Con il patrocinio della Camera dei Deputati

COM.IT.ES
Comitato degli Italiani all'Estero
Committee for Italians Abroad

UNDER THE AUSPICES OF THE

CONSULATE GENERAL OF ITALY IN HOUSTON, TX

AND THE

ITALIAN LIFE SCIENCES GROUP OF

prometeo NETWORK
Free, International, Online Network for Clinicians and Researchers in Life Sciences

PRESENT THE 4TH CONFERENCE OF ITALIAN RESEARCHERS:

"THE CONTRIBUTION OF ITALIAN RESEARCHERS IN THE WORLD"

Chairman; Vincenzo Arcobelli, President Comites
Moderator- Andrea Duchini, M.D.

NOVEMBER 8, 2008
ITALIAN CONSULATE
1330 POST OAK BOULEVARD
Houston, TX 77056

Saturday, November 8th 2008

8:00-8:30 Breakfast

8:30-8:40 Opening Remarks
Vincenzo Arcobelli

8:40-11:20 Bioscience
Moderators; **Marco Marcelli, Giulio Taglialatela**

Genetics
Roy Morello, *Baylor College of Medicine, Houston TX***;** Brachy-syndactyly caused by loss of *Sfrp2* function

Oncology
Dario Marchetti, *Baylor College of Medicine, Houston TX*; Heparanase-mediated modulation of FGF2 binding, signaling and angiogenesis in metastatic melanoma.

Metabolic Diseases
Sabrina Forni, *Baylor Research Institute, Dallas TX*; Quantitation of Urinary Globotriaosyl Ceramide (Ceramide Trihexoside) by UPLC-MS/MS: extraction from filter paper.

Neuroscience
Saverio Gentile*, Duke university, Durham NC*. The role of proline 121 in the ligand binding pocket of the nicotinic alpha7 receptor.

Immunology
Cristiana Rastellini*, UTMB, Galveston, TX*. Beta Cell Proliferation during Pregnancy - A functional and genetic study.

Psychiatry
Paolo Mannelli, *Duke University, Durham, NC*. Opioid agonist and antagonist combinations in the treatment of opioid dependence: handle with care.

11;20-11;30 Coffee Break

11;30-1;30 Technology and art
Moderators; *Paolo Papi, Raffaella Montelli*

Literature
***Federica Ciccolella**, Texas A&M University, College Station, TX*; This is Greek to me: a short history of Greek in the Italian renaissance.

Geology
Ettore Marcucci, *Resource Geoservices, Austin, TX*; Potential Extent and Thickness of Gas Hydrates in the Deep Water of the Northern Gulf of Mexico.

Electronics
Ricardo Romani,** Texas Instruments, Dallas TX;** International Technology Roadmap for Semiconductors (ITRS).

Physics
***Lorenzo Brancaleon**, University of Texas at San Antonio (UTSA), TX*; Posttranslational protein unfolding mediated by clinically useful photosensitizers.

Informatics
***Rodolfo Ambrosetti**, IBM, Austin TX*; IT management going green.

Physics
***Edoardo Cavalieri d'Oro**, Massachusetts Institute of Technology, MA;* Assessing the Urgent Need of a Nuclear Regulatory Framework for Italy with MIT Resources.

1;30-2;00 Lunch Break
2;00-2;30 Poster session

2;30-4;30 Plenary session
Moderator; **Brando Ballerini, Michele Sartori**

Introduction to the plenary session
Vincenzo Arcobelli
Console Generale Cristiano Maggipinto
On. Marco Zacchera
On. Marco Fedi

Cardiology
***Andrea Natale**, Texas Cardiac Arrhythmia Institute at St. David's Medical Center, Austin, TX;* Ablation for long-standing permanent atrial fibrillation: results from a randomized study comparing three different strategies.

Literature
***Maria Wells**, UT Austin, TX;* Norman Bel Geddes: a Modernist Interpretation of the "Divina Commedia".
Transplant Surgery

Transplant Surgery
***Luca Cicalese**, UTMB, Galveston, TX;* Development of a bioartificial new intestinal segment using an acellular matrix scaffold.

Law
***Gianluca Sgueo,** New York University, School of Law, New York, NY*; I modelli trasversali di consultazione della societa' civile:verso una democrazia globale?

4:30- 4:45 Coffee break

4.45-6:00 Round-table
Moderators ***Rita Fraschini, Andrea Duchini***

***Giovanni Abbadessa**. Prometeo Network, USA;* Opening an international clinical trial in Italy: advantages and difficulties.

Vincenzo Castigliola,** Brussels, Belgium**; European Medical Association (EMA).

***Alberto Devoto**, Italian Embassy, Washington, USA*; Italian Scientists and Scholars in North America Foundation (ISSNAF).

6:00 Closing Remarks
Andrea Duchini

Segreteria del Presidente
PARTENZA 31 Ottobre 2008
Prot: 2008/0006650/PRES

IL PRESIDENTE DELLA CAMERA DEI DEPUTATI

Dr. Vincenzo ARCOBELLI
Presidente del Com.It.Es
Circoscrizione consolare di Houston

MESSAGGIO

Desidero far giungere il mio più cordiale saluto a Lei, gentile Presidente, ed a tutti i partecipanti alla IV Conferenza "*Ricercatori italiani nel mondo ; passato, presente e futuro*", promossa dal Com.It.Es della Circoscrizione consolare di Houston in collaborazione con il gruppo scientifico Prometeo network.

Sono certo che i vostri lavori costituiranno un'importante occasione di incontro e di confronto tra i nostri studiosi che svolgono la propria attività di ricerca all'estero e che con il loro impegno e la loro professionalità portano alto il nome dell'Italia nel mondo. Essi rappresentano per il nostro Paese un patrimonio prezioso ed un contributo significativo allo sviluppo della scienza e della tecnologia.

Nell'esprimere il mio apprezzamento per il significativo supporto offerto dai Com.It.Es alle comunità italiane all'estero, desidero inviare a Lei ed a tutti coloro che animeranno la Conferenza un sentito augurio di buon lavoro.

Gianfranco Fini

AMBASCIATA D'ITALIA
WASHINGTON, D. C.

8 November 2008

It is my great pleasure to welcome the latest initiative of the Comites of Houston that has organized, continuing on a path begun in 2005 and with the support of our Consulate General in Houston, the Fourth Conference of Italian Researchers in the World.

This conference touches upon one of our favorite topics: Italian science and technology. New technologies are an important tool for market penetration in America and for economic growth. The emphasis will be mainly on science, but the science of today will produce the technology of tomorrow; and technology is already one of the strong points of our industry in fields as diverse as robotics, nanotechnologies, new materials, and medical diagnostics.

This is why the Embassy has promoted ISSNAF, the Italian Scholars and Scientists in North America Foundation, a non profit organization aimed at fostering the links between the Italian scholars in the USA and between them and their counterparts in Italy. I welcome your conference because not only will it provide the opportunity to exchange scientific information and initiate cross-disciplinary projects, it will also encourage networking and promote research and development and scientific exchanges between the two sides of the Atlantic.

The Sponsorship of the Honorable Gianfranco Fini, Speaker of the Italian Chamber, and the presence at this event of two members of Parliament, the Honorable Marco Zacchera and the Honorable Marco Fedi, give proof that the productive efforts thus far are noted and appreciated and merit encouragement and support for continued success.

Having said this, it is my pleasure to extend my best wishes for a very successful meeting. BUON LAVORO!

Giovanni Castellaneta
Ambassador of Italy

Messaggio del Console generale d`Italia a Houston

November 8th, 2008

The conference of Italian Researchers in the World, which was created by Comites of Houston with the support of this Consulate General, reaches its fourth edition this year. This is a clear sign of the interest this format has raised in the Italian scientific community here in the United States as well as in other countries. This year we have also received requests of participation from Europe.

The sponsorship of the President of the Italian Chamber of Deputies, the Honorable Gianfranco Fini, and the presence at this event of the Honorable Marco Zacchera and the Honorable Marco Fedi, members of the Italian Parliament, represent their appreciation of a job well done and an incentive to further improve and strengthen the event in the future.

As in previous editions, the aim of this conference is to emphasize the outstanding level achieved by Italian scientists and researchers in the United States and to promote sharing of experience with their American and international colleagues.

In a global world and a global market, "sharing of minds" and cooperation among international teams can provide outstanding results and significantly contribute to research progress. A mind's capability is a world asset; sharing our knowledge is a first step from which the whole mankind will benefit in the long run.

Cristiano Maggipinto
Consul General of Italy

Born and raised in Italy, Cristiano Maggipinto is a graduate of the University of Florence with a major in Political Science. He entered the diplomatic career in 1989 and pursued his diplomatic training in international commerce and trade while assigned at the General Directorate for Economic Affairs of the Italian Ministry of Foreign Affairs. In 1993 he was posted at the Italian Embassy in Tel Aviv as First Counselor for Economic Affairs.

In 1997 he was transferred to Germany where he was in charge of the section for emigration and social affairs first in Bonn then in Berlin, following the relocation of the Embassy to this city. In January 2001 he returned to Rome at the General Directorate for Italians Abroad and Emigration Policy.

In January 30, 2006 he officially assumed the head of post of the Consulate General of Italy in Houston as Consul General.

Messaggio del Presidente

Desidero dare un breve saluto ed il benvenuto a nome del Comitato per gli Italiani all'estero della circoscrizione consolare di Houston, che comprende gli stati dell`Arkansas, Louisiana, Oklahoma e Texas.
La conferenza e` giunta alla sua quarta edizione, con soddisfazione possiamo dire che sta crescendo la risonanza sempre piu` di livello internazionale , vista la presenza diretta ed indiretta in termini di partecipazione e collaborazione di ricercatori ed enti scientifici provenienti da diverse parti del mondo.
La dimostrazione inoltre, con la presenza di due parlamentari in rappresentanza della Camera dei Deputati e del Governo Italiano e l`aver ricevuto il patrocinio da parte della Presidenza della Camera dei Deputati ,
per testimoniare il riconoscimento ufficiale a questa manifestazione.

Auspico che l`incontro fra i ricercatori e la comunita` italiana e italo-americana, attraverso lo scambio di idee, di informazioni, di proposte da portare all`attenzione delle autorita` competenti e delle istituzioni, possa essere concreto e di trarne beneficio.
Oggi piu` che mai e` importante e fondamentale l`attenzione che il Governo dovrebbe porre nei confronti dei nostri validissimi ricercatori, in termini di riconoscimento ma soprattutto di incentivi ed investimenti proprio nel settore della ricerca per poter competere con le altre nazioni .

Vorrei ringraziare il Console Generale d`Italia a Houston Cristiano Maggipinto ed i collaboratori per l`ospitalita` presso la sede del Consolato.
Un ringraziamento particolare al Dr.Duchini ,alla commissione giovani e a tutti i membri del Comites per il loro impegno a favore di questa iniziativa.
A Prometeonetwork che ha creduto sin dalla precedente edizione e che oggi coopera direttamente nell'organizzazione di questo evento, e naturalmente a tutti i ricercatori che parteciperanno all'edizione di quest`anno .

Vincenzo Arcobelli
Presidente Comites
Circoscrizione Consolare di Houston

Cari amici italiani nel Texas:

a causa di precedenti impegni accademici, mi dispiace non poter partecipare al vostro meeting. Porgo tuttavia a tutti voi il saluto e supporto di ISSNAF.

La Fondazione ISSNAF (Italian Scientists and Scholars in North America Foundation, www.issnaf.org), di cui sono Presidente, e' nata nel 2007 come iniziativa di autorevoli esponenti della comunità scientifica, tecnologica ed accademica italiana negli Stati Uniti, tra cui 4 Premi Nobel, 2 Premi Balzan, 1 Medaglia Field e vari membri delle National Academies americane. La Fondazione si propone di riunire gli oltre diecimila scienziati italiani operanti in Nord America. La Fondazione ha stabilito 6 Scientific Advisory Boards in varie discipline scientifiche ed umanistiche. La Fondazione ha 3 obiettivi prioritari:

1. Promuovere collaborazioni scientifiche fra l'Italia ed il Nord America nei settori delle Scienze ambientali, Ingegneria, Informatica e Tecnologia delle Comunicazioni, Medicina e Biologia, Matematica, Fisica e Chimica, Scienze Economiche e Sociali, Umanistica.
2. Esercitare un ruolo attivo onde influenzare una trasformazione del sistema universatario italiano in senso meritocratico e piu' competitivo a livello internazionale.
3. Promuovere piu' strette collaborazioni fra Istituzioni scientifiche ed industria.

In quest'ottica, il fenomeno dell'emigrazione scientifica non si configura come perdita di talenti, ma piuttosto come opportunità di scambio a due vie, di collaborazioni e di sinergie.

ISSNAF ha il supporto dell'Ambasciata italiana in Washington e dell'Ambasciata americana in Italia, e di altre Istituzioni Italiane, che hanno riconosciuto come il successo di ISSNAF possa contribuire alla crescita di molti settori culturali, scientifici e tecnologici italiani ed all'ulteriore rafforzamento dei rapporti tra Italia e USA.

ISSNAF ha gia' stanziato alcune borse di studio nei settori della astroficisa e bio-fuels; ha stabilito rapporti con diverse regioni e province italiane; ha stabilito o sta stabilendo contratti di collaborazione con maggiori industrie italiane che operano negli USA.

ISSNAF si accinge a proporsi come interlocutore per un dialogo critico e costruttivo con il Ministero della Pubblica Istruzione onde aprire un confronto costruttivo di idee sulla nuova riforma Universitaria.

Invito tutti voi a diventare membri di questa organizzazione e a partecipare attivamente ai vari temi di discussione aperti sul sito web.
Buon lavoro e spero di poter partecipare in futuro ad uno dei vostri incontri

Vito M. Campese, M.D.
President, ISSNAF

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Camera dei Deputati
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ABSTRACTS 2008

Opening an international clinical trial in Italy: advantages and difficulties.

The Italian system produces first-class research and high quality clinical care especially in selected Institutions. Affordable education and positive motivations allow the Country to maintain these standards, but the lack of funds and their misuse leave many sites in difficult conditions, with repercussions on the services offered to the population. Opening sponsored clinical trials in a well controlled environment bring additional useful funds to hospitals and their research centers, and offers potentially beneficial new treatments to patients, often providing the standard treatment at no cost. The interest of pharmaceutical and biotech companies is to enroll a good quality and quantity of patients in a relatively short time, in order to obtain results indicating if drug is safe and efficient. Positive results will push the company towards investments on that compound, negative will avoid waste of further effort. Developing Countries, especially Eastern European Countries and India, are attracting more sponsored clinical trials, reducing relative bureaucracy and timelines. Italy offers the potential of historically well trained clinicians and researchers capable to carefully follow protocols and actively give inputs to the study design. Reducing timelines and passages needed to open studies while preserving the activity of ethic committees can benefit both government expense and patients. Building networking interactive databanks such as PrometeoNetwork helps selecting most appropriate Institutions and studies by researchers and patients, ultimately shortening timelines and improving quality of trials.

Giovanni Abbadessa, MD

PrometeoNetwork Founder

- **Senior Medical Director at Ziopharm Oncology**
- **Founder & Manager at PrometeoNetwork**

Past

- MD, Clinical Oncologist; researcher in cancer. at Temple University. Philadelphia, PA (USA)
- MD at Oncology Department of Istituto Clinico Humanitas, Milan, Italy
- voluntary physician at AMA - Associazione Mondo Amico

Education

- Università degli Studi di Napoli 'Federico II'
- Seconda Università

4 years experience in managing clinical trials, phase I-II-III (patient care, data management and analysis); Milan, Italy.

3 years experience in designing and conducting in vivo studies on nude mice and managing animal programs; Temple University, Philadelphia, PA, USA.

Founded an association to create networking among Italian researchers and medical doctors.

Became Medical Advisor of Within3, a company developing a platform for networking among clinicians and researchers.

Founded PrometeoNetwork, an international network for clinicians and researchers in Life Sciences. In one year, this community included already more than 6.000 members worldwide.

Founded the "PrometeoNetwork - Multidisciplinary Oncology and Cancer Research" group.

IT management going green

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ABSTRACT

The problem of the energy consumption is hitting the IT infrastructures as never before.

Servers are consuming energy from two different stand points: directly, using power to run, and indirectly, pumping heat in the computer room and requiring air conditioning systems to keep the temperature at an acceptable level for the servers to run.

Analysts predict that the energy consumption will become one of the most important part of the overall Total Cost of Ownership. Furthermore in many situations computers centers are prevented to grow due to the lack of availability of additional power required to support the new servers.

The IT industry is addressing this problem from many different directions:

- Servers consuming less energy to run
- Hardware and software systems enabling a real-time monitoring of the power used and providing tools to build feedback mechanism to reduce the power needed by adapting the clock speed in a dynamic fashion
- Software able to map (again, in real-time) the "pattern" of the temperature within a computer room to allow to improve the layout and the localization of the air conditioning outlets
- Tools to perform statistic analysis on the historical data and using forecasting models to provide recommendations to optimize the energy consumption by rearranging workload on the different servers

No one of these tools and techniques, alone, can be really effective: this paper has the goal to provide some examples of how the coordinated usage of these techniques can help in significant way to reduce the energy consumption without limiting the computing capability of a computer center.

RODOLFO AMBROSETTI

Rodolfo Ambrosetti was born in Rome. After having received a degree in Mathematics in 1973 he was assistant professor at the Mathematical Institute of "la Sapienza" university in Rome for four years. He joined IBM in 1977 where, after a short experience as a branch office system engineer, he started his career in software development, covering technical positions and taking, and from 1986, managerial responsibilities. He worked in Paris, Rome and Cagliari before coming to Austin in 1996. He is currently in charge of the IBM Software Group Development laboratory in Krakow, Poland, and he is responsible for other development teams in the United States and Australia.

Assessing the Urgent Need of a Nuclear Regulatory Framework for Italy with MIT Resources

Edoardo Cavalieri d'Oro

Italy today is now the only G8 country without its own nuclear power, and is the world's largest net importer of electricity. In order to meet demand, imports of about 15% of Italy's internal need, is mostly nuclear power from France.

Italy recently renewed its interest for nuclear energy as documented by a public opinion poll conducted in July 2008 that found that 54% supported nuclear power in Italy compared with 82% opposition in 2007.

In the last three months the Italian government accompanied the confirmation that it will commence building new nuclear power plants with a series of initiatives, with no precedents after the 1987 referendum leading to the shutdown of Italian plants:

• The 21st of October Ministry for the Economic Development created a pool of 10 experts supervised by ENEA with the task to provide technical, juridical, economic and industrial and communication details to assess an overall evaluation of the current pool of nuclear sites and of the expedition of new reactors at these sites.
• In September 2008 the parliament considered legislation to set up an independent Agency for Nuclear Security (ASN) as the new regulator, with staff drawn from ISPRA and ENEA cooperating with the Ministry of the Environment.
• In 2008 Energy Lab with headquarters in Montana, was asked to begin a feasibility study based on chemical and environmental testing of the actual nuclear sites in Italy for the construction of four new nuclear power plants in Italy.

The cited efforts testify the willingness to create the basis for a nuclear development, but also prove the urgent need to develop in parallel a consistent and robust regulatory framework. Safety, sustainability and adherence to the international protocols for non proliferation are fundamental steps of this process. Italy is, in fact, party to the Nuclear Non-Proliferation Treaty (NPT) since 1975 and also signed the Additional Protocol with the IAEA in 1995. In October 2007 Italy became member of the Global Nuclear Energy Partnership (GNEP) which is developing new nuclear fuel cycle technologies to improve proliferation resistance while increasing recycling and reducing wastes. However Italy still does not appear formally in important international documents such as the

international security advisory board (ISAB) report prepared by the U.S. Department of State on "proliferation Implications of the global expansion of civil nuclear power" dated April 7, 2008.

Strengthening the current regulatory framework for the development of nuclear power is important because, while the loss of know how generated by about 20 years of non-activity of the nuclear industry is partially replaceable by activating cooperation with international and national partners, the lack of a modern regulatory framework pose serious risks and might mine the necessary foundations needed for a sustainable development of nuclear energy strategies.

The United States, especially after the TMI accident, strengthened significantly their regulations in terms of safety with two major interesting consequences. The first is in term of economic performance: US plants reached the highest capacity factors and therefore the highest economic performance nowadays observed in any existing nuclear power plant's fleet. The second equally important consequence is the creation of a regulatory agency, namely the Nuclear Regulatory Commission (NRC), which developed a unique regulatory framework. NRC is today's crowning point among U.S. Federal Government Agencies.

The nuclear engineering department of the Massachusetts Institute of Technology (MIT) is the first of nuclear engineering nationwide and it is historically bounded to the NRC. Most of the actual milestones of current regulations took place or were originated at MIT and many studies were developed here became part of the current U.S. regulatory framework.

The department has a modest tradition of Italians attending graduate courses and relevant connections with the Italian engineering Universities. The Italian community at MIT counts more than 200 researchers, graduate students and Professors and has established industrial partnerships with Italian firms of excellence such as Ferrari, Pirelli and most recently ENI.

At MIT there are two relevant associations: MIT- ITALY and MITaly. The MIT-Italy Program facilitates creative partnerships and collaborations between members of the MIT community and their counterparts in Italy. MITaly is a graduate student association that facilitates the acclimatization of new incoming Italians.

The development of a study on an appropriate regulatory framework aided to facilitate the imminent deployment of nuclear power in Italy conducted at MIT in collaboration with the Italian government is the goal of this proposal. The study could help Italy in developing a coherent regulatory

framework to assess safety, non-proliferation and economics of future plants.

The resources for a possible coordination between the Massachusetts Institute of Technology and the Italian Government are already in place. MIT has a wide Italian population of engineers, scientists and economists also good connections with Italians attending other prestigious universities in the Boston area such as Harvard. Two associations have the basis to operate with Italian firms, and are already connected and cooperate with the Italian general consulate of Boston.

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Background Information – Edoardo Cavalieri d'Oro

Edoardo Cavalieri d'Oro was born and studied in Milan where he obtained his degree in Nuclear Engineering at the Politecnico in 2002 with a thesis conducted at MIT on the competition in energy markets.
Post graduation, he worked as a modeler for a financial consultancy office sponsored by the AIAF (Italian Association of Financial Analysts) for a six-month period in Milan.
From 2003 to 2005, he worked as a Technical Director and risk assessment specialist at the Ministry of the Interiors in Rome.
In September 2005, he began a PhD at the Massachusetts Institute of Technology where he received a Masters Degree in 2007.
His main interests are in probabilistic risk assessment, risk-informed regulations for safety of nuclear power plants, and in the development of methods for non-proliferation measures of new nuclear technologies.
Since 2005, he has been affiliated with the System Dynamic Group at the MIT Sloan School of management.

CHINA INDIA RELATIONS AND REGIONAL ECONOMIC INTEGRATION

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The thesis focuses on the evolution of the relationship between China and India in Asia. Starting from the importance of the positions both countries have acquired within the region, it explorers how these two countries could play a leading role in it. The aim of the thesis is to discover if a struggle for regional influence can be identified in Asia with respect to China and India. In addition, the analysis considers how the dynamics between the two states might affect the region and its current equilibrium.

Drawing on the theoretical tradition of regionalism and deepening this framework considering the impacts of interdependency, hegemonic stability theory and equilibrium theory on it, the thesis presents a model through which the dyadic evolution of the relationship and its possible influence on Asia might be interpreted.

The scope of the thesis is to illustrate the way in which the balance of power has changed during the last fifteen years in Asia because of the emergence of India and the consolidation of China as prominent political and economic powers. For this reason, the thesis tries to explain how the most recent events have impacted on the two countries' bilateral and regional relations.

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LANGUAGE SKILLS:

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AREAS OF RESEARCH:

China-India Economic and Political Relations
Chinese Foreign Policy
Indian Foreign Policy
East Asian regionalism

FINITE ELEMENT RESPONSE SENSITIVITY, PROBABILISTIC RESPONSE AND RELIABILITY ANALYSES OF STRUCTURAL AND GEOTECHNICAL SYSTEMS

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The geometric, mechanical, material and loading parameters used to define the mechanics-based finite element (FE) models of structural and/or geotechnical systems as well as their seismic input are characterized by significant uncertainties. The rational treatment of uncertainties in computational mechanics has been the object of increasing attention in recent years. Modern design codes indirectly account, using probabilistically calibrated design procedures, for parameter and model uncertainties in order to ensure satisfactory designs. Thus, in addition to accurate deterministic models, methods are needed to propagate uncertainties from the parameters defining the FE model of a structure to the engineering demand parameters.

FE response sensitivities with respect to both model and loading parameters represent an essential ingredient in studying the complex propagation of uncertainties through nonlinear FE structural analyses. First-order second-moment approximations of the first- and second-order statistics of the response of linear and nonlinear structural systems with random/uncertain parameters and subjected to deterministic quasi-static or dynamic load(s) are computed efficiently using DDM-based FE response sensitivities. The probability of a structural response quantity exceeding a specified threshold level is obtained by using the First-Order Reliability Method (FORM) in conjunction with the DDM-based FE response sensitivities in the search for the Design Point(s) (DP). The geometry of limit-state surfaces (LSS) near the DP(s) is explored in reduced-spaces defined by planes of major principal curvatures at the DP. Based on the insight gained on the topology of LSSs, a new hybrid solution strategy (DP search - Response Surface - Importance Sampling) is suggested. Examples of both structural systems and soil-foundation-structure interaction systems have been considered to illustrate the probabilistic methodologies developed, which are based on pushover and time history analysis.

Biography

Dr. **Michele Barbato** joined in October 2007 the Department of Civil and Environmental Engineering at Louisiana State University at Baton Rouge as an Assistant Professor, specializing in finite element methods for response and response sensitivity analyses and computational reliability analysis of structural and geotechnical systems. He received his B.S. (Laurea degree) in 2002 from the University of Rome "La Sapienza" (Rome, Italy) and his M.S. in 2005 from the University of California at San Diego (La Jolla, CA, USA). Before joining LSU, Dr. Barbato conducted doctoral research at the University of California at San Diego, working under the supervision of Prof. Joel P. Conte and receiving his Ph.D. in 2007. He is co-author of several peer reviewed articles published in renowned archival journals and of numerous papers presented in national and international conferences. His Ph.D. research has been founded by the National Science Foundation (NSF) and the Pacific Earthquake Engineering Research Center (PEER). He contributed to the extension of the finite element frameworks OpenSees and FedeasLab, which are integral simulation components of the George E. Brown Jr. Network for Earthquake Engineering Simulation (NEES).

His research is at the junction of two main branches of Structural Engineering, *deterministic computational structural mechanics* and *probabilistic analysis* of structural systems. This research aims at reaching a better understanding of the physical behavior of structures taking into account the stochastic nature of the structural and material properties and of the loading environment. This effort can lead to safer, more economic and more rational design procedures and contribute to make the world safer from natural and man-made hazards. His research interests cover the fields of (1) modeling and analysis of reinforced concrete (RC), steel, steel-concrete composite structures, RC structures retrofitted with FRP, and soil-foundation-structure interaction systems; (2) finite element methods for response and response sensitivity analyses of structural/geotechnical systems; (3) earthquake engineering and structural dynamics; (4) random vibration theory and stochastic process modeling; (5) computational reliability analysis of structural/geotechnical systems; (6) probabilistic methods and their application to earthquake/wind/hurricane engineering. His research efforts are currently founded by the Louisiana Board of Regents (LA BoR) jointly with the National Science Foundation (NSF), the Longwell Foundation, the LSU Council on Research and the Louisiana Department of Transportation and Development (LA DoDT).

Aeroelastic Performance Optimization of a Small UAV
FlexibleWing

Project

The size of small Unmanned Air Vehicles (UAVs), whose applications (such as
territory surveillance and scientific research in inaccessible places) and market are constantly expanding in recent years, makes them particularly susceptible to gusts.
This Fluid-Structure Interaction (FSI) project is directed at optimising the structure and especially the shape of a small UAV flexible wing for both aerodynamic performance and gust response, formulated as an unsteady coupled aeroelastic problem, without employing active control devices (passive adaptivity). The suggested optimization approach is based on the interaction of lower fidelity models, such as direct solutions of the aeroelastic equations, and high fidelity models, such as coupling Computational Fluid Dynamics (CFD) aerodynamic tools and Finite Element (FE) structural tolls. The bulk of the interaction during each simulation is based on the responses to the lower fidelity models that are tuned using a relatively small number of calls to the high fidelity models. Such a multifidelity model-based optimization strategy is proposed because of the high computational costs of solving the optimization problem via full FSI simulations only. A variety of sharp-edged and sinusoidal vertical gusts are considered as perturbations to the system.

Marco Berci is a PhD student at the School of Mechanical Engineering of the University of Leeds (Leeds, UK). A member of the Institute of Engineering Thermofluids, Surfaces & Interfaces (iETSI), he is primarily involved in aeroelastic and Fluid-Structure Interaction (FSI) studies of flexible wings, supervised by Prof. P.H. Gaskell, Prof. V.V. Toropov and Dr. R.H. Hewson. His financial support is granted by the European Union (EU) under the Marie Curie EST Fellowship program.
Before being a PhD Student, he graduated in Aerospace Engineering (Aerodynamics) from Politecnico di Milano and then worked as consultant engineer in the aerospace (in Italy) and wind engineering (in the United Kingdom) sectors.

Posttranslational protein unfolding mediated by clinically useful photosensitizers.

Lorenzo Brancaleon

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Most *in vivo* protein functions depend on their interactions with diverse ligands. These interactions are controlled by the folding of the polypeptides. Protein functions can therefore be affected by posttranslational modification of their structure. In the past few years has been recognized the powerful role of *in vivo* posttranslational modifications of certain proteins in determining the correct or the abnormal activity of proteins in cells, as well as their role in certain diseases. It is also starting to became clear that controlled posttranslational modifications of proteins is not only possible but it could be applied in the biomedical field. Posttranslational protein modification, however, has not yet been addressed as a possible tool in cancer phototherapy, despite mounting evidence of the direct damage of proteins during PDT. The exploitation of posttranslational protein folding modification could potentially be revolutionary for PDT.

Our investigations show that visible irradiation of two porphyrin-type, clinically-useful photosensitizers with different physico-chemical properties, is capable of prompting unfolding of globular proteins. The unfolding can be as extensive as to involve over 15% of the structure of the polypeptide. Our results show that, contrary to what would be expected for porphyrin-type photosensitizers, the photoinduced unfolding is not mediated by the formation of singlet oxygen and in fact does not require the presence of diffusing molecular oxygen at all. This suggest a direct intermolecular charge transfer mechanism from the porphyrin to the protein that prompts this one to change conformation.

Biography.

Dr. Lorenzo Brancaleon was born in 1965 in Fidenza (Pr), Italy. He received his Laurea in Physics from the University of Parma in 1991 with the thesis entitled "Development of a Photoacoustic Calorimetry Instrument for the Investigation of Biomolecules". In 1997 he received his PhD in Physics from the same University with a dissertation entitled "Photophysics of Tryptophan and Tryptophan-containing peptides". From 1996 to 1998, he was a Research Associate at the Steacie Institute for Molecular Sciences of the National Research Councul in Ottawa (Canada). From 1998 to 2000 he was an Assistant in Physics at the Massachusetts General Hospital and an Instructor at Harvard Medical School in Boston, MA. From 2000 to 2003 he was appointed as Photophysicist at the Scottish Photodynamic Therapy Center and the Photobiology Unit of Ninewells Hospital in Dundee (UK). During the same period he was a honorary lecturer at the University of Dundee and the University of St. Andrews (UK). In September of 2003 he joined the faculty at the Department of Physics and Astronomy at The University of Texas at San Antonio (UTSA) as an Assistant Professor. He is currently the Chair of the Graduate Program in Physics at UTSA.

Dr. Brancaleon career has developed in and around the field of Molecular Biophysics. His investigations are currrently centered around two main research lines (i) the conformational effects of photoactive dyes on proteins and (ii) the properties of biomolecules at the interface with ferroelectric thin oxide films.

He has 34 peer reviewed manuscripts and over 40 presentation at international conferences. His group has an excellent reputation for undergraduate and graduate research training especially those of underrepresented groups.

Genes in pieces: on the origin and evolution of spliceosomal introns

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Genomes are continuously evolving dynamic units and central to biology are the efforts to identify the rules that govern these evolutionary dynamics and to understand how genomic modifications either influence or are influenced by intracellular molecular processes. Genes reflect this dynamic.

In eukaryotes and viruses genes may be organized into coding and non-coding regions, called exons and spliceosomal introns respectively. Both types of sequence are transcribed into pre-mRNA, but while exons are used for protein synthesis, introns are spliced out during/immediately after transcription (Burge, Tuschl, and Sharp 1999). Notably, mutations that alter correct splicing represent at least 14% of disease-causing mutations in human (Blencowe 2000; Fairbrother et al. 2004). Although spliceosomal introns are widespread in the eukaryotic tree, they are unequally distributed across species as a consequence of ongoing intron gain and loss (Roy, Fedorov, and Gilbert 2003; Qiu, Schisler, and Stoltzfus 2004). Explaining the causes of this uneven distribution requires understanding why spliceosomal introns exist in the first place and what the evolutionary origin(s) of these sequences is, a problem that has proved a conundrum for the past thirty years (Gilbert 1978).

Although the evidence is circumstantial, it is widely thought that spliceosomal introns originated from an invasion of exogenous selfish sequences into the early eukaryotic genome (Cavalier-Smith 1985). While this hypothesis may explain the original establishment of introns, it provides no explanation for their continued evolution through most of eukaryotic history. We propose a quite different, verifiable hypothesis: that spliceosomal introns originate endogenously, in ways that are facilitated by RNA surveillance mechanisms and other key features of the intracellular environment. Supported by a large body of interdisciplinary literature, our hypothesis is that introns may represent, at least initially, a favorable life line for a gene that has acquired a mutation that disrupts the readability of its transcript and thus affects the production of functional protein products. Further experimental validation of our theoretical model (see Catania and Lynch, PLoS Biology, *in press*) would shed light on a surprising aspect of the evolution of eukaryotic gene structure, i.e., the ongoing, stochastic process of mutual conversion between exons and introns within genes.

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Biography

Date and place of birth: December 27th, 1976. Erice (Trapani, Italy).
July 1995: **Maturitá Classica** (Literature and Classical Studies), *Final grade*: 60/60.
July 2000: **Master Degree in Biological Sciences**. University of Palermo (Italy) and University of Swansea (Wales), *Degree mark*: 110/110 cum laude.
September 2000 - August 2001: **Research Traineeship**. Artemia Reference Center Laboratory of Aquaculture, University of Gent (Belgium) and Department of Fisheries, Oostende (Belgium).
September 2002 - June 2006: **PhD in Genetics**. University of Veterinary Medicine, Institute of Animal Breeding and Genetics,Vienna (Austria). *Dissertation title*: Detection of footprints of Natural Selection in *D. melanogaster*. *Advisor*: Prof. Christian Schlötterer.
January 2006 - April 2006: **Training in Bioinformatics.** University of Manchester (England). Work on comparative genomics and bioinformatics of non-coding DNA sequences. *Advisor*: Dr. Casey Bergman.
July 2006 – present: **Postdoctoral research associate.** Indiana University, Bloomington, USA.Laboratory of Dist. Prof. Michael Lynch.

Difficult Airways
Davide Cattano

1. Anticipation of the difficult airway is key to decreasing morbidity (brain damage, airway trauma) and mortality during airway management as shown by an ASA Closed Claims Project[1]. This study is designed to address if the difficult airway is unpredictable, or if the examination used to predict a difficult airway is inadequate. We hypothesize that a more thorough evaluation of the anatomical factors that may compromise an airway will lead to better anticipation and preparation. The performance of a physical examination is an essential part of pre-anesthetic evaluation of a patient. In 2003, the ASA recommended 11 anatomical predictors that one should examine when trying to determine airway difficulty.[2] It is the hypothesis of this study that the implementation of all 11 aspects into the regular airway examination will result in more complete documentation. In 2003 a survey of US anesthesia residency programs shows a lack of training specific to the difficult airway.[3] It is our hypothesis that, after systematically assessing patients' airways over 18 months, the trainees should be more educated at detecting subtle features of patients' airways and better able to predict difficulty. It is our hope that the implementation of this airway assessment form as a means for educational enhancement will result in greater patient safety by being able to identify and manage airway problems before they occur.

2. CHLORAL HYDRATE INDUCES AND LITHIUM PREVENTS NEUROAPOPTOSIS IN THE INFANT MOUSE BRAIN. Drugs that suppress neuronal activity, including general anesthetics used in pediatric and obstetric medicine, trigger neuroapoptosis in the developing rodent brain. One-time exposure of infant mice to sub-anesthetic doses of any of several individual anesthetic drugs (ketamine, midazolam, propofol, isoflurane) triggers a significant neuroapoptosis response. Recently, it was discovered that a single dose of lithium, administered immediately prior to anesthesia exposure, prevents the neuroapoptosis response to ketamine, propofol or isoflurane. Chloral hydrate, a sedative-hypnotic widely used for procedural sedation in infants and children, has not been evaluated for neuroapoptogenic potential, either alone or in combination with other anesthetic agents. Therefore, we undertook the present study to determine whether chloral hydrate triggers neuroapoptosis in the infant mouse brain and, if so, whether lithium will protect against this neuroapoptosis response.

3. PREVENTING ANESTHESIA-INDUCED DEVELOPMENTAL NEUROAPOPTOSIS
Millions of full-term or pre-term infants are annually exposed to anesthetic drugs to ensure that they will not experience pain or psychological stress during surgery, and many others undergo procedural sedation to enable therapeutic and diagnostic procedures to be performed with greater ease and efficacy. It has been widely assumed that these benefits of anesthesia are achieved without adverse consequences. This assumption has been called into question by recent evidence that relatively brief exposure to anesthetic drugs triggers neuroapoptosis in the brains of infant animals.

DEVELOPMENT OF A BIOARTIFICIAL NEW INTESTINAL SEGMENT USING AN ACELLULAR MATRIX SCAFFOLD

Mohan P Pahari, **Melissa L Brown**, **Georg Elias**, **Hannan Nseir**, **Barbara Banner**, **Cristiana Rastellini**, **Luca Cicalese**

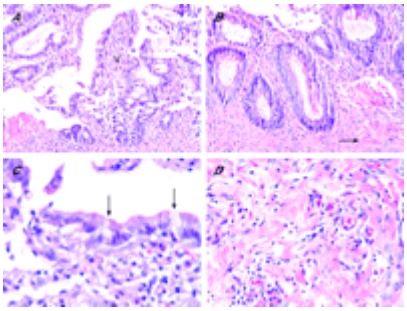
Intestinal rehabilitation for short-bowel syndrome is an integral part of modern intestinal transplant programmes. The mortality of patients with short-bowel syndrome is most significant in individuals with a residual small bowel of <50 cm, as shown by a 5-year survival rate of 57%. Total parenteral nutrition and intestinal transplantation are options to extend life but are still plagued by serious complications and, in the case of transplantation, immunosuppression. As an alternative, several bowel elongation procedures have been described, but have had limited clinical success and new techniques are warranted. The minimum length of bowel required to allow sufficient absorption of nutrients has not been confirmed. Elongation of even a few centimetres may allow these patients to receive nutritional rehabilitation and become independent from total parenteral nutrition, and possibly avoid transplantation. We hypothesised that an acellular dermal matrix (ADM, AlloDerm, LifeCell Corporation, Branchburg, New Jersey, USA) scaffold placed in continuity with defunctionalised jejunal limb allows mucosal growth and intestinal elongation. We evaluated the morphology of neoformed intestine in ACI (August x Copenhagen-Irish) rats at different time points using two different types of anastomosis. Tubular scaffolds with an intraluminal diameter of approximately 0.3 cm were constructed using rehydrated ADM segments of 1 cm^2 and 0.78–1.77 mm thickness, and oriented with a luminal basement membrane and a serosal dermal surface. In group A (n = 5), the ADM graft was interposed in continuity with the jejunum using an interrupted end-to-end single-layer anastomosis. In group B (n = 11), the grafts were placed as blind-ended pouches to the defunctionalised jejunal limb. Postoperatively, animals were maintained on a liquid diet for 48 h followed by solid-rat chow and killed at different time-points postoperatively. Tissue samples for histological examination were obtained across the anastomosis. Survival and body weight were evaluated in both groups. All animals in group A were killed in the first week as a result of peritonitis. All animals in group B survived and increased body weight appropriately. Tissue samples showed a progressive increase in the amount of cell infiltrate in the matrix (table 1, fig 1). After 2 weeks, acute inflammation was replaced by full-thickness ingrowths of capillaries and myofibroblasts. Epithelial regeneration into the anastomosis was first seen at 2 weeks, and well-formed branching crypts were seen at 4 weeks of transplantation. Goblet cells and absorptive cells with brush border were present at 4 months of transplantation. Morphologically intact regenerated mucosa extending across the anastomosis to the grafts was observed at 6 months of transplantation. To date, there is limited literature on the bioengineered intestine. Vacanti *et al*, developed a cystic structure in which neomucosa forms in a biodegradable polymer in rodents. Once formed, the neointestinal cyst is

anastomosed in continuity with the native bowel without causing feeding problems, but some animals had small bare areas of the cysts that lacked neomucosa. We did not report such bare areas in our model; furthermore, there was progressive growth of the neomucosa in the ADM over time. It is possible that immediate contact of the ADM scaffold with the intestinal structures and with luminal content provided trophic stimuli for the new intestinal segment. Another possible factor for the observed growth in our model may be the effects of small-bowel resection on the development of neointestine. It is well known that post resection gut mucosa growth factors have a stimulatory effect on intestinal regeneration. In conclusion, we have demonstrated that ADM can be successfully used as a scaffold to generate a bioartificial new intestinal segment in vivo, and we propose this method as a basis for developing new intestinal elongation techniques.

Table 1 Histology results of group B at different time points

Time after anastomosis	Status of anastomosis	Status of alloderm	Epithelial regeneration
2 days	Intact	Minimal acute inflammation	No
2 weeks	Intact but inflamed	Minimal acute inflammation. Proliferation of fibroblasts and endothelial cells	Early budding of crypts at bowel edge of anastomosis
4–5 weeks	Intact but inflamed	Less acute inflammation Full-thickness ingrowths of capillaries and myofibroblasts	Same as 2 weeks
4–6 months	Intact with granulation tissue around sutures	Full-thickness capillaries and fibroblasts and haemosiderin-laden macrophages	Regenerating crypts with goblet cells, and rudimentary villi with absorptive cells with brush border

Figure 1 Photomicrographs of the anastomosis between the acellular dermal matrix (ADM) and small bowel at 4 months of transplantation. (A) Leading edge of regenerating epithelium with villus formation (V). Note a bit of remaining bare graft surface to the left of the villus, H&E x20. (B) Regenerating crypts with goblet cells. Some residual collagen from the ADM can be seen nearby (arrow), H&E x20. (C) Epithelium along the edge of the villus in (A) showing goblet cells (arrows) and absorptive cells with brush border, H&E x60. (D) Vascularisation of the ADM just beneath the regenerating crypts, H&E x40.



LUCA CICALESE, M.D., F.A.C.S.

Director, Multi-Organ Transplant Center
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Dr. Luca Cicalese received his medical degree in 1990 and completed his residency in surgery from the University of Rome. In 1995 he became a Clinical Fellow in transplant surgery at the University of Pittsburgh's T.E. Starzl Transplantation Institute, and in 1999 he went to the University of Illinois in Chicago and served as the Director of the Intestinal Transplant Program. He subsequently became the Director of Transplant Research and then Director of the Pediatric Liver Transplant Program. From 2002 – 2007 he was the Section Chief for Liver and Intestinal Transplantation at the University of Massachusetts, Worcester, in the Division of Translpant Surgery. In 2004 Dr. Cicalese performed the first small bowel transplant in the northeast region of the United States. The transplant involved a daughter giving a section of her intestine to her mother.

In 2007, Dr. Cicalese was recruited to the University of Texas Medical Branch as the Director of the Multi-Organ Transplant Center. He holds an appointment as professor of surgery in UTMB's Department of Surgery. Among his many activities, he serves as a research mentor in the Department of Bioengineering at the University of Palermo in Italy; has extensive research experience and has been the principal investigator or co-investigator on numerous federal and industry funded grants and clinical trials. Dr. Cicalese serves on a National Institute of Allergy and Infectious Diseases Review Panel and a variety of scientific boards; is a Fellow of the American College of Surgeons; and has given lectures and Grand Rounds nationally and worldwide. He is the author or co-author of over 300 publications and abstracts. He also is a reviewer for several prestigious medical journals, including the *Journal of Surgical Research*, *Transplantation Proceedings*, and *Transplant Immunology*.

"This is Greek to me": a short history of Greek in the Italian Renaissance

Federica Ciccolella (Texas A&M University)

The re-introduction of Greek culture in the West represents one of the most important phenomena of the Renaissance. According to history books, the Greek revival in the West began in 1397, when Coluccio Salutati invited to Florence the Byzantine scholar Manuel Chrysoloras. Chrysoloras began to teach classical Greek with the help of a handbook that he himself had written, entitled *Erotemata*. Chrysoloras' teaching was so successful that Greek studies spread rapidly throughout the West; his *Erotemata* became the first Greek grammar for Westerners and, in this way, the ancestor of all Greek school grammars available on today's book market. This is a nice story, involving an exceptional hero/demiurge who created something out of nothing and a happy ending. However, manuscripts and the first printed books demonstrate that the reintroduction of Greek studies in the West was a slow process, which took place in several Western areas and included successes, failures and, most of all, endless experiments.
My paper will try to answer two questions:
1) Did Chrysoloras create a Greek grammar for Westerners out of nothing? Most probably not: the West knew Greek grammar before Chrysoloras' coming to Florence and outside the Florentine area. We cannot believe that, in areas of frequent exchanges between Greeks and Westerners, such as Venice or South Italy, nobody wanted, or had, to learn Greek before the fifteenth century. The earliest Greek grammars in Western manuscripts reveal an attempt to adapt the teaching of the Greek language to the demands of Westerners already before the fifteenth century. Indeed, we must attribute to Chrysoloras two significant achievements: a) he simplified Greek grammar using Latin grammar as a model; b) he created the "schoolbook" of elementary Greek.
2) How was Greek learned in classrooms, and what was actually learned? According to our sources, memorization and translation into Latin absorbed most of the time and energies of students of Greek. In both handwritten and printed grammar books, punctuation, colors, charts, signs, and drawings, as well as Latin glosses or extensive translations in the margins or in the interlinear spaces, hint at the importance of memorization and translation in learning Greek; the structure and layout of the first printed editions of Chrysoloras' *Erotemata* present interesting examples. In any case, until the end of the fifteenth century, the teaching of elementary Greek was restricted to the inflected parts of speech (nouns and adjectives, verbs, and pronouns): teachers of Greek had to proceed more slowly than teachers of Latin, who, instead, covered the eight parts of speech at an elementary level.

In conclusion, we can consider the reintroduction of Greek studies in the West as one of the most interesting cases of interaction between the Byzantine and the Latin pedagogical tradition: Greek culture was not absorbed passively, but reinterpreted according to the demands and expectations of a Western public.

Federica Ciccolella (Laurea in Lettere Classiche, Università di Roma "La Sapienza," 1985; Dottorato di ricerca in filologia classica, Università di Torino, 1991; PhD in Classical Studies, Columbia University, 2004) is Associate Professor of Classics and Italian at Texas A&M University. Her fields of interest are Byzantine poetry, the transmission of the Classics in the modern world, and the pedagogy of the Classical languages in the Italian Renaissance. Her most recent works include the critical editions of a Byzantine poetic anthology (Alessandria 2000) and of some Renaissance Greek grammars (Leiden-New York 2008), as well as several articles on Byzantine poetry and metrics. She is presently preparing a general study on Greek education in the Renaissance, entitled *Voices from Greek Classes: Teachers, Students, and Schoolbooks in the Italian Renaissance*.

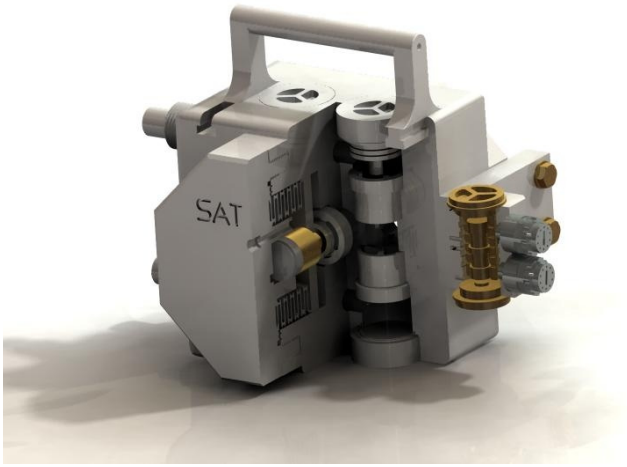
“Pompa pneumatica alternativa”

Titolare: Siciliana Articoli Tecnici s.r.l.

Inventore: Aldo DI LEO

*****

La presente invenzione riguarda una pompa pneumatica alternativa che consente, in modo semplice, affidabile, efficiente, preciso, ed economico, di movimentare fluidi, in particolare ultrapuri, mantenendo una portata costante anche con punto di lavoro vicino allo zero, la pompa risultando meccanicamente robusta, resistente agli attacchi di acidi e solventi ed a temperature elevate, preferibilmente fino a 300°C, controllata mediante un monitoraggio continuo ed affidabile, e di facile manutenzione.



Ho iniziato a 20 anni l'attivita' di agente commerciale di componenti meccanici ed equipments per l'industria. Nel 1987 ho fondato la SAT srl la societa' si occupava della distribuzione e servizio assistenza tecnica dei prodotti gia' trattati come agente.Nel 2001 abbiamo inaugurato il nuovo sito alla zona ind.le di Catania e quindi siamo passati anche alla produzione di tubi in fluoropolimeri ultrapuri ricavati da estrusione e componenti meccanici ultrapuri ricavati da lavorazione meccanica.

Nel 2002 abbiamo inaugurato la SAT Di Leo inc con sede a Phoenix, societa' commerciale si occupa di import ed export Nel 2002 nasce la Fluorosat srl divisione commerciale di SAT srl. Nel 2007 Fluorosat diventa azienda di produzione producendo componenti ultrapuri ricavati da lavorazione meccanica e stampaggio ed equipments come wet bench automatiche,assemblate in clean room. Nel 2007 ha inizio il progetto di ricerca di una pompa no metal parts e si conclude in Aprile 2008.Nel 2008 Sat amplia gli impianti di produzione realizzando una clearoom ed equipments per la lavorazione meccanica di ultima generazione.Infine, a Giugno 2008 la SAT Di Leo Inc apre un nuovo ufficio ad Austin trampolino di lancio per I futuri investimenti di SAT nel continente Americano.

Marco Fedi's brief CV

Marco Fedi was born in Ascoli Piceno in 1958 and migrated to Australia in 1983. He is married and has three daughters. Marco Fedi worked as a coordinator for Filef, in Adelaide, until 1992 and then in Melbourne as National coordinator of Patronato INCA-CGIL until 1997. He then managed the multimedia centre of CO.AS.IT. until 2005. He has been Vice Secretary of the General Council of Italians Abroad (CGIE) until 2006.

Elected in 2006 to the Camera dei Deputati for L'Unione-Prodi, in the Africa, Asia, Oceania, Antarctica division of the overseas electorate, was re-elected in 2008 as an MP for the Democratic Party (PD).

He is the Secretary of the Foreign Affairs permanent Committee of the Camera dei Deputati.

GRAPH COLORINGS AND THE CHANNEL ASSIGNMENT PROBLEM IN INTERCONNECTION NETWORKS

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A *graph* consists of a set of *points* together with a set of *edges* joining pairs of points. A *proper coloring* of a graph is a color assignment to the points so that two points joined by an edge are assigned different colors.
The *channel assignment problem* consists of assigning radio channels to transmitters, using a small span of channels but without causing excessive interference. If the network of transmitters is modeled by a graph, assigning radio channels is equivalent to assigning colors to the points. Then, the goal becomes to minimize the number of different colors used while assigning different colors or channels to neighboring transmitters. Finding proper colorings for an arbitrary graph is an intractable problem. For this reason, we study a relaxation of proper coloring, suitable for the channel assignment problems in communication networks, called L(p, q)-labelings.
An *L(p, q)-labeling* of a graph is an assignment of an integer number to each point of the graph, so that the difference between the numbers assigned to two points joined by an edge is at least p, and the difference between the numbers assigned to two points with a common neighbor is at least q. Intuitively, in a simple channel assignment scenario, where the interference between channels depends on the distance between them, we reduce interference by assigning a channel to each transmitter, so that any two "close" transmitters must receive channels at least q apart, and any two "very close" transmitters must receive channels at least p apart.
We study upper bounds for the span of an L(p, q)-labeling of a given graph.

Biography

Dr. Daniela Ferrero is currently an Associate Professor of Mathematics at Texas State University – San Marcos. She joined Texas State University as an Assistant Professor in the Fall 2000, after working as a Research Fellow at the Institute of Information Sciences of the Academia Sinica, Taiwan. Dr. Ferrero holds a Ph.D. in Mathematics from the Universitat Politecnica de Catalunya, Spain (1999) and a B.S. in Computer Science from Universidad de la Republica (1994), Uruguay. Her research lies in the field of discrete mathematics, especially in the areas of graph theory, interconnection networks and cryptology. Her main research interest is graph theory and its applications, mainly in the area of computer and social networks.

Quantitation of Urinary Globotriaosyl Ceramide (Ceramide Trihexoside) by UPLC-MS/MS: extraction from filter paper.

Sabrina Forni, Xiaowei Fu, Raphael Schiffmann, Larry Sweetman

Institute of Metabolic Disease, Baylor Research Institute
Dallas TX

Urinary excretion of Globotriaosylceramide (Gb3) is elevated in patients affected by Fabry disease. This condition is characterized by the deficiency of α-Galactosidase A which leads to the accumulation of Gb3, its principal substrate, in various tissues and organs.
We developed a UPLC-MS/MS based fast and simple method for the quantitative determination of Gb3 in urine: 5X5 cm filter paper cards are soaked with 1 mL of urine and dried overnight. After addition of C17:0 Gb3 internal standard, samples are extracted with 4 mL methanol and the extract sonicated. Ten micro liters are injected into a UPLC system coupled with Quattro premier with ESI in positive ion mode, with MRM detection. A very fast water/methanol gradient separation occurs with a BEH C8 1X50 mm column, 1.7μm particle size with an overall run time of three minutes.
The assay is linear and reproducible between endogenous concentrations to 25 μg of Gb3. Relative standard deviation is less than 10% at each concentration tested for intraday validation. Accuracy is within 10% of the expected value. Inter assay variability has been evaluated in twenty runs acquired in thirteen business days by three different analysts. %CV at low medium and high concentration was lower than 15%. A comparison of Gb3 determinations with the filter paper in controls and patient's samples will be shown. Results are expressed as μg of Gb3/mmoles of Creatinine.
The filter paper method appears suitable as a screening test for detection of Fabry disease in hemizygote males and heterozygote females.
Results of patients' samples will be shown and a discussion of troubleshooting and data interpretation will be included.

Sabrina Forni Biography

Laurea (MS equivalent) in Biological Sciences from the University of Milan in 1996. After a few working experiences in environmental analysis labs moved to USA. MS in Analytical Chemistry from UMR (University of Missouri at Rolla mow Missouri University of Science and Technology) in 2001. Worked for Merck & Co. as an analytical chemist in the Drug Metabolism Department (West Point, PA) from 2001 to 2005; briefly joined Abbott Laboratories (Diagnostic Division) as a senior scientist in Dallas (TX) in 2005. At present works as a mass spectrometry specialist at the Institute of Metabolic Disease now part of Baylor Research Institute in Dallas, TX.

The role of proline 121 in the ligand binding pocket of the nicotinic alpha7 receptor

Saverio Gentile, Elaine A. Gay, and Jerrel L. Yakel;

Congenital myasthenic syndrome is an inherited muscular disorder caused by genetic flaws at the neuromuscular junction. Symptoms include severe weakness beginning in infancy or childhood that progresses and leads to loss of mobility and respiratory problems in adolescence or later life. A naturally occurring point mutation at the P121 residue has been linked to congenital myasthenic syndromes.

The ligand binding domain of nicotinic acetylcholine receptors occurs at the extracellular interface between two subunits if the pentameric channel. Various labeling studies have identified primarily aromatic amino acid residues that contribute to ACh binding, including W55, Y93, W149, Y190, and Y198 within the neuronal homomeric □7 nAChR. The □6 strand of the complimentary subunit of the nAChRs is in close proximity to the B-loop of the principal subunit suggesting possible inter-subunit interactions. Using molecular modeling we have identified proline residue 121 (P121) in the □6 strand of the □7 nAChR as the only residue protruding towards tryptophan residue 149 which is known to be important for ligand binding. In addition, P121 is adjacent to tryptophan residue 55 which is important for ligand binding and receptor desensitization. In order to investigate the role of P121 in ligand binding and ion channel gating, P121 was mutated to a variety of amino acids and the physiological properties of mutant □7 nAChRs were characterized using two electrode voltage clamp experiments in Xenopus oocytes. Mutation of P121 to alanine dramatically decreased the potency of ACh, shifting the EC_{50} value more than 10-fold to the right. The peak ACh current response in the P121A mutant □7 nAChR was decreased. In addition, the kinetics of current rise time and half-time of decay were modestly decreased compared to wild-type channels. Mutation of P121 to cysteine produced a decrease in peak current response to ACh and covalent modification of the mutant C121 with MTSEA blocked channel activity. Mutation of P121 to glycine, tryptophan or phenylalanine resulted in non-functional receptors. These data suggest that while P121 may not interact with ligand directly, it plays a significant role in agonist binding and/or channel gating. This fast-channel mutation, εP121L, decreased affinity of ACh for the open and desensitized states of the receptor, and decreased the rate of channel opening consistent with the data presented here. Probing of the molecular function of P121 within the ligand-binding pocket of the □7 nAChR might help elucidate not only the gating and function of the neuronal nAChRs, but also the critical function this amino acid appears to play in the muscle nAChRs.

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Dr. Gay Elaine is a PostDoctoral Fellow at the NIEHS, Laboratory of Neurobiology, RTP, Durham NC, 27709 and member of the Neuroscience Group of PrometeoNetwork

Dr. Jerrel Yakel is a Principal Investigato r of the Laboratory of Neurobiology at the NIEHS, RTP, Durham NC, 27709 and member of the Neuroscience Group of PrometeoNetwork

The involvement of the tyrosine kinase c-Src in the regulation of reactive oxygen species (ROS) generation mediated by NADPH oxidase-1 (Nox1).

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Abstract

NADPH oxidase (Nox) family enzymes are one of the main sources of cellular ROS (reactive oxygen species), which have been recently described as second messenger molecules. To date, 7 members of this family have been reported. With the exception of Nox2, the regulation of the other Nox enzymes is still poorly understood. Nox1 is highly expressed in the colon and requires binding of Rac1 GTPase for its activity, as well as two cytosolic regulators, NoxO1 and NoxA1.

We investigated the role of the tyrosine kinase c-Src in the regulation of ROS generation by Nox1. We show that c-Src induces the Nox-mediated ROS generation in different cell lines through a Rac-dependent mechanism. In HT29 human colon cancer cells, treatment with the Src inhibitor PP2 reduces ROS generation and the levels of active Rac1 by blocking activity of the Rac1-GEF Vav2. Consistent with this, siRNA that specifically knocks down endogenous Vav2 protein is able to i) dramatically decrease the Nox1-dependent ROS generation; and ii) abolish c-Src-induced ROS production.

Ongoing studies are investigating other mechanisms through which Src family kinases may regulate Nox1-dependent ROS formation. Taken together, these results provide novel insights into the regulation of Nox1 activity and may be relevant to the mechanisms of inflammatory bowel diseases and tumor formation in colon cancers.

This work was funded with NIH grant HL48008

BIOGRAPHY

Davide Gianni was born in Naples (09/25/1977) and he got his Master degree at the University of Naples "Federico II" in 2001 in Medical Biotechnology (110/110 magna cum laude and departmental honors). His Master degree's thesis was entitled "Study of the expression and function of the adapter protein Fe65 in C.Elegans" supervised by Dr. Nicola Zambrano.

In 2001 Davide Gianni started the PhD program in Genetics and Experimental Medicine in the laboratory of Dr. Tommaso Russo at the University of Naples "Federico II", where he was interested in the regulation of the processing of the amyloid precursor protein APP. During his PhD program, he started a collaboration with Dr. Micheal Geoff Rosenfeld at the University of San Diego California, where he conducted part of his PhD thesis.

In 2006 Davide Gianni joined the group of Dr. Gary Bokoch at The Scripps Research Institute, where he is currently employed as post-doctoral fellow interested in the regulation of the activity of the NADPH oxidase-1.

He published the results of his studies in peer-reviewed scientific journals (1) and was recently awarded the 2nd prize for the poster session at the TSRI 2007 Fall Research Symposium in the section "Molecular and Cell Biology".

1) **PUBLICATIONS**

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LOW DOSE SPLENIC IRRADIATION IN MYELOFIBROSIS: OUTCOMES AND TOXICITY OF THREE RADIATION SCHEDULE

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Background:

splenomegaly rapidly occurs in all Myelofibrosis (MF) affected individuals and is one of the major cause of patient's discomfort. Splenectomy (S) or Splenic Irradiation (SI) are the sole treatment modality to control drug resistant splenomegaly but if splenectomy's outcomes and morbidity rates relay on robust data only few retrospective papers have been published on SI. It is established that S is a taxing procedure, associated with 10% risk of operative mortality, a morbidity rate close to 50% and a higher relative risk of blast transformation. Nevertheless S it is generally preferred to SI for the longer symptoms relief interval it allows.
SI, on the opposite has been addressed by few papers (mostly on a small number of patients) which reported comparable but less durable rates of splenic palliation with a significant incidence of hematological toxicity. Regarding Si anyway, although a general trend in favor of low doses emerges in literature, the wide variability of reported total doses and number of fraction makes difficult to define a standard of treatment and still to date the most critical issue regarding a rational use of RT in MF patients is the definition of a safe and effective RT schedule.

Our aim is to assess outcomes and complication rates of SI in three cohorts of patients treated with different irradiation schedule.

Low Dose Group (LDG)

Patient	Dupriez score	Rt schedule	Spleen size	Spleen pain	Gastrointestinal symptoms	Trasfusional request	Night sweets or fever	Hematol toxicity Gradxe 4 RTOG	Time free from symptoms
1*	High risk	0,2→2 Gy	+	+	+	+	-	-	6 months
4*	Low risk	0,2→2 Gy	+	+	+	-	+	-	5 months
10	Intermediate risk	0,2→2 Gy 0,2 →2 Gy 0,2→2 Gy 0,4→4 Gy	+ + + +	+ + + +	+ + + +	+ + - -	+ + + -	- - -	12months 12months 12months 8months
12	Low risk	0,2→2 Gy 0,25→2,5Gy 0,2→2 Gy	+ + +	+ + +	+ + +	Not transfused	+ + +	- - -	6 months 5 months 5 months
13*	Intermediate risk	0,2→2Gy	+	+	+	+	No night sweats	-	12 months
15	High risk	0,2→1,6 Gy	-	+	+	+	+	-	3 months

High Dose Group (HDG)

Paziente	Lille score	Rt schedule	Spleen size	Spleen pain	Gastrointestinal symptoms	Trasfusional request	Night sweets or fever	Hematol toxicity Gradxe 4 RTOG	Time free from symptoms
3	Low risk	1,2→10,8Gy	+	+	+	-	+	+	6 months
5	Intermediate risk	1→10 Gy	+	+	+	-	+	-	4 months
9	Intermediate risk	1,4→9,8 Gy	-	+	-	-	-	+	-
11	High risk	1→10 Gy	+	+	+	-	+	-	4 months

Intermediate Dose Group (IDG)

Paziente	Lille score	Rt schedule	Spleen size	Spleen pain	Gastrointestinal symptoms	Trasfusional request	Night sweets or fever	Hematol toxicity Gradxe 4 RTOG	Time free from symptoms
2*	Intermediate risk	0,3→3Gy 0,3→3Gy 0,4→4Gy	+ + -	+ + +	+ + +	+ - -	+ + +	- - -	6 months 6 months 4 months
6	Intermediate risk	0,5→8Gy 0,5→8Gy	↑ +	↑ +	↑ +	Not transfused	↑ +	- -	5 months 5 months
7	Low risk	0,5→6Gy	+	+	+	-	-	-	6 months
8	High risk	0,5→5Gy	-	-	-	-	-	+	-

Method:

we retrospectively reviewed 14 MF pts, 9 M, 5 F, with symptomatic drug resistant splenomegaly, 11 pts (84%) having also constitutional symptoms as night sweats, febricula and an initial state of cachexya. Pts received RT five days per week continuously. Median number of RT fractions was 10. Fraction size ranged 0.2 to 1.4 Gy (median 0.3 Gy); total dose varied from 2 to 10.8 per RT course (median 3 Gy). To compare such different treatments we used the Normalized Tumor Dose (NTD10) algorithm, defined as the total dose delivered in 2 Gy fraction that corresponds to a particular biologically effective dose level and calculated according the formula

$$NTD_{10} = nd\left(\frac{1 + d/\alpha/\beta}{1 + 2/\alpha/\beta}\right)$$

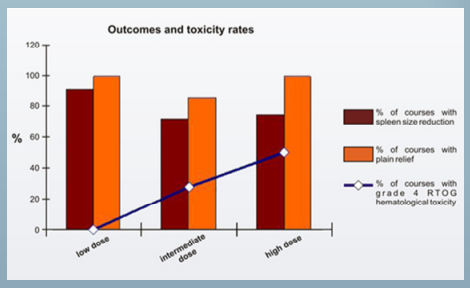
where n is the number of RT fractions and d the fraction size in Gy; the α/β value of the Linear Quadratic Model was empirically fixed to 10 as for early responding tissues.

Patients were considered responders if they experienced a spleen reduction (≥50%) and a durable pain relief. Response evaluation was carried out 20 days after completing radiation. Treatment toxicity, limited to myelosuppression, was scored according the RTOG scale. It was considered too toxic an RT course in which developed a post radiation RTOG grade 4 acute cytopenia (WBC count ≤ 1000 mm3 and/ord PLT count ≤ 20.000 mm3).

Results:

on the basis of the NTD, patients were stratified in three groups. In the first one (low dose group LDG) 6 patients received a median NTD of 1.67 Gy. In the second (intermediate dose group IDG) 4 patients had a median NTD of 4.37 Gy. To the third group belong 4 patients who received a median NTD of 9.23 Gy (high dose group HDG). Pts in the LDG received 11RT courses and experienced an excellent outcome both in terms of spleen size reduction (91% of courses) and pain relief (100% of courses); no life-threatening cytopenias (RTOG 4) occurred. Pts in the IDG received 7 courses of RT and had comparable outcomes (72% and 86% of courses with spleen size reduction and pain relief) but an higher incidence (28%) of severe cytopenias (2 on 7 courses). Patients in the HDG experienced a spleen size reduction in 75% of courses and pain relief in all. The incidence of RTOG 4 cytopenias was 50%. No patients in this group had retreatments.

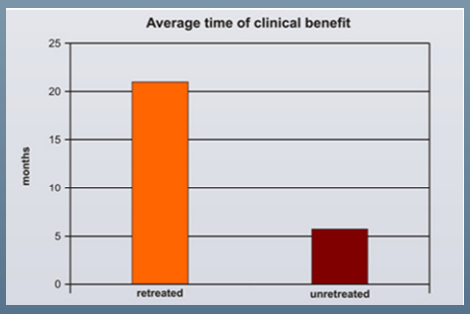
In all patients the median time of of symptom relief after RT course was 5.5 months (with no difference among RT dose group). In case of retreatment, multiple Rt courses did not show a decremental trend in terms of duration of clinical response. Duration of symptoms palliation did not change even in the case of a patient who received 4 RT courses. Moreover retreatment courses did not show an increased rate of adverse effects and no one of the retreated patients experienced severe hematological toxicities.



Conclusions:

our actual standard of 2 Gy delivered in 10 fractions over two weeks has a NTD value of 1.67 Gy a value 2-3 fold lower than the other published series. Such low radiation dose have shown to be comparable to higher dose schedule in terms of spleen size reduction and splenic pain palliation but less toxic and in our experience is not associated to the occurrence of any severe side effect.

Due to the low toxicity rates occurred in the LDG it has been possible to repeat RT safely several times so prolonging the clinical benefit largely over expected (average time free from symptoms 21 months vs. 5.8)



Spinal interleukin-1β in a mouse model of arthritis and joint pain

Paolo M. Fiorentino [1 3], Ross H. Tallents [2†], Jen-Nie H. Miller [2], Sabine M. Brouxhon [2], M. Kerry O'Banion [2†], J. Edward Puzas [2], Stephanos Kyrkanides [2 *]

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[†]Drs. Tallents, O'Banion, and Kyrkanides have submitted patent application PCT/US2007/063731, which includes the data described herein.

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- Fellowship from the Department of Orthodontics and Gnathology, University of Torino, Torino, Italy
- NIH; Grant Number: NS-048522, DE-017765, AR-055035

ABSTRACT

Objective

Pain from arthritis has been associated with peripheral sensitization of primary sensory afferents and the development of inflammation at the dorsal horns. This study was undertaken to determine whether the role of spinal interleukin-1β (IL-1β) in central processing of pain is important in the development of arthritis.

Methods

Col1-IL-1β^{XAT} mice and GFAP-IL-1β^{XAT} mice were injected with the feline immunodeficiency virus (FIV) (Cre) vector in the right and left temporomandibular joints (TMJs), or in the cisterna magna, respectively, to induce IL-1β expression in the dorsal horns of the spinal horn. To inhibit intrathecal IL-1 receptor type I (IL-1RI) signaling, FIV(IL-1Ra) vector was injected into the cisterna magna of Col1-IL-1β^{XAT} mice. The effects of IL-1RI receptor inhibition in GFAP-IL-1β^{XAT} mice were studied in the GFAP-IL-1β^{XAT}-IL-1RI$^{-/-}$ compound mouse model. Neuroinflammatory, sensory, and behavioral changes were evaluated in conjunction with arthritic changes in the TMJ, assessed by histopathologic and immunohistochemical analyses.

Results

Induction of an osteoarthritis-like condition in the TMJ in the Col1-IL-1β^{XAT} mouse model resulted in up-regulation of murine IL-1β at the dorsal horns. Moreover, intrathecal inhibition of IL-1RI in Col1-IL-1^{3XAT} mice with arthritis led to amelioration of joint pathology and attenuation of the attendant joint pain. Overexpression of spinal IL-1β in the recently developed GFAP-IL-1β^{XAT} somatic mosaic model of neuroinflammation led to development of arthritis-like pathology accompanied by increased pain-like behavior.

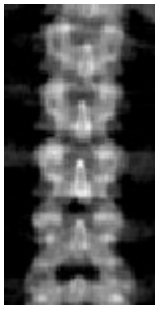
Conclusion

Our results indicate that joint pathology and pain are dependent on spinal IL-1β, and suggest the presence of a bidirectional central nervous system-peripheral joints crosstalk that may contribute to the development, expansion, and exacerbation of arthritis.

Spinal 'Cross-Talk' May Play Role in Arthritis Spread

Mouse studies focus on inflammatory mediator interleukin 1-β in joint pathology and pain

Paolo Fiorentino



WEDNESDAY, Oct. 1 (HealthDay News) -- Bidirectional cross-talk between the body's periphery and the central nervous system may help arthritis transmit inflammation to the spinal cord, where it may spread arthritis to other joints, according to research published online Sept. 29 in *Arthritis & Rheumatism*.

Paolo M. Fiorentino, of the University of Rochester School of Medicine and Dentistry in Rochester, N.Y., and colleagues discuss the results of several experiments on mice. They found that increasing interleukin 1-β (IL-1β) in a peripheral joint led to elevated levels of IL-1β in the dorsal horns of the spinal cord. The investigators also found that disrupting or intrathecally inhibiting the IL1β-IL1RI signaling pathway significantly reduced the degree of arthritis in mice.

Furthermore, the researchers found that activating the IL1β-IL1RI signaling pathway in the spinal cord is sufficient for creating neuroinflammatory, sensory and behavioral changes in mice.

"Our studies demonstrate that IL-1β in the dorsal horns, regardless of its exact cell origin (neurons, astrocytes), is both contributory and sufficient for the development of arthritis. Furthermore, a possible role of astroglia in the development of nociceptive behavior and joint pathology through cell-cell (astroglia-neuron) interactions is suggested. To our knowledge, ours is the first report indicating that dorsal horn astrocytes can influence peripheral disease development," the authors write. "The proposed central nervous system-periphery cross-talk is likely to play a critical role in the expansion and exacerbation of peripheral tissue pathology along with the expansion of nociceptive fields, and provides a new area for therapeutic intervention."

The cannabinoid hypothesis of schizophrenia: implication for the treatment of psychosis

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The observation that the psychoactive ingredient of marijuana, delta-9-tetrahydrocannabinol (THC), precipitates psychotic episodes in vulnerable subjects and causes perceptual alterations similar to those observed in schizophrenic patients, suggests that over-activity of the endocannabinoid system might contribute to the etiology of schizophrenia. Recent studies show that schizophrenics have increased expression of CB_1 cannabinoid receptors in the brain and a significant elevation of the endocannabinoid anandamide (AEA) in the cerebrospinal fluid (CSF), which is negatively correlated to psychotic symptoms. It is unclear, however, whether these changes contribute to the development of schizophrenic symptoms or if they rather represent a compensatory adjustment to the disease and possibly play a protective role.

To address this question, we studied endocannabinoid transmission in rats sub-chronically treated with PCP, a well-established animal model of schizophrenia. The development of schizophrenia-like symptoms was monitored using the following behavioral measures: (1) working memory in a variable-delayed alternation task in a T-maze (to model cognitive deficit), (2) social withdrawal (negative symptom), and (3) motor activity in response to *d*-amphetamine challenge (positive symptom). Twenty-four hours after the behavioral tests, we measured endocannabinoids levels (AEA and 2-AG) in the CSF and brain tissue, and [^{35}S]GTP□S binding stimulated by the CB receptor agonist CP55,940 (1μM) in brain areas relevant to schizophrenia.

CSF endocannabinoids were not affected by PCP treatment. In contrast, sub-chronic PCP increased endocannabinoids levels in the nucleus accumbens and amygdala. CB_1 receptor-stimulated [^{35}S]GTP□S binding was also increased in the anterior cingulate cortex, and decreased in the hippocampus.

Sub-chronic PCP caused a delay-dependent impairment of working memory, increased social withdrawal and enhanced motor activity. To assess whether pharmacological manipulation of the endocannabinoids system could reverse (or worsen) these behavioral deficits, we studied the effects of URB597, a drug that elevates brain AEA by blocking its metabolism, and AM251 (a selective CB_1 antagonist) in PCP-treated rats. URB597 reversed the PCP-induced social withdrawal, whereas it had no effect on working memory or motor activity. Paradoxically, when given to

saline-treated rats, URB597 produced social withdrawal and working memory deficits comparable to those observed with PCP. Administration of AM251 ameliorated the working memory deficit, but impaired working memory in saline-injected controls.
These results indicate that: 1) PCP causes disturbances of endocannabinoid transmission; 2) elevation of endocannabinoids tone may reduce the negative symptoms of schizophrenia, but produce deleterious effects under normal conditions, possibly by disturbing endocannabinoid signaling. A similar activity pattern (beneficial for schizophrenia-related cognitive deficits, but detrimental under normal conditions) can be hypothesized for AM251.

This work was supported by NARSAD (A.G.)

Andrea Giuffrida, PhD.

Keywords
cannabinoid, anandamide, dopamine, Parkinson disease, schizophrenia, dyskinesias

Research Summary
My laboratory is interested in the role played by the endocannabinoid system in regulating psychomotor functions. The endocannabinoids are a family of naturally occurring lipids that mimic the effects of marijuana by stimulating specific receptors (cannabinoid receptors) epressed in the brain areas that are critical for the regulation of motor behaviors, such as the basal ganglia. In addition, the endocannabinoids may serve as an inhibitory feedback signal to counteract dopamine-induced motor activation. Our studies indicate that the endocannabinoid system represents a new pharmacological target for the treatment of diseases characterized by dysregulation of dopamine transmission, such as Parkinson's disease and schizophrenia.

We integrate neurochemistry and behavioral pharmacology to study endocannabinoid transmission in animal models of neurological and psychiatric disorders including Parkinson's disease, essential tremor, and schizophrenia. Our laboratory also investigates the therapeutic effects of cannabinoid-based drugs on levodoopa-induced dyskinesias, a disabling motor complication experienced by Parkinsonian patients undergoing long-term treatment with levodopa.

Celiac disease: risk assessment, diagnosis, and monitoring.

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Celiac disease is an autoimmune disorder occurring in genetically susceptible individuals, triggered by gluten and related prolamins. Well identified haplotypes in the human leukocyte antigen (HLA) class II region (either DQ2 [DQA*0501-DQB*0201] or DQ8 [DQA*0301-DQB1*0302]) confer a large part of the genetic susceptibility to celiac disease.Celiac disease originates as a result of a combined action involving both adaptive and innate immunity. The adaptive immune response to gluten has been well described, with the identification of specific peptide sequences demonstrating HLA-DQ2 or -DQ8 restrictive binding motifs across various gluten proteins. As for innate immunity, through specific natural killer receptors expressed on their surface, intra-epithelial lymphocytes recognize nonclassical major histocompatibility complex (MHC)-I molecules such as MICA, which are induced on the surface of enterocytes by stress and inflammation, and this interaction leads to their activation to become lymphokine-activated killing cells. Four possible presentations of celiac disease are recognized: (i) typical, characterized mostly by gastrointestinal signs and symptoms; (ii) atypical or extraintestinal, where gastrointestinal signs/symptoms are minimal or absent and a number of other manifestations are present; (iii) silent, where the small intestinal mucosa is damaged and celiac disease autoimmunity can be detected by serology, but there are no symptoms; and, finally, (iv) latent, where individuals possess genetic compatibility with celiac disease and may also show positive autoimmune serology, that have a normal mucosa morphology and may or may not be symptomatic.The diagnosis of celiac disease still rests on the demonstration of changes in the histology of the small intestinal mucosa. The classic celiac lesion occurs in the proximal small intestine with histologic changes of villous atrophy, crypt hyperplasia, and increased intraepithelial lymphocytosis. Currently, serological screening tests are utilized primarily to identify those individuals in need of a diagnostic endoscopic biopsy. The serum levels of immunoglobulin (Ig)A anti-tissue transglutaminase (or TG2) are the first choice in screening for celiac disease, displaying the highest levels of sensitivity (up to 98%) and specificity (around 96%). Anti-endomysium antibodies-IgA (EMA), on the other hand, have close to 100% specificity and a sensitivity of greater than 90%. The interplay between gliadin peptides and TG2 is responsible for the generation of novel antigenic epitopes, the TG2-generated deamidated gliadin peptides. Such peptides represent much more celiac disease-

specific epitopes than native peptides, and deamidated gliadin antibodies (DGP) have shown promising results as serological markers for celiac disease. Serology has also been employed in monitoring the response to a gluten-free diet.Despite the gluten-free diet being so effective, there is a growing demand for alternative treatment options. In the future, new forms of treatment may include the use of gluten-degrading enzymes to be ingested with meals, the development of alternative, gluten-free grains by genetic modification, the use of substrates regulating intestinal permeability to prevent gluten entry across the epithelium, and, finally, the availability of different forms of immunotherapy.

Stefano Guandalini, MD

Professor of Pediatrics
Section Chief, Pediatric Gastroenterology, Hepatology, and Nutrition
Director, University of Chicago Celiac Disease Center

Stefano Guandalini, MD, is an internationally recognized expert on celiac disease, a digestive disease that damages the small intestine and interferes with absorption of nutrients from food. He is also known for his expertise in the research and treatment of other diarrheal diseases in children.
Dr. Guandalini's clinical and research efforts have greatly influenced the way celiac disease is diagnosed and treated today. His work contributed to the revision of 20-year-old guidelines for celiac disease diagnosis. These guidelines are now used worldwide for the diagnosis of celiac disease in both children and adults.
Dr. Guandalini created the University of Chicago Celiac Disease Center in response to the low rate of celiac disease detection in the United States. This innovative program is dedicated to patient care services, research activities, medical education, and public awareness initiatives in order to increase the rate of celiac diagnoses and improve the lives of celiac patients. The Celiac Disease Center serves patients of all ages.
Dr. Guandalini is the past president of the Federation of International Societies for Pediatric Gastroenterology, Hepatology, and Nutrition. He was selected from a worldwide pool of candidates to be the first president of this federation.

The role of pRb2/p130 in epigenetic modulation of Estrogen Receptor-α in breast cancer

Marcella Macaluso[1], Micaela Montanari[1], Flavio Rizzolio[1,2] and Antonio Giordano[1,2]

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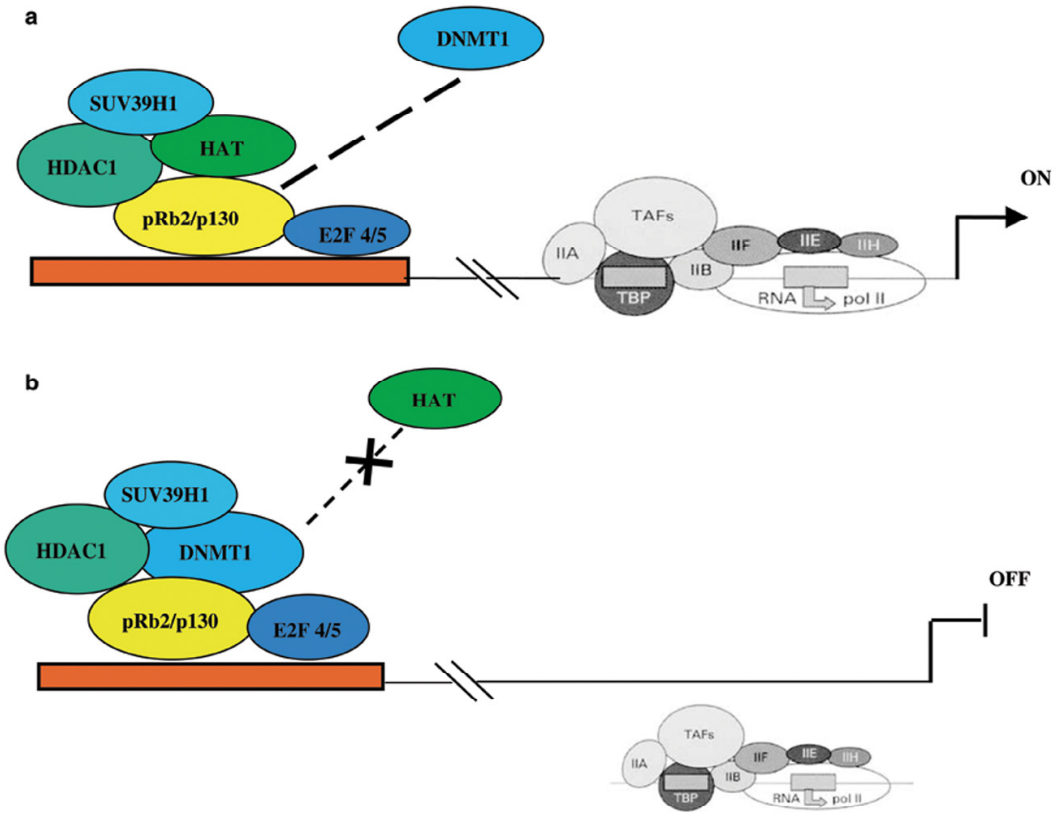
Breast cancer is a highly prevalent and morbid disease, afflicting approximately 1 in 9 women in the United States. The death rate from breast cancer in the United States has recently declined for most age groups, although it remains a major killer with 45,000 deaths annually. The clonal genetic model of cancer suggests that different genetic alterations in a single cell are responsible of tumour proliferation, invasion, metastasis and drug resistance. Despite the fact that in leukaemia and solid tumours clonal genetic changes are common, evidences for pathological epigenetics changes are increasingly also DNA methylation, chromatin alteration and loss of imprinting. ER-α, actively involved in hormone and chemotherapeutic response, is an important actor in normal and tumour breast development. However, ER-α status can change during the course of disease, and consequently, a resistance to therapy can occur. A fraction of breast cancer loses ER-α expression and it is associated with the epigenetic process regulating gene silencing. Several recent evidences suggest that the pRb pocket proteins (pRb1/p105, p107, and pRb2/p130), regulators of the mammalian cell cycle progression and suppressors of cellular growth and proliferation, might be involved in this process through interaction with chromatin remodelling enzymes.

In our laboratory, we demonstrated that ER-α positive and negative breast cancer cell showed different pRb2/p130 protein complexes bound to ER-α promoter (see figure). Here, we suggest that in MDA-MB231 ER-α negative cells, 5-aza-2'-deoxycytidine demethylating agent treatment can change the protein complex bound to the promoter like in untreated MCF7 ER-α positive cells. In addition, we have demonstrated that ICBP90 (Inverted CCAAT box binding protein of 90 kDa), a transcriptional regulator of many genes (e.g Rb1/p105), is overexpressed in several cancer cell lines and it is bound to pRb2/p130 and cooperates with DNMT in maintaining a specific methylation

pattern for the ER-α promoter. However, pRb1/p105 and p107 can bind the ER-α promoter suggesting a possible mechanism of cooperation with pRb2/p130 in ER-α specific gene expression.

Future experiments will be addressed to elucidate the role of pRb protein family, ICBP90 and DNMT during ER-α gene expression. Our working model highlights the central role of pRb2/p130 multimolecular complexes in the ER-α promoter specific DNA methylation with obvious implication for the therapeutic outcome.



Antonio Giordano, M.D., Ph.D., President and Chairman of the Board of the Sbarro Health Research Organization, Director of the Sbarro Institute for Cancer Research and Molecular Medicine and Co-Director of the Center of Biotechnology at Temple University's College of Science and Technology has been an internationally recognized researcher specializing in the genetics of cancer and gene therapy. At 26, while a post-doctoral fellow at Cold Spring Harbor Laboratory in New York, Dr. Giordano discovered the protein cyclone A, a substance that regulates growth in the cell cycle. At Temple University, he discovered Rb2/p130, a tumor suppressor gene which has since been found to be active in lung, endometrial, brain, breast, liver and ovarian cancers, and CDK9 and CDK10, guardians of the human genome. Research has subsequently shown that CDk9 plays a critical role in cell differentiation, particularly in muscles; HIV transcription; and the inception of tumors. But Dr. Giordano has not limited his activities to the lab. Recognizing that scientists often make their most exciting discoveries while they are young, in 1993, while at Thomas Jefferson University, he founded the Sbarro Institute for Cancer Research and Molecular Medicine with the generous help of Mario Sbarro, president of Sbarro, Inc., an internationally successful restaurant chain. In 2002, the Institute forged an exciting alliance with Temple University, forming the Sbarro Health Research Organization (SHRO). Under the agreement, funds from SHRO go directly to the Sbarro Institute for Cancer Research and Molecular Medicine at Temple, where promising researchers from around the globe pursue ground-breaking research in the molecular workings of cancer and other devastating diseases. The agreement with Temple was renewed in 2005, with the addition of two new research programs in molecular therapeutics and the study of the connections between obesity and cancer.

Introducing the law 133, new perspectives for the Italian research?

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In October 2008, a great confusion arose from the news concerning the Italian National Budget law.
To quote a publication on Nature, about 2,000 Italian researchers will lose promised permanent positions under this law that is expected to come into force by the end of the year. The researchers affected by this law may have to leave public research. The past decade has seen almost no new recruitment, and the number of temporary research staff has consequently rocketed. There are at least 4,500 long-term temporary staff, known as "precari", in reference to their precarious positions, who stumble from one short-term contract to another (Emiliano Feresin and Alison Abbott, 2008). In this "healthy" scientific environment, many of us will have to deal with this law, trying to understand its striking points.
Summarizing, three main points of the law could be outlined: 1) cut of public funding to the University from the Ordinary Financial Funding (FFO) that is the main source of funding for public University in Italy, 2) dramatic reduction of the turnover of people involved in research, 3) Conversion of the Universities in Foundations.
More in detail, the law provides these budget cuts to be done: 63,5 millions of Euros during 2009, 190 millions to be cut during 2010, then other 316 millions during 2011, 417 during 2012 and 455 during 2013. It means almost 1500 millions of Euros in five years. All these cuts affect Italian University in an already well-known underfunded system; according to the Organisation for Economic Co-operation and Development (OECD), Italy invest only 8026 $ per student each year, it is a very "different" amount compared to those of other countries like for instance France with 10995 $, Germany with 12446 $, England with 13506 $ or U.S.A. with 24370 $. These cuts will lead to a consistent reduction of all the services provided to the students, a drastic reduction of the facilities (classrooms, laboratories and libraries for instance), a progressive worsening of the teaching quality, a severe reduction of the research activities, with a consequent decline of the global quality of Italian Universities and a further loose of competitiveness in respect to Universities of other developed Countries. Moreover, the law provides that 1 person has to be employed for each 10 people that retire during 2009, this rate became of 1 to be employed for each 5 that retire between 2010 and 2011 and 1 each 2 during 2012. This imply a drastic reduction of teaching staff in a medium-term perspective; again the OECD gives us some interesting data: in Italy there are 20,4 students for each teacher, in England 16,4, in France 17,0 in Germany

12,4 and in U.S.A. 15,1. These data strongly suggest that, with the new law, each professor/researcher will have to increase the time dedicated to lessons in order to preserve the teaching quality and reduce his research activity because of the cut of funds. This likely means the dead of Italian research. The conversion of Public University into Foundation will abolish the public connotation of Italian University; it also could probably be in contradiction with some of the statement of the Italian Constitution (AA. VV. 1948 - Art.3, 9, 33, 34) but above all, Italy is a completely and deeply different context respect for example to U.S.A., there is no such economical and social background to make such changes.

Concluding, Public Universities in Italy are among the best research centres, this new law will wreak and could probably knock-out the Italian research, with a consequent loss of most of the people involved in research and also of important collaborations with foreign scientific institutions. The reported data strongly suggest an accurate re-evaluation of this reform in cooperation between political institutions and researchers.

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Salvatore Mandalà - Progetto Socrates/Erasmus Universidad de Salamanca (Spain) 10 mesi. Prima di tornare a Palermo da Salamanca avevo già il progetto della tesi in collaborazione da portare avanti in Italia (Vedi seguito) - Tesi di laurea sperimentale, in collaborazione con il Dott. Ramón Santamaría del "Instituto de Microbiología Bioquímica" (IMB) - Departamento de Microbiología y Genética, Consejo Superior de Investigaciones Científicas (CSIC) - Universidad de Salamanca (Spain). - Laureato in Biologia presso l'Università degli studi di Palermo. 110/110 cum laude. - PhD Fellowship del "Ministero dell'Università e della Ricerca". Inizio a Dicembre 2006. - Progetto Leonardo finanziato dalla Comunità Europea da svolgere presso il laboratorio del Dott. Ramón Santamaría (Vedi Sopra) nell'ambito del progetto di dottorato. Da Gennaio 2007 a Luglio 2007. - FEMS Research Fellowship da svolgere presso il Laboratotio del Prof. Klas Flärdh, Department of Cell and Organism Biology, Lund University, Lund, Sweden. Data ufficiale d'inizio, Aprile 2009. Al momento sto portando Avanti un progetto di dottorato su alcune specie di Streptomyces, batteri del suolo gram + studiati principalmente per due motivi: innanzitutto sono organismi modello per studi genetici e di biologia molecolare a causa del loro particolare ciclo vitale, simile a quello dei funghi filamentosi, questi batteri infatti, vanno incontro ad un processo di differenziamento morfologico e fisiologico; inoltre vi è un forte interesse economico intorno al genere Streptomyces e gruppi affini, a causa della loro capacita di produrre svariati metaboliti secondari, tra cui antibiotici, antitumorali antielmintici etc.

Opioid agonist and antagonist combinations in the treatment of opioid dependence: handle with care

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The co-administration of agonist and antagonist medications to regulate receptor functions and restore the physiologic balance is a challenge for the clinician and a scientific and philosophical quest for wholeness and equilibrium. In the case of drug dependence, it could mean for the user to become gradually "insulated" from the reinforcing effects of the abused drug; at the same time the balance of agonist and antagonist effects would prevent withdrawal symptoms or intoxication resulting from an under- or over-stimulation of drug receptors.
Agonist and antagonist medications are available for the treatment of opioid dependence, but their combined administration induces severe withdrawal symptoms and raises objections on the clinical place of such a treatment.
As part of a translational approach, we studied the interaction of opioid agonist medications with extremely low doses of antagonist agents, investigating their cellular mechanism and clinical effects. The chronic administration of very low dose naltrexone during opioid agonist treatment is safe and reduces the level of opioid dependence, attenuating the manifestation of withdrawal. The results will be presented and different applications of this method to improve the clinical outcome of pharmacologic treatments of drug dependence will be discussed.

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- MD, Universita' Cattolica del Sacro Cuore, Rome, 1986

Residency:

- Psychiatry, Universita' Cattolica del Sacro Cuore, Rome, 1986-1990

Fellowship:

- Psychiatry and Addictions, University of California San Francisco, 1989-1990

Clinical Interests:
Addiction and comorbid disorders, dual diagnosis, psychopharmacology, buprenorphine treatment for opiod dependence

Heparanase - mediated Modulation of FGF2 Binding, Signaling, and Angiogenesis in Metastatic Melanoma.

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Heparanase (HPSE) is the only mammalian endoglycosidase cleaving heparan sulfate (HS), the main polysaccharide constituent of the extracellular matrix (ECM) and basement membranes as HS proteoglycans (HSPG). HPSE activity plays decisive roles in biological events associated with cancer metastasis and ECM remodeling. These require the release of HS-binding angiogenic growth factors and cytokines stored at high levels in ECM HSPG with mechanisms involving their binding to cell surface HSPG and subsequent signaling.

HPSE and fibroblast growth factor-2 (FGF2) are critical regulators of melanoma angiogenesis and metastasis. Elevated HPSE functionality contributes to melanoma progression and HS chains from HSPG are known to act either as low-affinity FGF2 receptors or as coreceptors in the formation of high-affinity, signal-transducing FGF2 receptors.

We have investigated HPSE's ability to modulate FGF2 activity through HS degradation. We have determined that HPSE action remodels cell surface HS in human metastatic melanoma cells (70W). Second, extensive HPSE degradation inhibited FGF2 binding in 70W cells. Conversely, cell exposure with low HPSE concentrations enhanced FGF2 binding. Third, HPSE-untreated cells did not phosphorylate extracellular signal–related (ERK) or focal adhesion (FAK) kinases in response to FGF2, however, FGF-2 stimulated ERK and FAK phosphorylation in HPSE-treated 70W. Fourth, the presence of soluble HPSE-degraded HS at defined amounts modulated FGF2 binding and ERK/FAK phosphorylation. Finally, cell exposure to HPSE or to HPSE-degraded HS modulated FGF2 - induced angiogenesis in melanoma tumors.

These results provide first-time evidence that HPSE alters metastatic melanoma responsiveness to FGF2 by affecting FGF2 binding, signaling, and FGF2 - induced *in vivo* angiogenesis. These effects suggest that HPSE contributes to relevant mechanisms mediating melanoma growth factor responsiveness and tumorigenicity. Further investigations are needed to elucidate their HPSE-dependency in other tumor types and angiogenic/HS binding growth factors.

Education

1. Diploma di Maturita' Scientifica, "G. Marinelli" Scientific Liceum, Udine, Italy
2. Doctor of Biology, The University of Pavia, Pavia, Italy

Specialty

1. Brain-metastatic melanoma
2. Heparanase
3. Heparan sulfate processing

Area of Interest

1. Cancer invasion and metastasis
2. Brain metastasis
3. Angiogenic mechanisms in cancer and other pathologies

Current Position

1. Professor, Departments of Pathology and Molecular and Cellular Biology, Baylor College of Medicine

Professional Positions Held

1. Professor and Director Tumor Biology Laboratories, Department of Comparative Biomedical Sciences, Louisiana State University - Baton Rouge, Baton Rouge, LA, 2005-2007

2. Associate Professor and Director Tumor Biology Laboratories, Department of Comparative Biomedical Sciences, Louisiana State University - Baton Rouge, Baton Rouge, LA, 2001-2005

3. Assistant Professor, Department of Neurosurgery, The University of Texas - Houston, Houston, TX, 1999-2001

4. Instructor, Department of Tumor Biology, The University of Texas M.D. Anderson Cancer Center, Houston, TX, 1991-1999

Other Positions

1. Director, Scientific Development, Apocell Inc., Houston, TX, 2007

2. Postdoctoral Research Scientist, Department of Neurology, Baylor College of Medicine, Houston, TX, 1989-1991

3. Research Scientist, The University of Texas (M.D. Anderson Cancer Center, The University of Texas Health Science Center), Houston, TX, 1986-1989

4. Teacher Inorganic Chemistry and General Biology, "G. Verga" Scientific Liceum, Pavia, Italy, 1979-1980

5. Predoctoral Fellow, The University of Pavia, Pavia, Italy, 1975-1979

Honors and Awards

1. Pfizer Award for Research Excellence, LSU-SVM, 2004

2. N.I.H. Ad Hoc Grant Reviewer, "Cancer Drug Development and Therapeutics" Study Section, 2005

3. Phi Kappa Phi Award for Research Excellence, The Honor Society, LSU-Baton Rouge, 2005

4. Distinguished Scholar Research Award, LSU-SVM, 2006

5. Senior Scholar Consultancy Awardee, American-Italian Cancer Foundation, 2006

Potential Extent and Thickness of Gas Hydrates in the Deep Water of the Northern Gulf of Mexico

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ABSTRACT
A model of potential distribution and thickness of gas hydrates in deep-water areas of the northern Gulf of Mexico was developed using data from public sources and the literature. First, stability curves for Structure Type I and Type II hydrates were generated using commercial software and their reliability was checked with reported experimental data and gas compositions and gravities. Next, mudline and subsurface temperatures and pressures in 111 fields and 44 wells in the deep-water Gulf were calculated, to establish the minimum and maximum conditions at which hydrates would be stable.
Intersecting the pressure-temperature trend lines from the field calculations with the Type I and Type II stability curves and using the geothermal and pressure gradients allowed an estimate of subsurface pressures and depths at which the two types of hydrates could exist in each field or well. Using the modeling results the potential extent and thickness of each type of hydrate were mapped. The resulting maps together with geophysical data can be of practical use for assessing the hydrate resource and for evaluating possible geohazards to drilling and production operations.

ETTORE MARCUCCI

Academic Titles:

1968: Dottore in Scienze Geologiche, con lode. University of Pisa, Italy.
1973: M. A. in Geology. Rice University, Houston, TX.
1975: Ph. D. in Geology. Rice University, Houston, TX.
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Summary of Qualifications:

Dr. Ettore Marcucci has 40 years of experience in the fields of sedimentology and sedimentary dynamics with special emphasis on the estuarine system of Lake Maracaibo and the Orinoco River, Venezuela, as well as in dredging projects in coastal and estuarine areas, coastal engineering, environmental analysis and remediation, shallow water geophysics, submarine pipeline routing and general petroleum related issues, with special emphasis on the possible future use of gas hydrates as source of energy. He worked first as an employee of the Venezuelan Institute for Scientific Research (IVIC) and subsequently with the Venezuelan National Institute of Canalizations (INC). In 1977 he began his own geological consulting firm, Geomar, and a long association with the engineering consulting firm Incostas, as a director. In 1998, Dr. Marcucci founded another firm, E. Marcucci Ing., and in 2003 started working as a geological consultant for Resource Data Systems Inc. based in Houston, TX, later merged to Resource Geoservices LLC based in Austin TX. In addition to his extensive geological and engineering work in Venezuela and US, Dr. Marcucci has completed extensive consulting projects in Panama, Chile, Ecuador, Montserrat and Brazil. Dr. Marcucci is author or co-author of more than 50 published works and is author of the monograph "Estuarios de Venezuela" (2000) and co-author of the books "Atlas Morfodinámico Costero de Venezuela" (1997) and "Vargas, un intento de

explicación" (2002). His teaching experience spans undergraduate as well as graduate courses such as Marine Geology, Geology of Continental Platforms (Central University of Venezuela, Caracas), Coastal Sediments Dynamics, Coastal Geomorphology and Hydrosedimentology, and Estuarine Environments (Libertador Teacher's University, Caracas) and Dynamics of Estuarine Sediments (University of Glasgow, U.K.). He received his degree of "Dottore in Scienze Geologiche" cum laude at the University of Pisa, Italy in 1968, a M.A. and a Ph.D. in Geology from Rice University, Houston, TX, in 1973 and in 1975, respectively, and the title of "Ingeniero Geólogo" from the Central University of Venezuela in Caracas in 1977. He has been a Research Fellow in the University of Glasgow, U.K in 1983-1984 and a Visiting Scientist at the B.E.G. of the University of Texas at Austin in 2003. His teaching experience spans undergraduate and graduate courses at different Universities in Venezuela and Scotland in Marine Geology, Geology of Continental Platforms, Coastal Geomorphology, Hydrosedimentology, Estuarine Environments and Dynamics of Estuarine Sediments.

Correlation between VEGFR and EGFR pathway expression in stage I-IIIA non-small cell lung cancer

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Abstract

Several lines of evidence indicate that activation of Vascular Endothelial Growth Factor Receptor (VEGFR) and Epidermal Growth Factor Receptor (EGFR) pathways are critical for non-small cell lung cancer (NSCLC) development, growth and progression. Despite the availability of new biological compounds targeting both signaling pathways in NSCLC, data about the co-expression of these two pathways in a large cohort of NSCLC tumor samples are not available. To better understand the correlation between VEGFR and EGFR pathway expression, we investigated surgically resected NSCLC tumor tissues placed in tissue microarrays for tumor immunohistochemical (IHC) protein expression of: VEGF-A, VEGF-R2, p-VEGF-R2 (phosphorylated VEGF-R2), EGFR and p-EGFR (phosphorylated EGFR). Correlations between VEGF-A, VEGF-R2, p-VEGF-R2 and clinicopathologic information and survival analysis were examined. Two hundred eighty-four surgically resected tumors, including 179 adenocarcinomas and 105 squamous cell carcinomas from patients with stage I-II-IIIA NSCLC were studied with a median follow up of 4.28 years. A semi-quantitative analysis of nuclear, cytoplasmic and membranous localization of IHC expression was performed for each marker. Lung adenocarcinomas demonstrated higher expression of cytoplasmic VEGF-A, membranous and cytoplasmic VEGF-R2, and membranous p-VEGF-R2 compared to squamous cell carcinomas. Additionally, lower VEGF-A, membranous and cytoplasmic VEGF-R2 expression was statistically associated with non-smoking history. Of interest, a significant increase of cytoplasmic and membranous p-EGFR expression was detected in tumors showing higher levels of cytoplasmic VEGF-A, VEGF-R2, and p-VEGF-R2. In summary, our findings indicate that VEGFR and EGFR pathway expression levels are positively correlated in early stage NSCLC.

Biography

Dr. Erminia Massarelli currently is a clinical resident at the Department of Internal Medicine, The Methodist Hospital, Houston, TX. Dr. Massarelli is a medical oncologist trained at the University of Naples Federico II, Naples, Italy, where she also completed a PhD program in molecular oncology and endocrinology. Dr. Massarelli is involved in translational research in non-small cell lung cancer and has recently completed a research fellowship at the Department of Thoracic/Head and Neck Medical Oncology, The University of Texas M. D. Anderson Cancer Center, Houston, TX.

Bridging the gap between energy efficiency and comfort: a design strategy for Mediterranean areas

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European Directive on the Energy Performance of Buildings requires practitioners to comply building design strategies with minimum energy performance requirements, while safeguarding thermal comfort. Some times and in some countries good energy efficient design strategies do not match with comfort requirements and vice versa. As a consequence, good efficiency does not imply good comfort and bad comfort decreases efficiency.
This paper presents a methodology where energy efficiency and comfort are folded in the whole building design process, where both energy and design variables come up at the first steps of design. The methodology is based on regression equation models that predict both energy efficiency and comfort in winter and in summer as well. This way practitioner is guided into practice, bridging also the gap between codes and practice.
The regression equations models need independent and dependent variables. In this study dependent variables are collected from energy simulations of three buildings analyzed in Palermo, a city of south of Italy. Independent variables come from building characteristics. The models offer valuable decision support systems for designers to optimize energy and comfort performance and a faster, easier and less expensive way than using building simulation tools.

Keywords: energy efficiency, comfort, regression equations

Title: Brachy-syndactyly caused by loss of *Sfrp2* function

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Wnt signaling pathways are regulated both at the intracellular and extracellular levels. During embryogenesis, the in vivo effects of the secreted frizzled related protein (*Sfrp*) family of *Wnt* inhibitors are poorly understood. Here, we show that inactivation of *Sfrp2* results in subtle limb defects in mice with mesomelic shortening and consistent shortening of all autopodal elements that is clinically manifested as brachydactyly. In addition, there is soft tissue syndactyly of the hindlimb. The brachydactyly is caused by decreased chondrocyte proliferation and delayed differentiation in distal limb chondrogenic elements. These data suggest that *Sfrp2* can regulate both chondrogenesis and regression of interdigital mesenchyme in distal limb. *Sfrp2* can also repress canonical Wnt signaling by *Wnt1*, *Wnt9a*, and *Wnt4* in vitro. *Sfrp2-/-* and TOPGAL/*Sfrp2-/-* mice have a mild increase in beta-catenin and beta-galactosidase staining, respectively, in some phalangeal elements. This however does not exclude a potential concurrent effect on non-canonical Wnt signaling in the growth plate. In combination with what is known about BMP and Wnt signaling in human brachydactylies, our data establish a critical role for *Sfrp2* in proper distal limb formation and suggest *SFPR2* could be a novel candidate gene for human brachy-syndactyly defects.

Ablation for long-standing permanent atrial fibrillation: results from a randomized study comparing three different strategies

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Background: this prospective multicenter randomized study aimed to compare the efficacy of three common ablation methods used for long-standing permanent atrial fibrillation (AF).
Methods: 144 patients with long-standing permanent AF (median duration 28 months) were randomly assigned to circumferential pulmonary vein ablation (CPVA, Group I, n= 47), to pulmonary vein antrum isolation (PVAI, Group II, n= 48) or to a hybrid strategy combining ablation of complex fractionated or rapid atrial electrograms (CFAE) in both atria followed by a pulmonary vein antrum isolation (CFAE+PVAI, Group III, n=49).
Results: Scarring in the left atrium and structural heart disease/hypertension were present in most patients (65%). After a mean follow-up of 16 months, 11% of patients in group I, 40% of patients in group II and 61% of patients in group III were in sinus rhythm after one procedure and with no antiarrhythmic drugs ($p< 0.001$). Sinus rhythm maintenance would increase respectively to 28% (group I), 83% (group II) and 94 % (group III) after two procedures and with antiarrhythmic drugs (AADs, $p<0.001$). The AF terminated during ablation, either by conversion to sinus rhythm or organization into an atrial tachyarrhythmia, in 13% of patients (group I), 44% (group II) and 74% (group III) respectively. CFAE

alone, performed as the first step of the ablation in group III, organized AF in only one patient.

Conclusion: In this study, the hybrid AF ablation strategy including antrum isolation and CFAE ablation had the highest likelihood of maintaining sinus rhythm in patients with long-standing permanent AF. Electrical isolation of the PVs, although inadequate if performed alone, is relevant to achieve long term sinus rhythm maintenance after ablation. Bi-atrial CFAE ablation had a minimal impact on AF termination during ablation.

DR. ANDREA NATALE

A native of Italy, Dr. Natale graduated summa cum laude from the Medical School of the University of Firenze, Italy, and summa cum laude from the Catholic University School of Cardiology in Rome, Italy. He received his clinical training in cardiology at Methodist Hospital, Baylor College in Houston and at the University of Western Ontario in London, Ontario, Canada. After completing a clinical fellowship in cardiology (electrophysiology) at the University of Western Ontario in 1991, he further trained in cardiology (electrophysiology) at the University of Wisconsin, Sinai Samaritan Medical Center in Milwaukee.

He is board-certified in Internal Medicine, Cardiology and Electrophysiology. Dr. Natale specializes in the treatment of abnormal heart rhythms. He has pioneered some of the present catheter based cures for atrial fibrillation. He is also the first Electrophysiologist in the nation to perform percutaneous epicardial radiofrequency ablation, which is a treatment for patients who fail conventional ablations.

Dr. Natale has been an invited lecturer at more than 200 symposiums and conferences worldwide. He is the author or co-author of hundreds of published studies on pacing and electrophysiology, and is currently Associate Editor of the Journal of Interventional Cardiac Electrophysiology. He serves on several editorial boards of prestigious scientific journals.

Dr. Natale was head of the cardiovascular physiopathology section at the Italian Air Force's Aerospace Research Centre. He has served as Director of the Electrophysiology laboratory at Duke University and Director of the Electrophysiology program at the University of Kentucky, Lexington. He also headed the cardiac Electrophysiology Section of the Cardiology Department at the Cleveland Clinic.

Dr. Natale is currently the Executive Medical Director of Texas Cardiac Arrhythmia Institute at St. David's Medical Center in Austin Texas.
He is also Consulting Professor in the Division of Cardiology at Stanford University and Clinical Associate Professor of Medicine, at Case Western Reserve University, in Cleveland, Ohio

Agile Software Development

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Abstract

Do you know the term *agile software development* ? Software development teams across the industry are constantly being challenged to achieve higher quality more quickly and, at the same time, stay flexible to respond to changing client requirements.
Today's business climate requires that software companies not only innovate but innovate faster, more often, and with fewer resources. Traditional methods are no longer applicable in all situations. Software development teams need to find ways to more effectively manage change, to continually improve capacity and efficiency without exhausting our skilled resources. Agile development practices can help achieving these goals.
Agile development principles:
• Exploit the inevitability of change and generate new occasions for learning throughout the
project.
• Provide leadership to create an atmosphere in which the team determines its capacity and
commits to shared goals.
• Use frequent interaction to move the whole product team toward its goals.
• Engage with customers and stakeholders throughout the project to generate continuous feedback.
• Measure success in terms of delivering a flow of functional, proven stakeholder-valued capabilities.
• Employ test-driven development and do not tolerate defects.
• Strive for relentless improvement of the product and the process.
Agile development must:
• Address complex architectural requirements
• Provide effective governance
• Strengthen solution quality
• Be disciplined
• Be effective for all types of development, components, solutions and suite releases
• Provide integration processes for small and large teams across multiple sites and time zones
This paper explores in details the principles of agile methods and the benefits you, your team, and your clients will have by implementing agile development practices and making them a part of your project workflow.

ROLE OF BCR IN DOWN-MODULATION OF BCR-ABL ONCOGENICITY IN CML

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Bcr-Abl acquires its transforming ability through its up-regulated Abl tyrosine kinase activity. Bcr is a phosphoprotein with a novel serine/threonine kinase activity encoded by its first exon. Over-expression of BCR in K562 cells produces a phosphoserine form of Bcr and interferes with the oncogenic effects of BCR-ABL in mice (Lin et al., Oncogene 2001). We have recently shown the inhibitory effects of Bcr on Bcr-Abl, in a nude mouse solid tumor model. Expression of BCR/GFP in TonB210 cells used for injection delayed tumor formation and tumors were 50% smaller compared to the TonB210/GFP control. In contrast two point mutants in the BCR kinase domain (Y360F and S354A), not only blocked Bcr's inhibitory effects but enhanced the oncogenic effects of BCR-ABL (Perazzona et. al. Oncogene, 2008). Similar Bcr effects were observed in a mouse leukemia model. We are investigating the mechanism of the interaction between Bcr and Bcr-Abl proteins. Using TonB210 cells, in which BCR-ABL expression is controlled by a tetracycline-inducible promoter and Bcr is stably transduced by lentivirus infection, we observed that increasing levels of Bcr-Abl expression increased the levels of the Bcr protein. Treatment of TonB210 cells with imatinib mesylate decreased the levels of Bcr-Abl and surprisingly the Bcr protein as well, indicating that the tyrosine kinase function of Bcr-Abl is required to up-regulate Bcr protein expression. In addition, withdrawal of doxycycline also reduced Bcr-Abl and Bcr protein levels, confirming that Bcr-Abl is required for increased expression of the Bcr protein. In order to examine the levels of Bcr in cells lacking Bcr-Abl, we transduced BCR/GFP with lentivirus infection into BaF3 and 32D cells. Surprisingly, these cell lines expressed extremely low levels of Bcr, despite 90% expression of the GFP marker. Expression of Bcr was restored by overnight treatment with the proteasome inhibitor calpain inhibitor I. Forced expression of Bcr-Abl in BCR- transduced cells restored high expression of Bcr protein, confirming that Bcr-Abl is required for preventing degradation of the Bcr protein. Together these findings indicate that Bcr-Abl up-regulated Bcr expression by interfering with proteasome-mediated degradation of the Bcr protein. Additional studies indicated that Bcr increases expression of the myeloid membrane surface marker Mac-1 in Bcr-Abl TonB210 cells, which originated from the mouse pro-B cell BaF3. We propose that Bcr may play a role in generating the myeloid phenotype caused by Bcr-Abl in CML patients and may be an important player in the chronic phase of CML by down-modulating Bcr-Abl.

Beta Cell Proliferation during Pregnancy
-A functional and genetic study-

Cristiana Rastellini, MD

Recent improvements in islet isolation and immunosuppressive strategies have made transplantation of human pancreatic islets a viable treatment for patients with type 1 diabetes mellitus. As reported by the CITR (2007), insulin independence can be achieved and maintained for one year in over 40% of patients transplanted. Factors like cell death, inflammation, lack of revascularization limit the beta cell mass, critical to achieve success. Induction of beta cell proliferation is the most appealing strategy to improve the islet cell mass. It has been recently shown that pre-existing beta cells, rather than pluripotent stem cells, are the major source of new beta cells during adult life. Nevertheless, it is believed that the beta cell replication rate in the adult human is very low. Pregnancy is one of the two well-known conditions in adult human life (along with obesity) where beta cells can respond to the increased metabolic demand by proliferating and improving their functional capacity. This is probably the most representative expression of the plasticity of the endocrine compartment of the pancreas. During pregnancy, the insulin demand on the mother dramatically increases due to the enhanced insulin resistance of maternal tissues and increased food intake. The maternal pancreatic islets are thought to adapt to this increased demand mainly by enhancing the insulin secretory response and proliferation of beta cells. It is known that in humans as well as in animals this phenomenon takes place in the last third of the pregnancy that corresponds to the last trimester in women and the last week in the three weeks-long pregnancy in female mice.

In the presented study, we investigated murine pancreatic islets under the influence of a gestational environment and we determined their metabolic functionality and the genes involved with the proliferative phenomenon. In addition we investigated their functional capability when ectopically transplanted in diabetic mice recipient undergoing pregnancy, and the gender impact on pregnancy-induced beta cell proliferation.

We strongly believe that characterization of the metabolic capacity of islets when under the influence of a gestational environment and used as a graft, is the first step in determining if the simulation of this condition (possibly through gene manipulation) could lead to new strategies to expand islet cell mass to therapeutic levels in any beta cell deficient condition.

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Cristiana Rastellini, M.D. is the Director of Cell Transplant and Transplant Research for the UTMB Texas Transplant Center. She is also a Professor of Surgery, Medicine, and Microbiology and Immunology. Dr. Rastellini earned a bachelors degree in Biology from Liceo Scientifico Cavour, in Rome, Italy, and a medical degree, Summa Cum Laude, from the University of Rome, La Sapienza, Rome, Italy. Dr. Rastellini served as a research fellow in Transplant Surgery and Immunology at the T.E Starzl Transplantation Institute, University of Pittsburgh. She has served as the Director of Cell Transplant and as Assistant Professor of Surgery and Immunology and as the Director of Graduate Studies in Surgery at the University of Illinois at Chicago, and as an Associate Professor of Surgery, Cell Biology and Clinical Pathology at the University of Massachusetts Medical School.

Dr. Rastellini is the author or co-author of more than 80 research publications and two books, and has been an invited speaker for more than 30 conferences. She has received more than $4 million in research funding, including a $2.2 million NIH ROI grant. She has received numerous awards and honors, including the Outstanding Scientist Award from the University of Illinois, Crain's Chicago Business Magazine "Best 40 Under 40 Scientific Career Award" and the Travel Grant Award from the Transplantation Society. She was featured in various media outlets, including the Chicago Sun Times and Telemundo News for the opening of the Islet Transplant Facility at the University of Illinois at Chicago, and has appeared on the Italian talk show, "The Maurizio Costanzo Show" to discuss clonation and stem cell research.

Dr. Rastellini's pioneering research focuses on islet cell transplantation for the treatment of diabetes. She has translated numerous experimental protocols into clinical trials and has done 8% of the islet transplant cases performed worldwide.

INK4a/ARF LOCUS IN METASTATIC AND DRUG-RESISTANT BURKITT LYMPHOMA CELL LINES.

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Burkitt lymphoma (BL) is an aggressive B-cell tumor characterized by high growth rate with a large fraction of cycling cells. Molecular hallmark of BL is a constitutive activation of cMyc oncogene. We are researching whether it is possible to establish other genetic or epigenetic events that may cooperate with cMyc overexpression in tumor progression. We are studying a new cell line (Gal1) derived from a metastatic site of a patient with a very peculiar clinical profile; he had a previous history of intestinal diffuse large B-cell lymphoma and developed a resistance to chemotherapy. This cell line may represent a useful experimental model to study the biology of BL possibly including resistance to chemotherapy and progression to a metastatic phenotype. Our results show a *INK4a/ARF* locus deregulation, which affects both the pRb and p53 tumor suppressor pathways.

Western blotting and immunocytochemistry assay revealed the lack of p16/INK4a protein in the Gal1 cell line. We analyzed the methylation status of p16/INK4a gene using methylation-specific PCR (MSP), finding that loss of this protein is due to improper methylation of its promoter region. 5-Aza-2 deoxycytidine (5-Aza-CdR) treatment significantly inhibited tumor cell growth. Real Time q-PCR, Western blotting and MSP-PCR performed on treated cells have shown that it is possible to reactivate p16 expression using demethylating drugs, confirming that p16/INK4a tumor suppressor gene is epigenetically silenced in this cell line. In addition, we have analyzed the expression of the other proteins encoded by *INK4a/ARF* locus. We found that both p14 and 15 exhibit impaired expression. Despite normal p14 mRNA level, no protein expression was observed. Differently, we could detect neither mRNA nor protein expression for p15.

To date we are comparing different Burkitt's lymphoma cell lines, representing different tumor stages and showing different drug sensitivity.

The future goal of this research will be to evaluate whether is possible to extend these findings to different cell lines, and above all whether if there is a link between these deregulations and tumor progression and/or drug resistance.

The work was funded by Sbarro Health Research Organizzation (www.shro.org) & Human Health Foundation (www.hhfonlus.com) and DOD.

"International Technology Roadmap for Semiconductors (ITRS)" By Ricardo Romani

Abstract:

The objective of the ITRS is to ensure cost-effective advancements in the performance of the integrated circuit and the products that employ such devices, thereby continuing the health and success of the so called "Semiconductor Industry". Through the cooperative efforts of the global Integrated Circuits (IC) manufactures and equipment suppliers, research communities, and consortia, the Roadmap teams identify critical challenges, encourage innovative solutions, and welcome participation from the semiconductor community. These teams are joining with other strategic road mapping efforts (such as electronics and nanotechnologies) so the Roadmap effort comprehends the spectrum of needs for basic research capabilities and product potentials.
The international Technology Roadmap for Semiconductors is sponsored by the five leading IC manufacturing regions in the world: Europe, Japan, Korea, Taiwan and the United States. The sponsoring organizations are the European Semiconductor Industry Association (ESIA), the Japan Electronics and Information Technology Industries Association (JEITA), the Korean Semiconductor Industry Association (KSIA), the Taiwan Semiconductor Industry Association (TSIA), and the United States Semiconductor Industry Association (SIA). This paper will illustrate why and how the ITRS was conceived and it is providing direction for researchers around the world in the semiconductor industry.

Brief Biography of Ricardo Romani:

Ricardo Romani was born in 1958 in Argentina. His grandfathers were Italian immigrants from Emilia Romagna, Abbruzzo, Piamonte and Veneto. He is an Italian and US citizen, graduated in UTN (Argentina) in Electrical Engineering, with Master in Renewable Energy Sources Engineering and a degree of Master in Business Administration (MBA) in UTD-Texas.

He is a technologist in the Semiconductor Industry, with extensive Integrated Circuits research and development, engineering and production experience. Primarily in Process Development and Physics Device Integration Engineering in CMOS Technologies, with expertise in "Plasma Etching" and "Chemical-Mechanical Planarization" technologies. He is employee in Texas Instruments Inc since 1990, working in Italy for seven years and currently Senior Member Technical Staff (SMTS) in TI Dallas, Texas. He lives in Plano (TX) with his two daughters and wife.

Detection and Molecular Characterization of a Novel BRAF Activated Domain Mutation in Follicular Variant of Papillary Thyroid Carcinoma

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Background: Follicular variant of papillary thyroid cancer (FVPTC) represent the second most represented malignancy among all differentiated thyroid carcinomas. Despite the prognosis of FVPTC similar to the papillary phenotype little is known about the genetic background of this type of tumor.

Objective: To evaluate the activation of the RAS-RAF-MAPK-ERK signaling pathway and to assess the mutational status of *BRAF* gene in FVPTC.

Materials & Methods: We directly sequenced the genomic DNA of thirty primary FVPTC samples. Functional analysis to asses the RAS-RAF-MAPK-ERK signaling pathway activation by western blotting analysis was performed.

Results: *BRAF* mutations were found in only four tumors (13%). We also identified a previously unknown (novel) mutation in the activation kinase domain of the *BRAF (*A598V), replacing alanine with valine. Functional analysis showed that this mutation led to the upregulation of the BRAF kinase activity and its downstream signaling factors.

Conclusions: Our results confirm the infrequency of *BRAF* (V600E) mutation in FVPTC and identify a novel (A598V) mutation of this gene. Our data support also the evidence that the activation of the MAPK pathway through *BRAF* mutations is not the leading event in FVPTC and that the A-loop of the *BRAF* gene is highly prone to acquire somatic mutations.

Libero Santarpia, M.D., Ph.D.

He received both his M.D. and Ph.D. in Italy
He trained at the Department of Biochemistry and Molecular Biology at University of Naples Federico II, Naples, Italy and at "Stazione Zoologica", Naples, both directed by Prof. Roberto Di Lauro. He studied the molecular basis of congenital hypothyroidism in mice and humans.
He continued his interest in studying thyroid disorders, and currently, he is working on the elucidation of the molecular basis cause of differentiated and undifferentiated thyroid carcinomas at the Department of Endocrine Neoplasia and Hormonal Disorders (Chair, Dr. Steven I. Sherman) at the University of Texas, M.D. Anderson Cancer Center, Houston, TX, U.S.A.

I MODELLI TRASVERSALI DI CONSULTAZIONE DELLA SOCIETÀ CIVILE: VERSO UNA DEMOCRAZIA GLOBALE?

Gianluca Sgueo

1. Il contesto storico. La società civile e l'interazione con il potere pubblico – 2. La ricerca: gli obiettivi di lungo e medio periodo – 3. La consultazione nella sfera giuridica sovranazionale – 4. La consultazione negli ordinamenti domestici – 5. Verso una democrazia globale?

1. Il contesto storico. La società civile e l'interazione con il potere pubblico

La nozione di società civile e lo studio delle forme di interazione tra questa ed il potere pubblico sono state elaborate dal pensiero filosofico e politico sin dall'antichità.

Per Aristotele la società civile è l'insieme degli individui in uno Stato. In essa convergono l'istinto politico, che distingue l'uomo da ogni altra specie vivente, e l'amicizia, che è, al tempo stesso, un bene e una necessità. I due sentimenti, insieme, garantiscono il benessere e la prosperità della collettività. *Georg Wilhelm Friedrich Hegel* utilizza il termine *bürgerlich* per fare riferimento, e definire, il complesso dei cittadini che compongono una nazione. La società civile è, per *Hegel*, una struttura intermedia tra la famiglia – il nucleo di base in cui nasce e si sviluppa la civiltà – e lo Stato. Tra il 1835, anno in cui è dato alle stampe il primo volume di *Democracy in America*, e il 1856, data di pubblicazione dell'opera *The Old Regime and the Revolution*, *Alexis-Charles-Henri Clérel de Tocqueville* ipotizza l'esistenza di un legame diretto tra società civile e regime democratico. La medesima idea viene ripresa e sviluppata, nel 1963, da due politologi statunitensi: *Gabriel Almond* e *Sidney Verba*. In *The Civic Culture* i due sottolineano il ruolo essenziale che la società civile gioca all'interno di un sistema democratico.

Contemporaneamente, in parte anche grazie alle influenze esercitate dal pensiero filosofico, il linguaggio giuridico e politico fanno proprio il concetto di società civile. La nozione di *Membres de la société*, in qualità di titolari di diritti naturali, si rinviene nella *Déclaration des Droits de l'homme et du citoyen* del 26 agosto 1789. Pochi anni più tardi, nel 1812, la *Constituciòn polìtica de la Monarquìa Espanola* menziona il termine *Nacion*, e si rivolge a *todos los individuos que la componen*, oltre ai *Los Espanoles* in generale. Più recentemente, la *Grundgesetz* tedesca del 1949 dedica alla "popolazione civile" gli articoli settantatre, settantaquattro ed ottanta; nella Costituzione italiana, invece, si menziona il termine "società" negli articoli quattro e ventinove. Nel primo caso, il riferimento va al diritto e dovere di ogni individuo di lavorare. Nel secondo caso, invece, alla famiglia. Sempre nel 1949, la *Cour International de Justice* riconosce per la prima volta personalità giuridica internazionale ad entità rappresentative di interessi diverse dagli Stati nazionali, relativamente alla *Réparation des*

dommages subis au service des Nations Unies. A livello sovranazionale poi, la Dichiarazione universale dei diritti dell'uomo, del 1948; la Convenzione europea per la salvaguardia dei diritti dell'uomo e delle libertà fondamentali, del 1950; il Trattato che istituisce la Comunità europea, del 2002; La Convenzione Unesco sulla promozione e la protezione delle diversità delle espressioni culturali, del 2005, limitandosi ai più importanti, contengono, tutti, riferimenti importanti alla nozione di società civile o democratica.

Tuttavia, a fronte dell'esteso e prolungato utilizzo dell'espressione società civile i giuristi si interrogano da tempo su quale siano le regole, i limiti e le condizioni che presiedono all'interazione di questa con l'assunzione delle decisioni pubbliche.

Da un punto di vista generale, non sempre è chiaro a quale "insieme" di individui siano indirizzati i riferimenti alla società civile contenuti nelle norme. Nel particolare, poi, la lettura dei testi normativi ingenera la nascita di alcuni problemi tecnici. Il primo attiene la morfologia del rapporto tra la sfera giuridica privata e quella pubblica. Gli ordinamenti sovranazionali tendono a separare la prima, la sfera privata, cui riconducono il concetto di società civile, dalla seconda. Tuttavia, al giurista che osserva i meccanismi che regolano le procedure decisionali ultra-statali mancano ragioni valide per giustificare una separazione che assume le sfumature dell'arbitrio, o della convenienza. Tanto più se osserva, da una parte, i mutamenti intervenuti nel contesto giuridico sovranazionale negli ultimi cinquanta anni e, per altra parte, volge lo sguardo al contesto giuridico nazionale. Nel paradigma internazionale la visione statocentrica appare obsoleta. Non sono più i governi, da soli, a dialogare. Ad essi si affiancano organizzazioni internazionali e transnazionali non governative. Sicchè, il concetto tradizionale di interesse pubblico ne risulta dilatato e, a tratti, sfumato. Gli ordinamenti domestici, a loro volta, propongono uno scenario complesso. Venute meno, infatti, le preclusioni dommatiche relative alla riconducibilità di attori (ed interessi) pubblici alla società civile – che qui si rarefanno, fino a scomparire – il binomio pubblico-privato, quale criterio cui affidare la comprensione dei diritti partecipativi, non è più utilizzabile.

Il secondo problema riguarda le strutture procedimentali entro i cui margini contenere il dialogo costruttivo tra la società civile e le istituzioni. Anche qui, i binari lungo i quali corrono le due sfere giuridiche, nazionale e sovranazionale, non procedono parallelelamente. Nell'ordinamento giuridico globale manca una soluzione uniforme. Si è in presenza, piuttosto, di soluzioni estremamente eterogenee, che riflettono approcci talora completamente differenti tra loro. Quanto, invece, agli ordinamenti domestici, anche qui esistono differenze marcate tra i modelli partecipativi che adottano i singoli Stati. Né potrebbe essere diversamente, considerato il retaggio culturale che influenza ciascuna cultura giuridica.

Da qui un terzo, ed ultimo, problema. A differenza degli ordinamenti domestici, in quelli sovranazionali è assente un nucleo di garanzie stabili a favore dei rappresentanti della società civile: le istituzioni seguono, anche in questo caso, orientamenti tra loro molto diversi. Talora, il rinvio agli ordinamenti domestici consente di sopperire a queste lacune. In altri casi, invece, non esistono meccanismi che consentano alle procedure nazionali di subentrare negli interstizi che le procedure sovranazionali lasciano vuoti. Ne conseguono la compressione e la riespansione degli interessi della società civile, a seconda del contesto giuridico

entro il quale vengono trattati; e, di conseguenza, la necessità per i singoli, e i loro rappresentanti, di elaborare strategie finalizzate ad uno sfruttamento combinato degli strumenti che garantiscano loro la più efficace partecipazione, lungo i percorsi tracciati dalle due sfere giuridiche.

2. La ricerca: gli obiettivi di lungo e medio periodo

Gli aspetti problematici sommariamente esposti, la loro attualità e la complessità che li distingue, costituiscono la *raison d'être* di questa ricerca. In essa studio l'interazione tra la società civile e il potere pubblico. Analizzo, a tal fine, le forme attraverso cui i decisori operanti nella sfera giuridica sovranazionale, da una parte, e, dall'altra, domestica, consultano i portatori di interessi.

Gli obiettivi che mi pongo sono due: di lungo e di breve periodo.

Nel lungo periodo intendo verificare l'esistenza di (uno o più) modelli consultivi "trasversali". Tali sono quelli in grado di descrivere, per un verso, le modalità attraverso le quali i portatori di interessi interagiscono con i decisori pubblici, superando i confini tra livelli giuridici e sfruttando le opportunità concesse dalle procedure decisionali domestiche e sovranazionali. Per altro verso, essi sono il tramite attraverso il quale ipotizzo l'esistenza di una base democratica globale. I principi, le regole, le strutture e le procedure che la distinguono operano attraverso l'interazione tra gli ordinamenti domestici e la sfera giuridica sovranazionale.

La consecuzione degli obiettivi di lungo periodo impone, nel breve periodo, la comprensione di quali sono e come operano le garanzie procedurali riconosciute ai portatori di interessi. Una ricerca, questa, che richiede un esercizio di osservazione accurato e la soluzione di numerose questioni problematiche *a latere*. Tra le più importanti: le ragioni che sono alla base della "scollatura" tra il dato quantitativo – estremamente vasto – e quello qualitativo – confusionario e lacunoso – offerto dalle norme che riguardano la società civile; le dinamiche che giustificano gli orientamenti espressi dalle *policies* istituzionali e dalle pronunce giudiziali in tema di consultazione; il ruolo e la rilevanza delle strutture domestiche e sovranazionali deputate ad acquisire l'opinione delle parti interessate.

3. La consultazione nella sfera giuridica sovranazionale

Il primo passaggio della ricerca è focalizzato sull'analisi della sfera giuridica sovranazionale. Si tratta, in particolare dell'ordinamento giuridico globale e di quello comunitario.

La scelta non è casuale. Benchè offra un'ampia serie di spunti di interesse, infatti, l'esplorazione della sfera giuridica globale, da sola, non basta. Le questioni irrisolte sono numerose. Nello specifico, l'interazione tra sfere giudiche differenti – globale e domestica – rimane problematica. Non sempre, infatti, i modelli consultivi garantiscono con certezza alla società civile l'accesso alle procedure decisionali sovranazionali; né sempre sono in grado di imporre agli ordinamenti domestici il rispetto di *standards* procedurali predefiniti e uniformi.

Gli stessi problemi si presentano allorchè si estende l'analisi ad un altro ordinamento sovranazionale, ma a portata regionale: quello europeo. Lo scopo che mi prefiggo, confrontando i modelli globali di consultazione e l'approccio del

Legislatore europeo è, allora, duplice. Anzitutto, mi è utile ad approfondire la natura dei problemi relativi all'interazione tra livelli giuridici diversi. In secondo luogo, e soprattutto, mi consente di verificare l'esistenza e la praticabilità di un numero più elevato di soluzioni.

A livello globale, analizzo tre *case studies*. Il primo è costituito dalla *World Trade Organization*. Il modello di consultazione ivi elaborato è un modello che definisco "a responsabilità condivise e gestione decentrata". La condivisione delle responsabilità interessa il livello globale e quello domestico, costituito dall'ordinamento degli Stati membri dell'organizzazione. La gestione delle procedure consultive, tuttavia, è delegata pressocchè interamente al livello domestico. È qui che, secondo l'interpretazione corrente sviluppata dell'istituzione, risiedono le strutture (e le garanzie) necessarie per acquisire gli interessi privati. Il modello, pertanto, presenta uno squilibrio funzionale nel momento in cui non istruisce, se non in sporadiche occasioni, procedure consultive a livello sovranazionale. A compensare lo squilibrio provvede l'individuazione di un legame che unisce la certificazione dell'*accountability* del decisore globale al rispetto delle garanzie consultive nel livello domestico.

Il secondo caso di studio è costituito dal *World Bank Group*. Nel complesso, il modello teorico che meglio descrive le procedure consultive ivi attuate è quello della cd. "integrazione". In sostanza, le parti interessate hanno la possibilità di esprimere la propria opinione in seno alle procedure decisionali a livello globale. Questo genere di consultazione, però, non ha mai carattere vincolante e, spesso, riguarda aspetti meno significativi dell'attività del gruppo. Ad esempio, l'accrescimento della trasparenza nella diffusione delle informazioni. Quanto al livello domestico, le *policies* del gruppo hanno impongono l'adeguamento ai governi nazionali di *standards* minimi di garanzia per le parti interessate, tra cui è compreso il diritto ad essere consultati. Le parti private che ritengano di aver subito una violazione di questi diritti possono adire il livello globale, ricorrendo ad apposite procedure di conciliazione, gestite da organismi arbitrali indipendenti.

Il terzo caso di studio è costituito dalla Convenzione di *Aarhus*, che ambisce ad istituire un sistema globale di tutela dell'ambiente, focalizzando l'attenzione sull'interazione tra le autorità pubbliche e le parti interessate: ovvero, l'intera società civile. A tal fine, la Convenzione elabora il modello cd. "della trasposizione". Questo modello acquisisce dai contesti giuridici nazionali le tre principali garanzie consultive – informazione, partecipazione e *judicial review* – che caratterizzano la gran parte delle procedure amministrative e, appunto, le traspone a livello globale. In questo caso, rispetto ai precedenti, l'equilibrio tra la gestione e le responsabilità relative all'acquisizione degli interessi privati è maggiore. Le parti interessate, infatti, vengono consultate tanto a livello globale, talora con la possibilità di vincolare l'esito delle decisioni, quanto a livello nazionale. Qualora, poi, ritengano di non essere state adeguatamente tutelate a livello nazionale, possono fare ricorso ad un meccanismo di *compliance* sovranazionale, il cui esito vincola le parti coinvolte.

La comparazione con l'ordinamento comunitario si focalizza su tre profili principali: anzitutto, sull'analisi dell'articolazione dei rapporti tra livello comunitario e ordinamenti domestici, con particolare attenzione alle strutture dedicate alla partecipazione e le procedure consultive; poi, sul ruolo degli organi

terzi, giudiziali e mediatori; infine, sulla natura e la definizione degli interessi privati coinvolti.

Pertanto, anziché procedere all'esame di casi di studio specifici, faccio salvi i modelli consultivi individuati nella sfera globale e mi concentro sugli aspetti problematici che si legano ad essi. Rendo conto, dunque, delle principali strutture dedicate alla partecipazione; della giurisprudenza comunitaria rilevante; delle pronunce più interessanti del Mediatore europeo; nonché, ovviamente, delle procedure consultive instaurate in settori strategici delle *policies* comunitarie: tra questi, ad esempio, quello della sicurezza alimentare.

4. La consultazione negli ordinamenti domestici

Conclusa la ricognizione della sfera giuridica sovranazionale, ed elaborati alcuni modelli di consultazione e i problemi che vi si legano, estendo la ricerca alla sfera giuridica domestica. Gli ordinamenti giuridici che prendo in considerazione sono tre: quello statunitense, quello francese e quello italiano. Ciascuno, infatti, consente di arricchire il novero delle riflessioni sui modelli e i loro problemi.

Nello specifico: il profilo che mi interessa approfondire dell'ordinamento statunitense è quello relativo all'esportabilità delle garanzie partecipative predisposte dall'*Administrative Procedure Act* – la legge federale sul procedimento amministrativo. Il nucleo di garanzie che vengono offerte ai cittadini e membri della società civile dal Legislatore statunitense contemplano il diritto ad essere informati, la possibilità di esprimere la propria opinione e, infine, la facoltà di rivolgersi ad un giudice qualora l'amministrazione abbia ignorato ingiustificatamente le opinioni espresse.

Quanto all'ordinamento francese, il profilo più interessante è quello relativo al dialogo tra il potere giurisdizionale e l'amministrazione indipendente cui il Legislatore francese affida la gestione delle procedure consultive.

La legislazione (e la giurisprudenza) italiana, invece, si rivela utile nel momento in cui si trata di verificare quali sono i limiti che incontra la discrezionalità dell'organo decidente e, dalla parte opposta, il giudice.

5. Verso una democrazia globale?

Nel 1950 *Albert Tucker*, un matematico statunitense di origine canadese, elabora una teoria affascinante, che chiama "dilemma del prigioniero". La teoria ipotizza le possibili conseguenze delle scelte di due indiziati, arrestati con l'accusa di aver compiuto una rapina. Ai due, dopo l'arresto, viene concessa la possibilità di scegliere: possono confessare o dichiararsi innocenti. Se entrambi confessano, verranno condannati a sei anni di reclusione ciascuno; se, al contrario, nessuno dei due confessa, verranno condannati ad un anno di prigione a testa; infine, se solo uno dei due confessa, costui verrà liberato, l'altro, invece, sarà condannato a sette anni di reclusione. Da qui, il dilemma del prigioniero: confessare o dichiarare la propria innocenza? Paradossalmente, spiega *Tucker*, il risultato più probabile sarà anche quello meno vantaggioso per i detenuti. Entrambi, infatti, cercheranno la soluzione a loro più favorevole, confessando e sperando che l'altro decida di non parlare. Tuttavia, il fatto di aver compiuto lo stesso ragionamento li condurrà a subire una condanna a sei anni di reclusione.

Oggi, la sfera giuridica sovranazionale e quella nazionale, i "prigionieri", vivono lo stesso dilemma. La "prigione" – o, fuori di metafora, il contesto – entro

cui i decisori operano le proprie scelte è quello della partecipazione. La "condanna" cui vanno incontro non è misurabile in giorni, mesi o anni. Si tramuta però in conseguenze altrettanto gravi: serie carenze nell'*accountability* delle procedure e degli organi decisori che incidono, a loro volta, sulla tenuta democratica dei sistemi giuridici. La domanda da porsi è, allora, la seguente: qual è, nel paradigma della partecipazione, la soluzione migliore al dilemma?

L'ordinamento giuridico sovranazionale può scegliere di non confessare, ignorando la sfera giuridica nazionale. Così, anche, ma in termini invertiti, possono fare gli ordinamenti domestici nei confronti di quelli sovranazionali. Il modello della separazione, tuttavia, oltre che anacronistico, è anche quello meno idoneo ad accogliere e tutelare gli interessi della società civile. Difficoltà e problemi altrettanto gravosi sono generati dall'ipotesi in cui l'apertura di una delle due sfere giuridiche alle influenze della società civile non avvenga in un clima di reciprocità. Il flusso lungo il quale si muovono le garanzie partecipative, in un caso simile, ne risulterebbe interrotto. L'ipotesi auspicabile è, allora, quella in cui entrambe le sfere giuridiche instaurino, per il tramite della tecnica del rimando, una collaborazione reciproca che garantisca l'accoglimento della voce della società civile all'interno delle decisioni. Si tratta, purtroppo, anche dell'ipotesi più difficile da realizzare.

A ciò servono i modelli trasversali di consultazione di cui mi occupo nella mia ricerca. Essi consentono – a patto che l'interazione tra sfere giuridiche diverse funzioni e crei le condizioni per uno scambio virtuoso di principi e pratiche procedimentali –agli attori della società civile di incidere concretamente sulle procedure decisionali.

In ultima istanza, i modelli trasversali permettono di sviluppare un sistema democratico globale. Fondato, cioè, non più su singoli ordinamenti ma, al contrario, su procedure, garanzie e strutture che operano trasversalmente. In questo sistema ideale il cittadino può informarsi grazie ai canali di comunicazione del proprio Paese, presentare la propria opinione in seno ad un processo decisionale svolto presso un'istituzione globale e ricorrere, se lo ritiene opportuno, ad un giudice, nazionale o globale, per convincere l'istituzione ad assumere una decisione conforme alla sua posizione.

CV

My doctoral research is a comparative study of five different legal systems. I am studying the interactions between three models of democracy operating in the global arena and their possible transposition from the supranational to the domestic level. My current supervisors and referents are Professor Giulio Vesperini (Università della Tuscia, Viterbo, Italy – giulio.vesperini@libero.it), Professor Sabino Cassese (Judge in the italian Supreme Court – sabino@sabinocassese.eu), Professor Richard B. Stewart (New York University, New York, U.S. – rbs1@nyu.edu); Prof. Jean Bernard Auby (Sciences Politiques, Paris, France – jeanbernard.auby@sciences-po.org).

I am a member of the "Ordine dei giornalisti del Lazio" (www.odg.roma.it). I collaborate with three italian legal reviews. I write articles about juridical matters.

Nanoporous silica chip technology for the early detection of diseases and the real time assessment of therapeutic efficacy

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There is an intense interest in applying proteomics to foster an improved understanding of cancer pathogenesis, develop new tumor biomarkers for diagnosis, and early detection using proteomic portrait of samples. The study of early detection of diseases can lead to significant benefits in terms of efficient and timely treatment. The blood contains a multitude of unstudied biomarkers that could reflect the ongoing physiologic state of all tissues. The low-molecular weight (LMW) region of the blood proteome is a source of diagnostic markers for diseases. The approach used to identify markers of potential diagnostic importance relies on matrix-assisted laser desorption (MALDI) mass spectrometry. In case of serum analysis, this method suffers from the interference of abundant proteins (>90% of total serum proteins), which ultimately limit the sensitivity of the detection of low abundant species in serum.
We developed a novel size-exclusion strategy based on nanoporous silica chips for the efficient removal of the high molecular weight proteins and for the specific isolation and enrichment of LMW species present in complex biological mixtures. Thanks to the ability to tune the physico-chemical properties of nanoporous silica surfaces we demonstrated for the first time the correlation between pore size and molecular cut-off. We applied the Nanoporous Silica Chip Technology at the analysis of complex proteomic samples such as human plasma and developed several proteomic chips to specifically target the low molecular weight species present in the human circulating peptidome. Harvested peptides were subjected to MALDI analysis and profiles consisting of more than 300 peaks in the range 800-20 000 m/z were generated. Tunable pore sizes and surface chemistries were used as integrated "processors" for the selective depletion of the High MW protein content in serum samples and for the enrichment of LMW peptides and proteins. Reproducibility, sensitivity and protein profiles were assessed in relation to the physical (pore size, distribution, density and structure) and chemical (surface charge, hydrophobicity, hydrophilicity) properties of nanoporous silica. Our results demonstrate that nanoporous silicon chips are valuable tools for the detection of low abundant, LMW peptides in complex solutions such as serum. We envision that screenings based on our nanoporous silica chip technology will serve as a complement

to histopathology, molecular imaging and other state of the art diagnostic techniques. This approach will help in the selection of individualized therapeutic combinations that target the entire cancer-specific protein network, in the real-time assessment of therapeutic efficacy and toxicity, and in the rational modulation of therapy based on changes in the cancer protein network associated with prognosis and drug resistance.

Design of Miniaturized Double-Negative Microstrip Antennas using Electromagnetic Parameter Retrieval

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ABSTRACT: In this paper the analysis of a microstrip antenna loaded with a double-negative (DNG) material is shown. The presented results can be applied easily to the design of planar antennas, arrays and Frequency Selective Surfaces (FSS). The advance in planar radiating structure design using non-conventional material with the objective of size reduction is carried out. A DNG material realized with a periodic repetition of split ring resonators (SRR) and metallic rods is adopted as the substrate of a 10 GHz microstrip antenna to achieve size reduction and improving the performance. The design is then compared with one that uses isotropic substrate (i.e. FR4). Comparison shows that the introduction of such a non-conventional medium allows the patch size to be reduced approximately by 57% and the bandwidth to be increased. Issues about size reduction and negative refractive index effects are further presented and discussed.

CONCLUSIONS

The performance of a microstrip antenna on DNG layer was investigated using the commercial software HFSSTM. The return loss was considered and a comparison between isotropic and DNG dielectric was carried out. From the results it can be highlighted that by using the DNG substrate a miniaturization is achievable with an improvement in weight and performance. The proposed technique can be used to design planar antennas, arrays and FSS loaded with real DNG materials.

ABBREVIATIONS AND ACRONYMS

DNG: Double-Negative material; SRR: split ring resonator; FSS: Frequency Selective Surfaces; HFSS™: High
Frequency Structure Simulator.

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STARTLE PROBE P3 AMPLITUDE WHEN VIEWING CIGARETTE CUES

Francesco Versace, Jason D. Robinson, Jennifer A. Minnix, Cho Y. Lam, Brian L. Carter, David W. Wetter, & Paul M. Cinciripini.

The sudden onset of a startle probe elicits an event-related potential (ERP) that is modulated by emotional arousal. When participants view motivationally relevant (pleasant or unpleasant) pictures, the amplitude of the P3 component elicited by the startle probe is reduced. Given that in smokers images of cigarette cues activate the appetitive system, we hypothesized that these stimuli would receive prioritized processing, which would reduce the amplitude of the startle P3 component. Using a dense sensor array (129 sensors), we recorded ERPs in 51 smokers during a picture viewing task. Startle probes (50-ms 95-dB bursts of white noise) were delivered between 2 and 4 seconds after picture onset. Six startle probes were delivered for each picture category (i.e. cigarette, pleasant, unpleasant, and neutral).
For each participant, the mean voltage in a 250-350 ms time window after probe onset was calculated for each picture category at each sensor. Voltage differences between each motivationally relevant category and the neutral one were calculated and the statistical significances were tested using a randomization procedure. Relative to the neutral condition, the amplitude of the startle probe P3 was significantly reduced during pleasant, unpleasant, and cigarette pictures presentation. The largest amplitude reductions were observed over central and parietal areas of the scalp. These findings indicate that cigarette cues, like other motivationally relevant stimuli, are preferentially processed, and this leaves fewer attentional resources available for other cognitive tasks.

Dr. Francesco Versace is an experimental psychologist and, as a Ph.D. student, focused his work on cognitive psychophysiology and methodology of scientific research. As a post-doctoral research associate at the NIMH Center for the Study of Emotion and Attention at the University of Florida, Dr. Versace refined his expertise in affective neuroscience conducting experiments investigating the physiological correlates of emotional imagery and memory, using both dense sensor array EEG and functional MRI.
He recently moved to the Department of Behavioral Science at the University of Texas M. D. Anderson Cancer Center where he is working on experiments aimed at investigating cognitive and affective brain mechanisms in nicotine addicted patients using dense sensor EEG and functional MRI.

Norman Bel Geddes: a Modernist Interpretation of the Divina Commedia

Dr. Maria X. Wells
The University of Texas at Austin

For centuries, artists have given their own interpretation of the Commedia: from the scenes of Hell depicted in the frescoes of the Cimitero Monumentale in Pisa, to the XIX century engravings by Gustave Dore', paintings and sketches by Dante Gabriele Rossetti, and today, by the artists and book designers, Thomas Phillips and Barry Moser.
Perhaps the most stunning interpretation of the XX century remains that created by Norman Bel Geddes, the theater and industrial designer, in 1921 and again in 1933.
Bel Geddes designed and planned the production of the Divina Commedia which he had hoped to present in a specially built theater in Chicago in 1921, on the 600th anniversary of Dante's death.

The models for the theater were built according to a design that followed the tradition of the Classical Greek theater but the details of the costumes, lighting and music were a perfect example of the Futuristic Theater. The costumes are but a composition of wires and material, and the faces of the actors are covered by masks. The lights go from red, blues and green in the Inferno to soft pastels in Purgatory, getting brighter in Paradise and reaching a blinding power in the end. The music echoes the description of Luigi Russolo's Futuristic Manifesto: "a triumph of "noise" versus "music", "an explosion of screams and laments, sobbing and undistinguished noises." (Bel Geddes).
Bel Geddes imagination soared to new levels that unfortunately found little understanding at the time.

No performances ever took place, but what he left behind in his extensive archives, now at the University of Texas, tells a story, with great visual images, of his innovative interpretation. A large correspondence gives insight into this long and difficult project and the reasons for its demise.
Norman Bel Geddes was one of the most innovative American designer of the early and mid-twenty century. He worked mostly for the stage but also created new models for aircrafts and civic buildings. In 1933 he was the architect for all the buildings of the Chicago World Fair.

Seeing these extraordinary pieces today, one cannot but think of the possibilities that this material could offer today, to a truly modern producer.
Like Pirandellian characters in search of an author, this story asks to be seen, to be heard, to be presented. The Dantean characters in Bel Geddes's Divina Commedia are in search of a producer.
Short of such a lofty goal, there is much to be done to present to scholars the possibility of a truly original research in this extensive archive.
This paper presents the research that I have conducted thus far on every aspect of Bel Geddes project.

The presentation will conclude with slides of the scenes and costumes designs, the theater design and pages from the Director's Book.

I will make a brief mention of a current project: the same kind of study of the material for the production of D'Annunzio "La Nave" which was staged in Chicago in 1919. This project has been added to an International Date Base created by the University of Venice.

Brief CV

Maria X. Wells received a Doctorate Degree in Languages and Literatures at the University of Pisa. After working with the professors of American and Spanish Literatures in Pisa, she was invited to teach at the University of Texas at Austin. She had received a one year Fulbright Scholarship as a student, to work on her doctoral dissertation in American Literature, also at the University of Texas.
She taught for eight years in the Romance Languages Department (later French and Italian) and then was offered the position of Curator of Italian Collections at the Harry Ransom Humanities Research Center. In that position she organized exhibitions and Symposia and published four major exhibit catalogs.
Since 1998 she has held the position of Adjunct Professor in the French and Italian Department and Consultant for the Italian Collections at the HRC.
Her Seminars focus on Dante, Renaissance, and Modern and Contemporary authors. She has published several articles on the history of the Sicilian Puppets, on Paolo Volponi and the industrial novel, and Carlo Levi's art and narrative, in American and Italian academic and art Journals.
She is the recipient of numerous Fellowships, from a private Italian company, an American Foundation, and a Fulbright Research Award to conduct research in Rome, at the Central State Archive, the Carlo Levi Foundation and at the Caetani Foundation.
She has been the President of the Central Texas Fulbright Association, and Liaison for the Italian Embassy and the Italian Consulate in Houston and the University of Texas.
For her academic and civic dedication she has received the title of Cavaliere in the Order of Merit of the Italian Republic.
She is currently working on three additional subjects:
Dialects and national language under the Fascist regime,
novels and films describing the conditions of the "Mezzogiorno" (the Italian South) and the Bel Geddes archive of the production of D'Annunzio "La Nave".
She has given papers at the James Joyce International Symposium in Trieste, on the use of the Triestine dialect in Joyce's works, and at the Associazione Internazionale di Professori d'Italiano, in Brunico, Italy, where she presented Anita Pittoni's art and dialect poetry of Trieste.

She has been invited to give papers on Carlo Levi, art and narrative, at the Universite' de Liege, and the Universite' Libre de Bruxelles, where she partecipated in a Conference on the last twenty years of Italian narrative and film, with a paper:

" Innocenza e colpabilita': bambini e uomini nella narrativa e nel cinema del Sud".(Innocence and culpability: children and adults in the narrative and films of the South).
In January 2005 she has given a lecture at the Dell Jewish Center on: **Carlo Levi and the Resistance, the Holcoust in Italy, 1943-1945.**
In January 2006 she gave a paper on Niccolo Ammaniti's "Io non ho paura" the book and the movie, at Oxford. In the same month she presented the the topic of Dante's Commedia as interpreted by the American designer Norman Bel Geddes, at the Interantionl Conference of the Arts and Humanities, in Honolulu.
The study of Bel Geddes design continues with his interpretation of Gabriele D'Annunzio "La Nave". This research is posted on an Iternationl Data Base, on D'Annunzio, created by a professor in Venice.
Dr. Wells more recent Seminars focused on Renaissance illuminated manuscripts, and Carlo Levis's paintings of Lucania and narrative.

Presentations at the Italian Cultural and Community Center in Houston:

1993 "Carlo Levi's Cristo si e' fermato ad Eboli" narrative and paintings of Lucania" April 29

1994 "Italo Svevo and James Joyce: two writers in Trieste" April 8

1995 "Festivals and Fireworks in post-Renaissance Italy: an illustrated manuscript" April 7

1996 "Cum Privilegio" Aldus Manutius Printing Press in Renaissance Venice." April 12

ON. MARCO ZACCHERA - CURRICULUM VITAE

Born in Verbania in 1951 and gained a Diploma in Accountancy there in 1970 with the best results in the province. Actively involved in charitable and voluntary organisations, he graduated , with honours, from the "Luigi Bocconi" University, Milan with a degree in Economics.

In 2005, he gained a second degree with honours in History of Civilization at the University of Piemonte "Avogadro"Has worked as a journalist and since 1980, has been a Business – Management Consultant as well as being responsible for numerous initiatives regarding tourism and hotels in the Lake Maggiore area. In 1975, he was elected a Councillor of Verbania, a post which has always been re-confirmed. In 1984, he became Councillor for MSI-DN first in the province of Novara and then in the province of Verbano Cusio Ossola (Verbania) when it was established in 1995.In 1990, he became Regional Councillor for Piemonte and in 1994, was elected to Parliament as the representative of the constituencies of Verbania – Domodossola and Piemonte 2. (Alessandria, Asti, Biella, Cuneo Novara, Vercelli and Verbania). He was responsible for organisation within MSI-DN and then Alleanza Nazionale and after having directed the Department of Local Politics (A.N. representatives in towns, provinces and regions) in 2002, he was put in charge of the Foreign Policy Department of A.N.

In Parliament, he was involved in the finance commission and in 1996, became a member of the foreign and community affairs commission. In 2001, he was elected President of the Italian delegation at the W.E.O. of Paris and is a member of the European Council of Strasbourg. He is actively involved in various associations of voluntary workers with particular regard for international co-operation. In 1981, he founded the Verbania Centres which operate in a number of African countries and also South America.Enjoys numerous sporting activities including parachuting, canoeing, scuba - diving and fishing, particularly fly fishing. For some years he has also been a qualified football referee.Edits a weekly newsletter, "Il Punto" and has written and had published the following books : 1990 "Meno Sprechi Meno Tasse" - 2003 "Diario Romano" - 2006 "Staffette"

Possible synergism between the European Medical Association (EMA) and the Italian Life Science Group.

First I want to apologize for our inability to attend the meeting, and to convey to all participants the welcome of the President, Vincenzo Costigliola, who briefly indicated the broad goals of the association as they have evolved from its inception until now.

EMA contribution to any collaborative arrangement stems from offering possibly the broadest reach to physicians and researchers in all of the European countries, but not limited to them. Its mandate is also to provide to any national, regional and local medical entity the widest platform and audience from which to draw information and to disseminate results, but also to help the individual physician and researcher to have access at information potentially important to help them furthering their education and expand the work opportunities outside their geographical boundaries.

As an example of such international collaboration EMA coordinated a project aimed at submitting a proposal to the NIH a multinational study to establish new guidelines for the classification of various types of OA. Several Italian and a few other European hospital and universities participated in the design of the protocols together with some US institutions.

Another example is a project called ENEVA (ENhance Efficacy through VAlorization). A large Italian center contributes to various components of the project, providing patients and ancillary services, as do other non Italian centers, but also has designed, validates and continuously upgrades the computer programs, which assess the skills of people with mental disabilities, evaluates the functional qualifications of tutors of the disabled, determines the quality management for these professionals in dealing with the disabled. The third meeting of all partners in the ENEVA project will take place in early December in France.

Recently, EMA was invited at the Parliament to present its activities to the representatives of the local physician boards, to reach more in depth the members of each peripheral outfit, where, over a common denominator, individual needs might be quite different.

Franco Quagliata, MD
EMA Board Member
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L' EMA perché

Le informazioni necessarie per esercitare la professione negli USA, erano da tempo disponibili presso l' AMA (American Medical Association), quando decisi di stabilirmi in Belgio, dove trovai invece un vero "*vuoto informativo*".
Nessuna associazione professionale era in grado di fornirmi in maniera esauriente le informazioni necessarie.

Eravamo negli anni 70 e la normativa sulla libera circolazione dei medici era di recente applicazione.

Dal confronto della mia esperienza con quella di altri colleghi passati attraverso le stesse difficoltà, lentamente maturo' la decisione di creare una associazione ***di medici per i medici***.

Ci trovammo due italiani, due belgi, una tedesca, un francese, una danese, un greco, uno spagnolo e un inglese; (l' europa contava 12 stati membri.)

L' Associazione Medica Europea che prese forma fu infine registrata , come "A*ssociation internationale poursuivant un but scientifique* " *secondo la legge del 1919,* e gli statuti furono pubblicati sul *Moniteur belge* il 10 ottobre 1990

Rapidamente ci rendemmo conto che spesso, a causa della carenza di informazioni, i medici erano male documentati sulle reali possibilità offerte dalla Comunità Europea .

Nell'ambito di contesti sociali e culturali diversi ma all'interno della cornice dell'Europa unita nacque l' EMA, una associazione indipendente senza

scopi politici con l' obiettivo di introdurre una dimensione europea nella vita professionale dei medici per rispondere cosi alle nuove esigenze, nazionali ed internazionali create, in campo medico, dell' introduzione del Mercato Unico.

I primi incontri internazionali, i primi contatti con la Commissione Europea, le prime esperienze nel campo dei progetti europei consentirono all'EMA di ritagliarsi un suo spazio e di ridefinire i propri obiettivi .

La missione dell'EMA

Convinti che la qualità delle cure offerte ai pazienti passa inevitabilmente attraverso il livello di formazione e di informazione dei medici, l' EMA si propone non solo di sostenere l'aggiornamento e la formazione professionale ma anche e sopratutto di aggiungere una dimensione europea alla attività quotidiana del medico incoraggiandone la collaborazione e la mobilità internazionale.

Diversità nell'unità

Nel corso degli anni, nuovi paesi hanno raggiunto l'Unione con le loro tradizioni, la loro cultura e il loro sistema sanitario.
La necessità di adeguamento in tempo reale alle sempre nuove esigenze determinate dalla continua evoluzione della "Europa della salute", ha indotto l'EMA a creare una rete professionale interattiva e a impegnarsi come associazione di servizi per la promozione della coesione all'interno di una autentica e moderna Comunità Medica Europea

Le opportunità offerte dall' Europa

Nel corso degli anni i programmi proposti dalla Commissione hanno interessato sempre più aree sociali e scientifiche, sono state investite somme sempre più importanti e attualmente vengono sostenuti un numero sempre crescente di progetti.

Oggi siamo al VII Programma Quadro (2007 – 2013) che costituisce il principale strumento di implementazione della politica di ricerca della Commissione europea che dispone di un budget pari a 50,521 miliardi di Euro.

I finanziamenti disposti dalle Direzioni generali della ricerca, dell'educazione e della salute e tutela dei Consumatori della Comunità sono destinati a sostenere la ricerca europea, la mobilità dei ricercatori, i

programmi di integrazione culturale e a promuovere un elevato livello sanitario e di benessere in tutta la Comunità, mentre si profilano nuovi campi di investimento .

L'EMA partecipa come partner o come *main contractor* a tutta una serie di progetti elencati sul sito http://www.emanet.org

L'EMA é stata impegnata in vari progetti, da quello di un CD-Rom interattivo realizzato con neuropsichiatri belgi, a quello sull' Alzheimer; da quello riguardante l'impatto della dichiarazione di Bologna sugli studi di medicina a quello sulla pediatria in Europa; da quello sul repertorio delle scuole di medicina, a quello sulle biotecnologie.

Il futuro dell'EMA

Nuove progettazioni sono in cantiere, nuove aree di interesse entrano nel nostro orizzonte

Una nuova iniziativa é il **" *Who is Who, della medicina in Europa ..*** " ancora una opportunità per collaborare sulla base di interessi comuni.

Raccogliere e diffondere informazioni professionali, e coinvolgere un numero sempre crescente di colleghi in tutti i paesi resta un nostro obiettivo fondamentale.

Vorrei concludere semplicemente invitando tutti i Colleghi a raggiungerci e a portare la loro esperienza, sia umana che professionale perché venga condivisa ad accrescimento di quella degli altri e, alla fine, della propria .

Dr Vincenzo COSTIGLIOLA
Présidente

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