partners to help drive innovation.

Biography

Paolo Papi was born in Rome, Italy. After obtaining the degree in Electronic Engineering at “La Sapienza” Rome University and completing the military service as Officer in the Italian Navy, he joined IBM in 1991. He started his career as software developer, to evolve in a few years into technical leadership roles. In 1998 moved from Rome to Austin, TX, assuming managerial/leadership responsibilities in different organizations and roles in the IBM Software Group. Paolo lives in Austin, Texas, is married with Patrizia and has a 7 years old son, Piefrancesco William.

Abstract**A value proposition for Q-Thruster enabled interplanetary missions**

At NASA Johnson Space Center and specifically at “Eagleworks” Laboratories Dr. Harold Sonny White and his team are studying Q-thrusters, a breakthrough propulsion device which could revolutionize manned exploration of the Solar System and beyond. Q-thrusters are a low-TRL form of electric propulsion that operates on the principle of pushing off of the quantum vacuum which can be thought of as a sea of virtual particles, principally electrons and positrons that pop into and out of existence. The vacuum represents the propellant which this way becomes “free”, meaning that it doesn’t burn or ends. Test articles demonstrated that 0.4 N/kW and 4 N/kW performances can be achieved, corresponding to respectively 800 N and 8000 N thrust levels. This way it is possible to have at the same time high thrust, fundamental for accelerating big masses in space in a reasonable time, and extremely high specific impulse (almost infinite). This presentation summarizes some preliminary missions that are possible with Q-thruster enabled spacecraft and highlight how this kind of propulsion could tremendously change the current approach to space exploration. All the tests have been performed using COPERNICUS software, a generalized spacecraft trajectory analysis and design created by NASA and the University of Texas.

**Udrivolf Pica Bio**

I am Udrivolf Pica, 25 years old, space engineer from Italy. I just graduated and I have a Master’s degree in Space Engineering from University “Sapienza” of Rome and a Master’s degree in Space Management from the International Space University (ISU) in Strasbourg. From my university in Rome I got a strong space engineering background focused on space propulsion and orbit mechanics while from the International Space University I received an interdisciplinary knowledge of policy, business and management, and I learned the importance of internationality and interculturality in today’s space activities. I was at NASA twice working on projects focused on advancing humanity into space. In 2012 at Kennedy Space Center I was part of an international and multicultural team of 40 people. The team project was about manned exploration of the solar system and it envisioned the creation of an orbital refueling and service infrastructure to improve future space travel capabilities and answer the new commercial market requests. As head of the engineering section I was responsible for all the technical aspects of the final report. Last year during my MSc in space management I was the project manager of “Mars-X: human exploration of Mars from Martian orbit”, a team project proposing a scenario to explore Mars by landing humans on “Phobos” and returning them safely to Earth, in order to prepare the foundation for the first human mission to the surface of the Red Planet. From May 2013 to August 2013 I was an intern at “Eagleworks” laboratories for advanced propulsion physics at Johnson Space Center (JSC) in Houston, Texas, where I performed high fidelity mission analysis and design based on an innovative propulsion concept which could potentially revolutionize solar system exploration and beyond.

Eva Pisano

Biologist, Senior researcher at University of Genova, Department of Earth, Environment, Life Sciences (DISTAV). Teacher in Cell Biology.

She studies the biological characteristics of polar fish, used as model to understand mechanisms of evolution and adaptation to harsh environments. The main goal of such a research is to evaluate the biological capability of animal systems to respond to environmental changes, including future climate change.

She participated in 12 scientific expeditions to Antarctic Regions, in the frame of the Programma Nazionale di Ricerche in Antartide (PNRA) and in 2 Arctic Campaigns. She is author of several scientific publications. She is also involved in science communication with the aim to bring cutting-edge science to a large audience of not-specialistic public, and to contribute to improve the public awareness of the importance of polar ecosystems and polar science. She is coauthor of the documentary film "Fish Beneath the ice (Italy 2013, Director Roberto Palozzi) and of the

children book "Il pesciolino argentato. Viaggio alla scoperta del mare dell'Antartide". 2013, Sagep Editori, 2013. The English edition of such a book is in progress.

During the present Antarctic season, 2013/2014, she participate in the XXIX Italian Expedition, as Scientific Responsible at the Italian Station Mario Zucchelli, and as Coordinator of the new PNRA project "IMAGES". By studying the fish chromosome architecture by means of high resolution microscopic analysis "IMAGES" aims at visualizing the most important genomic changes occurred in Antarctic fish during their adaptive radiation in the Southern Ocean.

She is also involved in research on the Antarctic silverfish, a fish species that plays a key role in the coastal Antarctic ecosystem, by studying eggs development and early larvae life, in the nursery area of this fish of Terra Nova Bay, Ross Sea.



Virtual Reality Technology: a new tool for predicting neurocognitive function in HIV-infected subjectsGiuseppe Russo¹ and Antonio Giordano¹¹Sbarro Institute for Cancer Research and Molecular Medicine, College of Science and Technology, Temple University Philadelphia, PA USA

Despite the development of combination antiretroviral therapy, HIV-associated neurocognitive disorders remain prevalent. Traditional neuropsychological (NP) approaches commonly use paper and pencil-based psychometric tests for impairment assessment. Although these approaches offer highly standardized control and delivery of performance challenges, the extent to which these tasks predict everyday functioning is not always clear, as these tasks do not simulate real world activities. The assessment of neurocognitive ability using tasks to simulate everyday activities may confer an estimate of the patient's functioning more accurate than the one within laboratory conditions.

Virtual Reality (VR) is a computer-simulated 3D graphical environment with and within which people can interact. Continuing advances in VR technology along with concomitant system cost reductions have supported the development of more usable, useful, and accessible VR systems. In VR environments, contextually rich simulations with multiple sensory cues might have greater ecological validity than environments limited to only the necessary and sufficient features for an experiment.

The aim of this study is to design a measure that will detect NP impairment of HIV-infected subjects in a simulated environment. To accomplish the aforementioned goal, we developed an interactive virtual supermarket tool that will help in detecting NP impairment in a simulated everyday task. The participant can move inside the supermarket and perform a shopping task simulation: the VR software asks the subject to find different items from a fixed list that will appear on the screen. Our VR simulation can analyze the following: (1) the total time to complete the task; (2) the distance travelled in the supermarket; (3) the number of correct items; (4) the number of incorrect items; (5) the number of the items from the list bought more than once.

This study is supported by a developmental grant from the Comprehensive NeuroAIDS Center (CNAC NIMH Grant Number P30MH092177) at Temple University School of Medicine.

Giuseppe Russo, PhD was born in Naples, Italy. Dr. Russo is Assistant Professor in Biology (Research) and Director of the Cancer Systems Biology and eHEALTH Programs. Dr. Russo is author of different peer-reviewed articles, conferences proceedings, book chapters and abstracts in the fields of Molecular Biology, Cancer Research and Bioinformatics. He is invited reviewer of different peer review journals and serves as research advisor/mentor for Temple University Undergraduate Research Program students, international PhD students and Post Doc fellows. Dr. Russo served as teacher of several international courses and as chairman and committee member of select international scientific conferences. Dr. Russo's research has been supported by NIH, NIMH, private foundations and organizations, as well as by SHRO.

Dr. Antonio Giordano

**About SHRO**

The Sbarro Health Research Organization (SHRO) is a nonprofit charity committed to funding excellence in basic genetic research to cure and diagnose cancer, cardiovascular diseases, diabetes and other chronic illnesses and to foster the training of young doctors in a spirit of professionalism and humanism. SHRO researchers have completed research on new technologies designed to diagnose lung, ovarian, endometrial, breast and brain tumors as well as lymphomas. SHRO organizes and co-sponsors a wide variety of scientific meetings around the world. Under the auspices of SHRO, international cancer experts have gathered in the United States and Italy to promote the exchange of ideas and to lead to new collaborative efforts in the fight against disease.

Current SHRO research projects include:

1. Investigating how antimicrobial peptides might lead to new drugs to fight antibiotic resistant infections.
2. Discovering new small molecules with a role as anticancer drugs.
3. Examining the molecular workings that impede treatments for estrogen-based breast cancer.
4. Studying how obesity might affect the response of breast cancer patients to chemo- and hormonal therapies, and how diet might modulate the expression of cancer-related genes.
5. Understanding the role and the molecular mechanisms of microRNAs and long non-coding RNAs in human cells leading to cancer pathogenesis.
6. Creating custom virtual reality environments in Medicine; creating and employing advanced 3-D simulations/tools to transform health guidelines into a full interactive virtual experience; and developing real-time feedback between the virtual and physical worlds by using tools to track different information of the real user.
7. Using zebrafish model to study cellular and genetic networks related to neuropathic and/or inflammatory pain symptoms.



Cristiana Rastellini, M.D.



Professor of Surgery, Medicine and Microbiology & Immunology; Director of Cellular Transplantation and Transplant Research

Medical School: University of Rome "La Sapienza", Rome, Italy

Fellowship Program: Cell Transplant Research Fellowship, T.E. Starzl Transplantation Institute, University of Pittsburgh, Pittsburgh, Pennsylvania

Special Interests: Organ transplantation; immunomodulation-immunosuppression; tolerance induction; cell transplantation; beta cell proliferation; diabetes

Research Projects: Organ/cellular preservation; mechanisms of acute and chronic rejection; tolerance induction; pancreatic islet transplantation; beta cell proliferation

Luca Cicalese, MD



Luca Cicalese, MD Dr. Luca Cicalese was born in Rome, Italy, and graduated from the University of Rome "La Sapienza" where he also trained in General Surgery and received his board certification. Then, he completed his fellowship in transplantation surgery at the T.E. Starzle Transplant Institute at the University of Pittsburgh. There he distinguished himself for his high merit, publishing numerous scientific articles and obtaining grants and awards from the most prestigious Societies. For this work, he was given a faculty appointment as Instructor of Surgery, which he held up to 1998.

Dr. Cicalese was later recruited at The University of Texas Medical

Branch (UTMB), where he holds the titles of Tenured Professor of Surgery, John Sealy Distinguished Chair of Transplant Surgery, Director of the Texas Transplant Center and Director of Hepatobiliary Surgery. Since his arrival at UTMB, Dr. Cicalese has established a new liver transplant program and established a successful hepatobiliary service. He has reorganized the multi-organ transplant center, improving the clinical outcome of all abdominal transplants that now are above national average. He also directed the establishment of one of the few clinical islet transplant centers in the U.S.

“Orbital Sciences Cargo Resupply Service to the ISS”

Jeff Siders, Director Houston Operations, Orbital Sciences

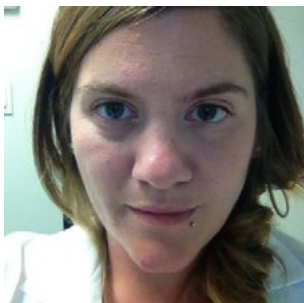
Presentation overview - “Presentation will provide an overview of the Orbital Science Commercial Cargo Program from development through the successful first mission to the International Space Station (ISS)”



Cygnus™ Advanced Maneuvering Spacecraft



Cygnus approaching the ISS

**Francesca Taraballi, Ph.D.**

PostDoc Fellow

The Department of Nanomedicine

Houston Methodist Hospital Research Institute

Spine Advanced Technology Lab

E-mail: ftaraballi@houstonmethodist.org

Phone: 713-441-7319

Education

M.Sc. University of Milan - Bicocca, Italy (Biochemistry)

Ph.D. University of Milan - Bicocca, Italy (Nanotechnologies and Nanostructures)

Postdoctoral Training

Postdoctoral Fellow, Centre of Nanomedicine and Tissue Engineering (CNTE), Ca Granda Hospital, Milano, Italy

Postdoctoral Fellow, The Laboratory for Cell-Material Interaction, School of Materials Science and Engineering, Nanyang Technological University, Singapore, Singapore.

Postdocotoral Fellow, The Laboratory of Organic Chemistry applied to Biomaterials, University of Milan – Bicocca, Milano, Italy.

Biography

Dr. Taraballi earned her B.S. in Biological Sciences and her M.S. in Biochemistry at University of Milan - Bicocca, Italy and a Ph.D. in Nanostructures and Nanotechnologies from a joint program of the Materials Science Department of University of Milan - Bicocca with the Lawrence National Berkeley Laboratory (LBNL) in 2009. Her research focused on tissue engineering for different applications (spinal cord injury, cardiovascular, musculoskeletal). She definitely moved to the United States in January 2013 as a senior postdoctoral fellow in the Department of Nanomedicine at Houston Methodist Research Institute.

Description of Research

Dr. Taraballi's research is focused on:

- the functionalization materials that promote cell survival and differentiation in tissue engineering
- development of smart biomaterials to tune the immunesystems
- synthesis and functionalization of micro and nanoparticles for immunomodulation
- synthesis and functionalization of nanoparticles for targeted cancer drug delivery

Major Areas of Research

Nanotechnology, regenerative medicine, bioengineering, drug delivery

Selected Publications

F. Taraballi, L. Russo, C. Battocchio, G. Polzonetti, F. Nicotra, L. Cipolla. "A model study for chemoselective surface tethering of bioactive molecules via methylglyoxal" (Submitted to Chem Comm)

L. Russo, A. Gautieri, M. Raspanti, F. Taraballi, F. Nicotra, S. Vesentini, L. Cipolla. Carbohydrate-functionalized collagen matrices: design and characterization of a novel neoglycosylated biomaterial". (Carbohydrate Research 2013 DOI: 10.1016/j.carres.2013.11.008)

F. Taraballi, S. Zanini, C. Lupo, C. Cunha, S. Panzeri, M. Campione, , C. Riccardi, M. Marcacci, L. Cipolla. "Amino and carboxyl plasma functionalization of collagen films for tissue engineering applications"(J. Coll. and Interf. 2013, 394:590)

L. Cipolla, L. Russo, F. Taraballi, C. Lupo, D. Bini, L. Gabrielli, A. Capitoli, Nicotra. "Smart biomaterials: the contribution of Glycoscience" (Periodical Reports, SPR Carbohydrate Chemistry, Vol. 38, cap 2012).

F. Taraballi, S. Wang, J. Li, Y.Y. Lee, S.S. Venkatraman, W.R. Birch, S.H. Teoh, Y.C. Boey, K.W. Ng. "Understanding the Nano-topography Changes and Cellular Influences Resulting from the Surface Adsorption of Human Hair Keratins" (Advanced Healthcare Materials, 2012, Vol.1, 4, 513-519.)

S. Wang, F. Taraballi, L.P. Tan, K.W. Ng. "Human keratin hydrogels support fibroblast attachment and proliferation in vitro." (Cell and Tissue Research, 3, 795-802, 2012)

F. Gelain, D. Silva, A. Caprini, F. Taraballi, A. Natalello, O. Villa, K.T. Nam, R.N. Zuckermann, S.M. Doglia, A.L. Vescovi. "BMHP1-derived self-assembling peptides: hierarchically assembled structures with self-healing propensity and potential for tissue engineering applications."(ACS Nano, 2011, Mar 22 5(3): 1845-59)

F. Gelain, S. Panzeri, S. Antonini, C. Cunha, M. Donega', J. Lowery, F. Taraballi, G. Cerri, M. Montagna, F. Baldissera, A.L. Vescovi. "Transplantation of Nanostructured Composite Scaffolds Results in the Regeneration of Chronically Injured Spinal Cords"(ACS Nano, 2011, Jan 25 5(1): 227-36)

F. Taraballi, A. Natalello, M. Campione, O. Villa, S.M. Doglia, A. Paleari, F. Gelain. "Glycine-spacers influence functional motifs exposure and self-assembling propensity of functionalized substrates tailored for neural stem cell cultures. (Front. Neuroeng. 2010 Feb8:3:1)

S. Panzeri, C. Cunha, J.L. Lowery, U. Del Carro, F. Taraballi, S. Amadio, A.L.Vescovi, F. Gelain. "Electrospun micro- and nanofiber tubes for functional nervous regeneration in sciatic nerve transections" (BMC Biotechnol. 2008 Apr 11;8 (1):39 18405347)

The NF- κ B regulator Bcl-3 plays a critical role in the initiation of adaptive immune responses during *Toxoplasma gondii* infection

Toxoplasma gondii is a member of the phylum Apicomplexa, which comprises a diverse group of primarily intracellular parasites that infect a wide range of hosts and occasionally cause serious disease in humans and animals. In addition to its importance in public health, *T. gondii* has emerged as a model organism for studying innate and adaptive immunity response. Control of both acute and chronic infection depends on the production of the cytokines IL-12 and IFN- γ , that are triggered by dendritic cells (DCs).

We found previously that Bcl-3, an atypical member of the family of I κ B proteins, has a pivotal role during *T. gondii* infection. Mice completely lacking Bcl-3 were highly susceptible to infection with *T. gondii*, although the cellular mechanisms involved were unknown. We now found that mice conditionally ablated for Bcl-3 in DCs also succumbed to infection with *T. gondii*, which correlated with impaired production of IFN- γ by CD4 and CD8 T cells. Bcl-3 is

surprisingly critical for proper priming of CD4 and cross-priming of CD8 T cells, both *in vitro* and *in vivo*. Regarding underlying mechanisms, we discovered that loss of Bcl-3 in DCs increased the rate of T cell apoptosis. Furthermore, loss of Bcl-3 shortened the survival of Dcs. We provide evidence that both mechanisms contributed to the impaired priming of T cells by Bcl-3 deficient dendritic cells. These findings clearly reveal the critical role Bcl-3 plays in DCs to assure proper priming of T cells and thus adaptive immunity and host defense against pathogens.

Short Bio:

Dr. Ilaria Tassi is a Research Fellow in the National Institute of Infectious Diseases (NIAID) at National Institute of Health (NIH). She has received the Laurea degree in Biological Science at the University of Rome "La Sapienza" in 1998. The same years she started her PhD program in the laboratory of Immunology directed by Prof. A. Santoni in the Department of Experimental

Medicine and Pathology, University of Rome "La Sapienza", focusing on the molecular mechanisms underlying the activation of human Natural Killer cell functions. She obtained her PhD in 2004. In 2003 she joined the Immunology group directed by Prof. M. Colonna, Department of Pathology, Washington University St Louis, MO, studying the molecular mechanisms responsible for development and activation of innate immune cells in mouse and human. Since October 2009 she is a Research Fellow at NIH, where she is studying the role of

different subunits of the NF- κ B complex during *T. gondii* infection, contact hypersensitivity responses and asthma.

Andrea Terracciano, Master Degree Student

Experimental Study of Combustion Instabilities in a Longitudinal-Mode Rocket Combustor

Abstract

Combustion instability is a phenomenon that has been of interest to the liquid propellant rocket engine community since the early 1940's. Unstable combustion occurs when resonant pressure oscillations in a combustion chamber are in phase with oscillations in heat release and subsequent gas expansion due to unsteady combustion. As a result, the amplitude of the pressure oscillations is amplified. Unstable combustion should be avoided since pressure fluctuations can cause several problems including damages at the structure or amplified convective heat loads. A general lack of *a priori* predictive capability, particularly regarding intrinsic instabilities, still exists in the rocket combustion community today.

Andrea Terracciano developed his master degree thesis at Purdue University. The research activity that has been conducted can be subdivided in two phases. In the initial phase of the activity, tests have been performed on the liquid rocket engine DVRC (Discretely Variable Resonant Combustor). The system was built at the laboratories "Maurice J. Zucrow". The purpose of the study, on behalf of NASA Marshall, was the investigation of the influence of the feeding devices on the phenomenon of high frequency combustion instability. In this case, it is termed spontaneous instability because of intrinsic instabilities that arise from noise inherent to the combustion process. The second phase of the study concerned the acquisition and the analysis of the experimental pressure data. The resonant frequencies of the system and the growth rates of the pressure oscillations have been identified, confirming the unstable behavior of combustion. Furthermore, the mode shapes of the engine have been extrapolated. These results were compared with those obtained using the analytical matlab solver "LEE Solver" (Linearized Euler Equations Solver), developed by the University of Purdue. The comparison was conducted to verify the correctness of the use of the solver and to confirm the theoretical model at the base of the "LEE Solver" itself.

Biography

Andrea Terracciano is a student of Space Engineering master degree (address: aerodynamics and propulsion of launchers) at the University of Rome "La Sapienza". From July to November 2013, thanks to a scholarship made available by the Faculty of Aerospace Engineering, he has been able to develop a research project for his thesis at the University of Purdue - West Lafayette - IN USA. The title of the thesis is: "Experimental Study of Combustion Instabilities in a Longitudinal-Mode Rocket Combustor". He also conducted test operator activities and rocket cell build up operator activities at the laboratories "Maurice J. Zucrow" of Purdue University. The years of previous studies have seen Andrea graduating from High School with full marks and enrolling in 2007 at the Faculty of Aerospace Engineering at the University of Rome "La Sapienza", obtaining the bachelor's degree with full marks, with the thesis entitled "Experimental Study of Aerodynamic Surfaces of a Model Rocket". He conducted the research with both the use of the wind tunnel and using a model rocket built by himself. Andrea was recently selected to participate in 2014 at the Master Degree in "Space Transportation Systems", founded by Prof. Carlo Buongiorno and funded by ESA. Email: andrea.ter@hotmail.it

Exploring the potentials of carbon nanotube fibers for biomedical applications

Flavia Vitale, Matteo Pasquali

Department of Chemical and Biomolecular Engineering, Rice University, Houston (TX)

Abstract

Carbon nanotubes (CNTs) possess a unique combination of mechanical strength and stiffness, electrical and thermal conductivity, and low density. Such remarkable set of properties makes them the candidate molecule for the production of ideal multifunctional materials. At Rice University we have recently developed a scalable process to fabricate CNT fibers that combine the typical specific (per unit mass) electrical conductivity of metals, the typical specific strength of carbon fibers, and the typical specific thermal conductivity of graphite fibers. These fibers are flexible as cotton threads and can be produced with diameter ranging from 10 to 100 μm . Strength, flexibility, electrical conductivity, subcellular size make CNT fibers a candidate material for a new generation of ultrasmall, flexible electrodes for the safe stimulation and recording of electrical activity in biological systems.

The talk will discuss the properties and the biocompatibility of the CNT fibers at the interface with biological tissues and the work that has been done at Rice to explore the potentials of CNT for biomedical application, with main focus on electrodes for neural applications.

**Flavia Vitale Biographic Info**

Dr. Flavia Vitale received her MS in Biomedical Engineering at Università Campus Biomedico di Roma in 2008. She did her graduate research work at University of Rome "La Sapienza", under the supervision of Prof. Annesini and Prof. Pasquali on multiscale and modeling and computation of red blood cell deformation and damage in blood pumps and extracorporeal circulation. Flavia Vitale received her PhD on February 2012. Since March 2013 she has been working as Postdoctoral Research Associate with Prof. Pasquali in the Dept. of Chemical and Biomolecular Engineering at Rice University, Houston. Her research interests are currently focused on the adoption and translation of nanotechnologies and innovative materials for bioengineering applications, with a particular focus on stimulation and sensing of neural activity.

Russia and Italy: Close Encounters at the Crossroads of Saint-Petersburg

**Ennio Tasciotti, Ph.D.**

Associate Member
Co-Chair, Department of Nanomedicine
Scientist, Tissue Engineering & Regenerative Medicine Program
Scientific Director, The Surgical Advanced Technology Laboratory
Houston Methodist Research Institute

E-mail: etasciotti@houstonmethodist.org
Phone: 713-441-7319
Fax: 713-793-1607

Education

M.Sc. University of Pisa, Italy (Biological Sciences)
M.Sc. Scuola Normale Superiore Pisa, Italy (Molecular Biology)
Ph.D. Scuola Normale Superiore Pisa, Italy (Molecular Medicine)

Postdoctoral Training

Postdoctoral Fellow, Molecular Medicine Laboratory, International Center for Genetic Engineering and Biotechnology (ICGEB), Trieste, Italy

Postdoctoral Fellow, Nanomedicine Laboratory, Institute for Molecular Medicine, University of Texas Health Science Center at Houston

Biography

Dr. Tasciotti earned his B.S. in Biological Sciences and his M.S. in Molecular Biology at Scuola Normale Superiore Pisa, Italy and a Ph.D. in Molecular Medicine from a joint program of the Scuola Normale Superiore Pisa with the International Center for Biotechnology and Genetic Engineering (ICGEB) in 2004. His research focused on AAV based gene therapy and stem cell therapy for various diseases and applications (cardiovascular, musculoskeletal and cancer). As a postdoctoral fellow in the laboratory of Molecular Medicine of ICGEB, he carried his research in the area of molecular imaging for the assessment of targeted drug delivery, bio-distribution of injected agents (viral vectors, genes, particulate) and to follow the functionality of different tissues in vivo. He then moved into the private sector as project manager of the Center for Molecular Biomedicine in the Area Science Park where he established and then managed the Molecular Imaging Unit in collaboration with major pharmaceutical companies.

He moved to the United States in 2006 as a senior postdoctoral fellow in the Department of Nanomedicine and Biomedical Engineering at the University of Texas Health Science Center at Houston. There, Dr. Tasciotti expanded his research to material science and nanotechnology and to their applications in the fields of early diagnostics, drug delivery and regenerative medicine. He laid the groundwork for two major nanotechnology platforms: protein nano-chips for the early detection of disease onset, and mesoporous silicon particles for the targeted delivery of therapeutics and contrast agents. The latter was featured on the cover of Nature Nanotechnology and paved the way for a new field of investigation called the Multistage Delivery Approach, which was selected as one of the Five big ideas for nanotechnology by Nature Medicine in 2008. He accepted an appointment to Assistant Professor in the same department in 2008, where he conceived the idea of Fracture Putty, a material that could provide immediate mechanical stabilization to bone fractures and promote bone tissue regeneration over time. This concept formed the basis for a grant award from the Defense Advanced Research Project Agency. Since then, Dr. Tasciotti has been leading this project, BioNanoScaffold for post-traumatic osteo-regeneration, with more than 60 other investigators from multiple institutions. Thanks to this project, Dr. Tasciotti established strong ties within the community of tissue engineering and regenerative medicine, particularly in the clinical fields of

orthopedic, spine, maxillofacial, oral and dental surgery, and is now formalizing the clinical translation of this technology.

In 2009, Dr. Tasciotti was appointed to the first Assistant Professorship in the first Department of NanoMedicine in a US medical school. In 2010, he joined Houston Methodist Research Institute Department of Nanomedicine. He is an inventor on six U.S. patents in nanotechnology, a prolific author of scientific publications, and a frequent speaker at international and national meetings including the Biomedical Engineering Society Annual Meeting in 2010. Dr. Tasciotti also holds the privilege of serving on the R21 NIH IMAT Review Panel for Innovative Technologies Development, and is a Scientific Review Officer for R21/R33 NIH/NCI grants, a reviewer for The French National Cancer Institute, and a reviewer for more than eight scientific journals.

Description of Research

Dr. Tasciotti's research program focuses on:

the application of nanoporous silica chip technology to the early detection of diseases and the real time assessment of therapeutic efficacy

the development of novel materials for enhanced polymeric scaffold reinforcement

synthesis and functionalization of theranostic nanoparticles for targeted cancer drug delivery and imaging

the modulation of the functions and properties of materials that promote cell survival and differentiation in tissue engineering

the creation of unconventional multistage, multifunctional delivery vectors inspired by nature

the understanding of the basic mechanisms of reaction of the cell to the exposure to and integration of nanoparticles

Major Areas of Research

Cancer, nanotechnology, regenerative medicine, bioengineering, drug delivery

Recent Publications

Hu Y, Fine DH, Tasciotti E, Bouamrani A, Ferrari M. Nanodevices in diagnostics. Wiley Interdiscip Rev Nanomed Nanobiotechnol. 2011 Jan-Feb;3(1):11-32. PMID: 20229595

Murphy MB, Blashki D, Buchanan RM, and Tasciotti E. Engineering a Better Way to Heal Broken Bones. Chemical Engineering Progress. 2010 Nov; 106(11):37-43.

Godin B, Gu J, Serda RE, Bhavane R, Tasciotti E, Chiappini C, Liu X, Tanaka T, Decuzzi P, Ferrari M. Tailoring the degradation kinetics of mesoporous silicon structures through PEGylation. J Biomed Mater Res A. 2010 Sep 15;94(4):1236-43. PMID: 20694990

Ranganathan SI, Yoon DM, Henslee AM, Nair MB, Smid C, Kasper FK, Tasciotti E, Mikos AG, Decuzzi P, Ferrari M. Shaping the micromechanical behavior of multi-phase composites for bone tissue engineering. Acta Biomater. 2010 Sep;6(9):3448-56. PMID: 20346422

Parmar BJ, Longsine W, Sabonghy EP, Han A, Tasciotti E, Weiner BK, Ferrari M, Righetti R. Characterization of controlled bone defects using 2D and 3D ultrasound imaging techniques. Phys Med Biol. 2010 Aug 21;55(16):4839-59. PMID: 20679698

Sakamoto JH, van de Ven AL, Godin B, Blanco E, Serda RE, Grattoni A, Ziemys A, Bouamrani A, Hu T, Ranganathan SI, De Rosa E, Martinez JO, Smid CA, Buchanan RM, Lee SY, Srinivasan S, Landry M, Meyn A, Tasciotti E, Liu X, Decuzzi P, Ferrari M. Enabling individualized therapy through nanotechnology. Pharmacol Res. 2010 Aug;62(2):57-89. PMID: 20045055

Chiappini C, Tasciotti E, Fakhoury JR, Fine D, Pullan L, Wang YC, Fu L, Liu X, Ferrari M. Tailored porous silicon microparticles: fabrication and properties. Chemphyschem. 2010 Apr 6;11(5):1029-35. PMID: 20162656

Bouamrani A, Hu Y, Tasciotti E, Li L, Chiappini C, Liu X, Ferrari M. Mesoporous silica chips for selective enrichment and stabilization of low molecular weight proteome. Proteomics. 2010 Feb;10(3):496-505. PMID: 20013801

Hu Y, Bouamrani A, Tasciotti E, Li L, Liu X, Ferrari M. Tailoring of the nanotexture of mesoporous silica films and their functionalized derivatives for selectively harvesting low molecular weight protein. ACS Nano. 2010 Jan 26;4(1):439-51. PMID: 20014864

Russia and Italy : Close Encounters at the Crossroads of Saint-Petersberg

The Russian-Italian cultural relations go back into the 15th century when Ivan III hired Italian engineer and architect Ridolfo Fioravanti to work in Moscow. Since then many Italian professionals, mostly engineers, architects, painters, ballet performers, opera singers and musicians have worked in Russia. Their input into the development of arts in Russia is well known and highly acknowledged in the two countries. There is no any other Russian city or town whose cultural relations with Italy are as strong as in Saint-Petersburg. Why and how the northern Saint-Petersburg has become the home for some generations of Italian artists is the subject of this lecture and slide presentation.



Tatiana Yakushkina, Ph.D. in Arts Associate Professor of Foreign Literatures at the Saint-Petersburg State University in St. Petersburg, Russia. She is a specialist in the Italian literature of the Renaissance and the author of *Italian Petrarchism of the 15th and 16th Centuries: the Problems of Tradition and Canon* (2008). She is currently a Fulbright Scholar at the Department of European Languages, Literatures, and Cultures, SUNY at Stony Brook.

**Liver cancer in Texas: recent trends and risk factors for primary liver cancer.
A comparison between the state of Texas and the United States.**

Daria Zorzi¹, Marco Sequi², Cristiana Rastellini¹, Luca Cicalese¹.

¹UTMB, Galveston, TX ; ² Istituto Mario Negri , Milano, Italy

INTRODUCTION: Cancer is the leading cause of death in Texas (TX), with primary liver cancer (LK), ranked number 5 in males and number 8 in females. LK, in the majority of cases hepatocellular carcinoma, has increased dramatically over the last two decades and TX is the second continental state with the highest incidence of LK in the U.S. The reason why incidence of LK in TX is so high compared to the national population remains unclear.

This study aims to evaluate the distribution of known risk factors associated with LK and to correlate their geographical distribution in TX.

METHODS: Data were provided by the Texas Cancer Registry, National Program of Cancer Registries, Centers for Disease Control and Prevention, and National Health and Nutrition Evaluation Survey.

RESULTS: Incidence rate for liver cancer in TX is rising and above US rate, with annual percentage change (APC) of 5.7, significantly different from zero and significantly higher than the national APC of 4. Age-adjusted annual incidence rate per 100,000 is equal to 9.1 in TX (rate period 2005-2009), reaching up to 25 in Walker County, compared to US rate of 6.6. Death rate for liver cancer in TX is reported as rising (APC of 1.8 significant) and above US rate, especially for the city counties, reaching up to 28 (Anderson County). Death rate for liver cancer in TX is higher than other parts of the country with a Age-adjusted annual death rate of 7.2/100,000, compared to the national average rate of 5.5 (rate period 2005-2009). The overall prevalence of HCV infection in TX matches that of general US population (1.8%), with county prevalence varied from 1.04% to 2.18%. Both TX and US have a consistent markedly higher incidence of LK in Hispanic (15.5) followed by African American (13) and Caucasian (8.7). On the contrary both in TX and US the prevalence of HCV is higher in African American (2.73%) followed by Caucasian (1.44%) and Hispanic (1.25%). Comparison and analysis of the geographic distribution of HCV prevalence and LK incidence in TX counties showed no statistically significant correlation ($p=0.678$). When analyzing other known risk factors for LK, no statistically significant correlation was observed between LK incidence and Hepatitis B infection ($p=0.3431$), diabetes ($p=0.2518$), and obesity ($p=0.4089$) in the TX counties.

CONCLUSIONS: Our study showed that the TX population has a significantly higher, and rising, incidence of LK than the general US population. The distribution of HCV infection and other known risk factors does not correlate with this trend. These findings likely reflect the high concentration of other LK-related risk factors in TX that warrant further investigation.

Mini Bio-

Daria Zorzi earned her medical degree with summa cum laude and distinction from the University of Torino, completed her General Surgery Residency at the University of Torino and obtained her Surgical Oncology and Hepatobiliary surgery training at IRCCs (Istituto Ricerca e Cura del Cancro) of Candiolo (Torino) where she worked for a year. Prior to join UTMB where she currently works as research scientist in the Texas Transplant Center, Dr. Zorzi spent 3 years at MDACC studying primary and secondary liver cancer. Her clinical and research interests focus on liver cancer (hepatocellular carcinoma) and pancreatic islet transplantation. She has published more than 25 peer-review articles for scientific journals, contributed to 8 book chapters, and she is author of more than 20 oral presentations in International and National Meetings. Dr. Zorzi is a member of the International Hepato-pacreato-biliary Association and of the American Society of Transplantation, and has received many honors and awards.



Cinzia Zuffada

Associate Chief Scientist, Jet Propulsion Laboratory (JPL)
4800 Oak Grove Drive, M/S 180/600, Pasadena, CA 91109
cinzia.zuffada@jpl.nasa.gov

Education

Doctorate of Electrical Engineering, University of Pavia, Italy, 1979

Awards

IEEE Senior Member and a Full Member of the URSI Commission B

Membership in Academic Senate of University of Pavia, recipient of 2002 Theresian Medal

Career Highlights

Since 1997 has led pioneering GPS reflection technology development at JPL as a technique for ocean remote sensing. Has played a pivotal role in demonstrating the feasibility of the GPS altimetry measurement from fixed site and airplane, and modeling and understanding the signal scattering characteristics. Has convened several GNSS focused workshops and special sessions. In prior years, she played a key role in the development of a combined finite-element integral-equation technique for scattering and radiation modeling of large complex systems, including conformally mounted arrays and pioneered the use of genetic algorithms in electromagnetic synthesis applications by demonstrating the feasibility of novel grating filters geometries.

As the JPL Associate Chief Scientist she manages the external collaborations with JPL strategic university partners, the postdoctoral program, and is a key player in the management of the internal research investment program.

Career Progression

1980-1981 Associate Research Fellow, University of Pavia, Italy

1982 Research Fellow, California Institute of Technology, California

1983-85 Tenured Researcher, University of Pavia, Italy

1985-1992 Associate Senior Engineer, Kaman Sciences Corporation, California

1992- 2002 Senior Member Technical Staff, Jet Propulsion Laboratory, California

November 2002 – March 2006 Deputy Manager, Remote Sensing Science Section, Science Division, Jet Propulsion Laboratory, California

April 2006 – November 2006 Manager, Remote Sensing Science Section, Science Division, Jet Propulsion Laboratory, California

December 2006 – present Associate Chief Scientist, Jet Propulsion Laboratory, California

Key Refereed GNSS-R Publications

C. Zuffada, J. Zumberge, Y. Chao, P. Kintner, S. Leroy and J. Anderson: "Emerging Applications of Measurements from GPS and Related Signals, Transactions on EOS, Vol. 86, No. 15, pp. 149-150, April 2005.

C. Zuffada, A. Fung, J. Parker, M. Okolicanyi, and E. Huang: "Polarization properties of the GPS signal scattered off a wind-driven ocean," IEEE Transactions on Antennas and Propagation, Vol. 52, No 1, pp. 172-188, Jan. 2004.

C. Zuffada, S. Lowe, Y. Chao and R. Treuhaft: "Oceanography with GPS", in Satellite Altimetry for Geodesy, Geophysics and Oceanography, C. Hwang, C. Shum and J. Li eds, International Association of Geodesy Symposia, Volume 126, pp. 193-203, Springer-Verlag 2004.

C. Zuffada, T. Elfouhaily and S. Lowe: "Sensitivity Analysis of Wind Vector Measurements from Ocean reflected GPS Signals," Remote Sensing of Environment, 88, pp. 341-350, doi:10.1016/S0034-4257(03)00175-5, 2003.

G. A. Hajj, C. Zuffada, " Theoretical Description of a Bistatic System for Ocean Altimetry Using the GPS Signal, " Radio Science, Vol. 38, No 5, 1089, doi:10.1029/2002RS002787, Oct. 2003.

Lowe S.T., C. Zuffada, J. LaBrecque, M. Lough, J. Lerma, Five-Cm-Precision Aircraft Ocean Altimetry Using GPS Reflections, Geophys. Res. Lett., 29(10), May 2002.

S. T. Lowe, J.L. Labrecque, C. Zuffada, L.J. Romans, L. Young and G. A. Hajj, " First Spaceborne Observation of an Earth-Reflected GPS Signal, " Radio Science, Vol. 37, No.1, 1007, doi:10.1029/2000RS002539, Feb. 2002.

R.Treuhaft, S. Lowe, C. Zuffada, and Y. Chao: "2-Cm GPS Altimetry Over Crater Lake," Geophys. Res. Lett., 28, 23, p. 4343-4346, December 2001.

A.K. Fung, C. Zuffada and C. Y. Hsieh, " Incoherent Bistatic Scattering from the Sea Surface at L-Band, " IEEE Transactions on Geoscience and Remote Sensing, Vol. 39, no. 5, pp. 1006-1012, May 2001.



Participants 2013**Agnese A. Abate**

Adjunct Assistant Professor
College for Science and Biotechnology
Temple University
Director of chemical laboratory
Sbarro Health Research Organization
Philadelphia

Nicola Abate

Professor and Chief
Charles Sprague, M.D. Distinguished Professor in
Internal Medicine
Division of Endocrinology
Department of Internal Medicine
University of Texas Medical Branch
301 University Blvd.
Galveston, TX 77555-1060
Tel. 409.772.6314
niabate@utmb.edu

Rodolfo Ambrosetti

Manager
Director AIM Lab Services leader for Latin America
IBM Corporation
Austin, TX

Vincenzo Arcobelli

Presidente Comitato Italiani Estero
Circoscrizione Consolare di Houston
[Tel:214-995-0173](tel:214-995-0173)
Email:vincenzoarcobelli@gmail.com
[twitter@VinceArcobelli](https://twitter.com/VinceArcobelli)
<http://texas.comites-it.org>

Brando Ballerini

President, Drillmec
18320 Imperial Valley Dr.
Houston, TX 77060
Tel: 281-885-0777
Direct: 281-885-0770
Fax: 281-821-4572
Cell: 713-530-7411
b.ballerini@drillmecinc.com
www.drillmec.com

Francesca D'Alessandro-Behr

Associate Professor of Italian and Classical Studies
The Department of Modern & Classical Languages
University of Houston
606 Agnes Arnold Hall
Houston TX 77204-3006

Paolo Bellutta

JPL
Pasadena CA

Antonio Capone Jr. M.D.

Associated Retinal Consultants P.C.
3535 W. 13 Mile Road, Suite 344
Royal Oak, MI 48073
Office: 248-288-2280
Fax: 248-2880-5644
Email: acaponejr@arcpc.net

Francesco Cappello

Associate Professor
Department Of Experimental Biomedicine and
Clinical Neuroscience
University of Palermo
francapp@hotmail.com
Francesco.cappello@unipa.it
39-091-655-3518

Sergio Carvajal-Leoni

The ITAL Project
Austin, TX
www.facebook.com/ItalAustin
italaustin@gmail.com
512-289-2997

Davide Cattano

Associate Professor
Medical Director Anesthesia Clinic
Dept. Of Anesthesiology
The University of Texas Medical School at Houston
6431 Fannin St., MSB 5.020
Houston, TX 77030
Tel. 713-500-6200
Davide.cattano@uth.tmc.edu

Orazio Chiarenza

Human Space Flight
Operations consultant
NASA-JSC
2101 Nasa Pkwy
Houston, Texas 77058
(281) 24468561
orazio.chiarenza1@nasa.gov

Tiziana Ciacciofera Triolo

Director of Program Development
Italian Cultural & Community Center
1101 Milford Street
77006 Houston, TX
713 - 524 4222 ext. 7
<http://www.iccchouston.com>

Luca Cicalese

Professor of Surgery
John Sealy Distinguished Chair in
Transplantation Surgery
Director, Texas Transplant Center and
Hepatobiliary Surgery
University of Texas Medical Branch
Office: (409) 772-2405
Fax : (409) 747-7364
e-mail: lucicale@utmb.edu

B. Corradetti

The Methodist Hospital Research Institute
6670 Bertner Street
Houston, TX 77030
Tel. 713-441-1261

Tiziana Corsello

PhD Student
Neuroscience and Cell Biology
University of Palermo/UTMB

Francesco de Dilectis

PhD student
Texas A & M University
Department Of Aerospace Engineering
3141 TAMU
College Station, TX 77843-3141
Tel. 979- 845-0734

Moir Di Mauro-Jackson. Ph.D.

French and Italian
South Central Vice President , Pi Delta Phi
VP, Central Texas Chapter AATF
Department of Modern Languages
214 Centennial Hall
Texas State University
601 University Drive
San Marcos TX 78666
Phone: 512 245 2360
Fax: 512 245 8298
Email: md11@txstate.edu
Web: <http://www.modlang.txstate.edu>

Giulio Draetta

Professor
Director, Institute for Applied Cancer Science
Professor, Genomic Medicine
South Campus Research Building 3 6.3418
1901 East Road
Houston TX 77054
tel. 713-792-6370
gdraetta@mdanderson.org

Andrea Duchini, MD, FACP

6624 Fannin Suite 2250
Houston Texas 77056
713-275-3778
aduchini@houstonmedicalcenter.com

Francesco Fusco

Rocket Propulsion Engineer
Boeing Co.
Houston, TX

Antonio Giordano

Sbarro Institute for Cancer Research and Molecular
Medicine
College of Science and Technology
Temple University Philadelphia

Silvia Illuminati

Dipartimento di Scienze della Vita e dell'Ambiente
Università Politecnica delle Marche
Via Brecce Bianche, 60131 Ancona 071 220 4981
s.illuminati@univpm.it

Simone Lolli

Post-Doctoral Research Associate
NASA Goddard Space Flight Center
NASA GSFC, Code 612
Building 33, Room A417
Greenbelt, MD 20771 USA
simone.lolli@nasa.gov
301.614.6279

Angela Lombardi

Assistant Professor
College of Architecture
University of Texas at San Antonio
501 W.Durango Blvd.,
San Antonio, Texas, 78207
Tel. (210) 458 8077 or (347) 863 8029
angela.lombardi@utsa.edu

Kamlesh Lulla

Director of the University Research, Collaboration
and Partnership Office
External Relations Directorate
Mail Code AD2
NASA-JSC
Houston, TX 77058
Tel. 281-483-5066
Kamlesh.p.lulla@nasa.gov

Marcella Macaluso

Associate Professor
Sbarro Institute for Cancer Research and Molecular
Medicine
College of Science and Technology
Temple University Philadelphia

Hassan Mahmoud

Researcher
Department of computer science &
bioengineering,
University of Genova,
Italy

Giuseppe Martini

Member of the Italian Prime Minister's Advisory
Committee on Life Sciences, Biosafety and
Biotechnology.
Owner of Biostella srl
CNR
Italy

Marina Mocci

Cultural Attache'
Consulate General of Italy, Houston
Lettrice Italian Language
University of Houston
Culturale.houston@esteri.it

Jimmie Moglia

100 NW 86th Ave.
Portland OR 97229
Tel. 503 459 7992
Jimmie.moglia@gmail.com
www.yourdailysakespeare.com

R. Molinaro

The Methodist Hospital Research Institute
6670 Bertner Street
Houston, TX 77030
Tel. 713-441-1261

Mario Montalbano

PhD Student
Neuroscience and Cell Biology
University of Palermo/UTMB

Esmeralda Moscatelli

Metaponto/Croton Project Coordinator
College of Liberal Arts
Institute of Classical Archeology
University of Texas at Austin
3925 West Braker Lane
Austin, Texas 78759
512-232-9321
moscatelli@austin.utexas.edu

Fabrizio Nava

Consul General of Italy
1300 Post Oak Blvd., Suite 660
Houston, TX 77056
Tel. 713-850-7520

Romina Olson

The ITAL Project
Austin, TX
www.facebook.com/ItalAustin
italaustin@gmail.com
512-289-2997

Paolo Papi

Software Group, IBM Corporation
ppapi@us.ibm.com
12605 Calistoga Way, Austin, TX, 78732

Oliver Pennington,

Council Member, City of Houston
City Hall Annex
900 Bagby, First Floor
Houston, TX 77002
Tel. 832.393.3007
districtg@houstontx.gov

Udrivolf Pica

Space Engineer
Johnson Space Center/ Università' La Sapienza-
Roma
NASA-JSC
2101 Nasa Pkwy
Houston, Texas 77058

Eva Pisano,

Dipartimento di Biologia DIBIO
Università' di Genova
www.biologia.unige.it
Tel: 010-353 8052

Gustavo Priotto

Manager, ASI/ALTEC Liaison Office
NASA - Lyndon B. Johnson Space Center
281-244-6611 voice
281-244-7955 fax

Cristiana Rastellini

Professor of Surgery, Medicine, Microbiology and
Immunology
Director, Cell Transplant
Director, Transplant Research
University of Texas Medical Branch
6.312C John Sealy Annex
301 University Boulevard
Galveston, TX 77555-0533
Office 409-772-2412
Fax 409-747 7364
Pager 409-643 2873
e-mail crrastel@utmb.edu

Stefano Rovetta

Associate Professor of Computer Science
Department of Informatics, Bioengineering,
Robotics and Systems Engineering
University of Genova, Italy

Giuseppe Russo

Assistant Professor in Biology (Research)
Director of Cancer Systems Biology and SHRO
eHealth Programs
Sbarro Institute for Cancer Research and Molecular
Medicine
Center for Biotechnology - Temple University
BioLife Science Bldg. Suite 427A
1900 N 12th Street Philadelphia PA 19122 phone:
215-204-1346; Fax: 215-204-9522
grusso@temple.edu
grussoita@gmail.com (private)
[http://www.shro.org/SHRO/ResPages/8_](http://www.shro.org/SHRO/ResPages/8_systemsBiology.html#2)
[systemsBiology.html#2](http://www.shro.org/SHRO/ResPages/8_systemsBiology.html#2)

Ahmad Salameh

Research scientist
The University of Texas M.D. Anderson Cancer
Center
Department of Genitourinary Medical Oncology
1515 Holcombe Boulevard, Unit 1347. Room
T7.3821
P.O. Box 301439
Houston, TX 77030-1439
Tel. 713-792-4563,
assalameh@mdanderson.org

Stefano Sdringola

Professor
Weatherhead Distinguished University Chair
University of Texas Health Science Center
Department of Cardiology
6410 Fannin Street, Suite 600
Houston, TX 77030
Tel. 832-325-7211
Stefano.sdringola@uth.tmc.edu

Jeff Siders

Advanced Programs Group
Orbital Sciences Corporation
16055 Space Center Blvd, Suite 210
Houston, Texas 77062
832-415-1252 (Wk)
281-229-8047 (Cell)

Giulio Taglialatela

Professor
Neuroscience and Cell Biology
George P. and Cynthia Woods Mitchell Center for
Neurodegenerative Diseases
University of Texas Medical Branch
Tel.409-772-1679
gtaglial@utmb.edu

Francesca Taraballi, Ph.D.

PostDoc Fellow
The Department of Nanomedicine
Houston Methodist Hospital Research Institute
Spine Advanced Technology Lab
E-mail: ftaraballi@houstonmethodist.org
Phone: 713-441-7319

Ennio Tasciotti, PhD

Co-Chair Department of NanoMedicine
Director Center for Regenerative Medicine
Scientific Director The Surgical Advanced
Technology Laboratory
The Methodist Hospital Research Institute
6670 Bertner Avenue Suite R7-114
Houston Texas, 77030
713 441 7319 office
713 471 9497 cell
etasciotti@tmhs.org

Ilaria Tassi

Research Fellow
National Institutes of Health
9000 Rockville Pike
Bethesda, Maryland 20892
Tel.301-496-3503
Ilaria.tassi@nih.hhs.gov

Manuela Tentoni

Banca Dati Ricercatori Italiani
Consular Officer
Consulate General of Italy
1300 Post Oak Blvd, Suite 660
Houston, TX 77056
713-850-7520
visas.houston@esteri.it
www.conshouston.esteri.it

Andrea Terracciano

andrea.ter@hotmail.it
Italy

Fabio Triolo

Assistant Professor
Director, cGMP Facilities
Program in Regenerative Medicine
Department of Pediatric Surgery
The University of Texas Biomedical and Behavioral
Sciences Bldg.
1941 East Road BBSB-6106

Flavia Vitale

Postdoctoral Researcher
Chemical and Biochemical Engineering
Rice University
Keck Hall, Room 230
fv5@rice.edu

Tatiana Yakushkina

Ph. D, Associate Professor
Department of Foreign Languages
State University of Culture and Arts
Saint-Petersburg, Russia

Daria Zorzi

Research scientist
Department of Surgery, Transplant and Research
University of Texas Medical Branch
Tel. 409- 772-1352
dazorzi@utmb.edu

Dr. Cinzia Zuffada

Associate Chief Scientist
Jet Propulsion Laboratory
MS 180-600
4800 Oak Grove Dr., Pasadena, CA 91109
Phone (818) 354 0033
Secretary: Liz Herrera, phone (818) 354 3442



The ICCC of Houston is a non-profit organization that was established in 1982. Our mission is to advance, celebrate and preserve Italian culture and heritage through educational, cultural and social offerings for everyone: those of Italian descent, Italian expatriates living in Houston and Italophiles, non-Italians who are interested in Italy and its culture. It is the vision of the organization to be recognized as the Houston destination for all things Italian. To fulfill its mission and to realize its vision, the ICCC offers a variety of programs and services such as:

- Scholarship program for deserving high school students
- La Scuola d'Italiano: language lessons for adults and children
- Italian Culture and Language Summer Camp for Children
- Lecture series
- Music programs
- Contemporary films series in Italian with English subtitle for adults and children
- Authentic Italian Regional Cooking Demonstrations and Dinner
- Educational Wine Tastings
- Teaching Italian through the Cooking Classes for Adults and Children
- Celebrating Italian Traditions such as La Befana, Carnevale, Ferragosto
- Special Events for Italian dignitaries including Ambassador, Consul General, an Italian and American astronauts and most recently, the Italian National Rugby Team.
- The Houston Italian Festival, now in its 35th year, that attracts approximately 20,000 attendees
- The Rekindle the Flame annual event to honor a person of Italian descent who exemplifies character, leadership and community service
- Continued community support for other non-profits that include: MD Anderson Cancer Center Children's Art Project
- University of St. Thomas Scholarship Fund
- The International Student Exchange Program
- Cooperative programming with other public and private entities such as Museum of Fine Arts, University of Houston, Society for the Performing Arts, University of St. Thomas, Italy-America Chamber of Commerce, Houston Dynamo, Houston Sports Authority, Houston Grand Opera etc.

The mission of the school is to teach and promote the Italian language and culture. Italian language classes are held at the ICCC year-round for adults and children and range from beginner to advanced level. The program is designed to provide an inviting, dynamic learning environment. The key to the success and growth of our school are our teachers. All of our teachers are native Italians and highly qualified. Minimum qualification requirements are Italian mother tongue, Bachelor level degree and one year of teaching experience. We offer private tutoring as well as full immersion courses and corporate training. Corporate courses and private tutoring, on special request, can also be held off-premises tailored to specific needs and requirements. The ICCC in Houston is one of the four Centers in the USA that can offer the PLIDA certification, and the only one in the Southwest and Midwest USA.

For more information visit: [www. http://www.iccchouston.com/](http://www.iccchouston.com/)



Director ICCC Tiziana with her Husband Fabio Triolo, M.D. Researcher



Mission Control, NASA, Houston TX



Texas Medical Center, Houston TX



Acknowledgement

The Committee for Italians Abroad (Comites Houston) would like to thank all participants and wish you continued success in your careers.

We would like to thank, also, the personnel of the Consulate General of Italy, Marina Mocci, Alessandro Di Bagno Guidi (Houston Comites Tesoriere, (Commissione Manifestazioni Artistiche), Valter Della Nebbia cons.CGIE, Rita Fraschini (Resp. Commissione Cultura Comites Houston), Manuela Tentoni, Tiziana Triolo, Maria Gloria Borsa, Annalisa Capotorto, Monica Ercolani, Lucia Khurana, Cinzia Dragoni Holt, Francesca Giardina, Cristina Giliberti, and Francesca D'Alessandro Behr, members of the Selection Committee for the Concorso letterario who worked with great commitment in the evaluation of the students' essays.