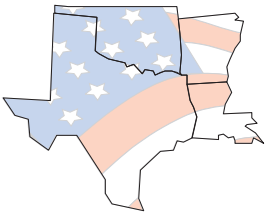
Senato della Repubblica

Camera dei Deputati

UNDER THE AUSPICES OF THE
Presidenza della Repubblica
Senato della Repubblica
Camera dei Deputati
Presidenza del Consiglio dei Ministri
Ministero degli Affari Esteri
Ministero dell'Istruzione, dell'Università e della Ricerca
Ministero della Salute
Istituto Superiore della Sanita'
State of Texas Governor

COM.IT.ES

Comitato degli Italiani all'Estero
Committee for Italians Abroad



In cooperation with

CONSULATE GENERAL OF ITALY IN HOUSTON

Present:

The 8th Conference of Italian Researchers in the World

2013 ANNO DELLA CULTURA ITALIANA
YEAR OF ITALIAN CULTURE

December 1st, 2012
Italian Consulate Auditorium
1330 Post Oak Blvd
Houston, Texas 77056

Messaggio del Presidente

Cari Connazionali,

Desidero formulare i Saluti piu’ calorosi ed il Benvenuto a nome del Comitato per gli Italiani all’estero della circoscrizione consolare di Houston comprendente gli Stati dell’Arkansas, Louisiana, Oklahoma e Texas, ai partecipanti all’Ottava Conferenza dei Ricercatori Italiani nel Mondo.

Nel corso degli anni questa conferenza e’ cresciuta notevolmente diventando non solo un appuntamento atteso dalla comunita` e specifico per la ricerca e per i loro addetti ai lavori, ma anche un momento di autentica condivisione di quei valori che esaltano l’italianita’ nel campo scientifico-innovazioni tecnologiche-sociale-culturale, apprezzata da tutti i partecipanti e dal pubblico in generale.

Gli obiettivi principali sono stati raggiunti, anche se non ci si pone dei limiti per migliorarsi e per fare sempre di piu`. In Texas, in particolare, si e’ venuto a creare un laboratorio di idee, di unita’ di intenti nel far si che questa manifestazione possa continuare ed espandersi con il coinvolgimento dei tanti professionisti italiani che risiedono in nord america. Anche quest’anno grazie al volontariato dei singoli membri del comitato organizzatore si e’ arrivati all’ottava edizione. Il Comites vorrebbe passare al Comitato tecnico-scientifico la futura gestione della Manifestazione, anche perche’ come organo rappresentativo il nostro mandato dovrebbe scadere il prossimo anno. Un Comitato composto da persone eccezionali, preparato sotto tutti i profili, gia’ messo alla prova nel corso dei precedenti eventi e con i quali si sono instaurati rapporti di solida collaborazione ed amicizia.

La stretta cooperazione con il Consolato Generale d’Italia a Houston e l’Ambasciata a Washington ha permesso con costanza negli impegni presi e totale sinergia nel portare avanti diverse iniziative e soprattutto nell’organizzare questo straordinario evento che quest’anno ha anche ed ufficialmente, il privilegio di aprire il sipario all’anno 2013 dedicato alla cultura italiana negli Stati Uniti, ricevendo l’Alto patronato del Presidente della Repubblica e delle piu’ alte cariche dello Stato nonche’ del Governo Italiano e l`apprezzamento e la vicinanza del Ministro degli Affari Esteri dove nel corso degli anni ci ha seguito sempre con molta attenzione.

Questo dimostra che lavorando assieme e collaborando in maniera concreta tra i Rappresentanti Istituzionali, gli Organi di Rappresentanza ,degli Enti Accademici e dell’Associazionismo, il cosidetto “Sistema Italia” viene promosso con efficienza.

Con soddisfazione desidero sottolineare che a seguito delle precedenti manifestazioni e sono certo anche di quest’ultima, si sono concretizzati attraverso dei protocolli d’intesa, accordi ed iniziative innovative, come per esempio la notizia di pochi giorni fa con il riconoscimento bilaterale del titolo accademico di Dottorato di Ricerca tra l’Universita’ di Palermo e quella di UTMB in Texas, o proposte come quella messa in atto dalla piattaforma telematica di Innovitalia e sponsorizzata dai Ministeri degli Esteri e dell’Istruzione, per la composizione di un anagrafe generale dei Ricercatori e Professionisti residenti all’estero con dibattiti costruttivi on line.

Non mi stanchero’ mai nel sollecitare tutti i soggetti che rappresentano l’Italia all’estero nel fare teamwork, le collettivita’ italiane nel mondo rappresentano la Nazione.

Siamo orgogliosi di poter esprimere questo nostro alto sentimento di appartenenza e fieri nel promuovere la nostra Bandiera Tricolore, l’Inno di Mameli che verra’ cantato come introduzione all’inizio lavori di questo evento e che rappresentano l’idendita’ nazionale italiana.

Significativo nella giornata odierna, la premiazione a giovanissimi studenti delle scuole medie superiori partecipanti al concorso letterario con titolo: l’Italia dei territori e del futuro in occasione della XII settimana della lingua italiana nel mondo.

Sono convinto che da questa manifestazione ci saranno ulteriori progressi sia a livello progettuale che in quello della cooperazione internazionale.

Un grazie di cuore a tutti i collaboratori del Comites, del Comitato Organizzatore e del Consolato, per avermi dato la possibilita’ di lavorare al servizio della Comunita`e della Conferenza riguardante la Ricerca, i Ricercatori ed i Professionisti Italiani residenti all’estero che quotidianamente dimostrano di essere una risorsa inestimabile per il Paese Italia e per il Mondo.

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

Director’s Message

Dear All,

I am honored to introduce the 8th edition of the Conference of Italian Researchers in the World. This year’s program will highlight again how Italian research excels around the world and how Italian researchers are contributing to the advancement of medicine and science. Founded by Vincenzo Arcobelli and the Texas Comites and strongly supported by the Italian Consulate of Houston, in the last seven years the conference has hosted over 300 researchers from Italian and US Institutions and featured multiple fields of research expanding to new and exciting topics. This year we’ll be honored by the presence of H.E. Ambassador Claudio Bisogniero.

We think that we attracted attention, from both Italy and the US, to the work of thousands of Italian and Italian-Americans researchers around the world. We are thankful to all the Institutions that supported this effort, and special thanks go to the entire organizing committee for their dedication in putting this together. But above all, we could not have done it without your help, the help of all of you who, day after day, dedicate your life to the advancement of science for the benefit of mankind.

I wish the best to all the participants to the conference and hope to see you again next year.

Sincerely,

Andrea Duchini, MD, FACP
Houston, TX, 11/15/2012

STATE OF TEXAS
OFFICE OF THE GOVERNOR

Greetings:

As Governor of Texas, I am pleased to welcome you to the 8th Conference of Italian Researchers in the World.

Texas' workforce is made up of dedicated, innovative and highly skilled people from all walks of life. In particular, Italians and Italian Americans have played an important role in our state's diversity and prosperity.

I am sure this conference will be a great opportunity to network, share expertise and discuss ways to meet the demands of the future. I commend everyone working to promote valuable cultural exchange, research opportunities and commerce between Texas and Italy. Communities in Texas, in Italy and around the world will benefit from your work.

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

Sincerely,

Rick Perry

Rick Perry
Governor

Il Consigliere Diplomatico
del Presidente della Repubblica

Roma, 12 novembre 2012

Caro Presidente Arcobelli, Caro Amico

il Capo dello Stato mi ha pregato di inviare, per il Suo tramite, auguri di successo alla Conferenza dei Ricercatori Italiani nel Mondo di Houston, che giunge quest'anno alla sua VIII edizione arricchendo i contenuti dell'Anno della Cultura Italiana negli Stati Uniti, al quale Egli ha concesso il proprio Alto Patronato.

La vostra iniziativa è un ottimo esempio di collaborazione tra le Istituzioni e i diversi soggetti che rappresentano l'Italia all'estero, nonché un opportuno momento di attenzione nei confronti della ricca e qualificata comunità dei ricercatori italiani all'estero, che con il loro lavoro onorano il nostro Paese costituendone una risorsa inestimabile.

I temi della ricerca, scoperta e innovazione sono del resto il filo conduttore dell'Anno della Cultura Italiana negli Stati Uniti, ed una componente della nostra identità che è opportuno valorizzare specie in un contesto dinamico ed innovativo come gli Stati Uniti. La Conferenza potrà inoltre utilmente stimolare opportunità di intensificazione dei rapporti bilaterali nel settore della ricerca, che già gode di un partenariato di grande intensità.

Mi è gradita l'occasione per farLe pervenire i cordiali saluti del Capo dello Stato a tutti gli organizzatori e agli illustri partecipanti ai vostri lavori.

E rinnovo le mie più vive felicitazioni per l'attività del Comites di Houston e per il Suo pressante impegno. Mi creda Stefano Stefanile

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Gentile Dottor
Vincenzo Arcobelli
Presidente Com.It.Es.
Circoscrizione Consolare di Houston
alexpress@yahoo.com

Il Presidente del Senato della Repubblica

GENTILE PRESIDENTE, LA RINGRAZIO PER IL CORTESE INVITO A PARTECIPARE ALL’OTTAVA EDIZIONE DELLA CONFERENZA DAL TITOLO "RICERCATORI ITALIANI NEL MONDO”, CHE SI TERRÀ IL PRIMO DICEMBRE PROSSIMO A HOUSTON IN TEXAS E PER LA QUALE, ANCHE QUEST’ANNO, È STATO CONCESSO IL PATROCINIO DEL SENATO. NON POTRÒ ESSERE TRA VOI, MA SONO LIETO DI RINNOVARE IL MIO SINCERO APPREZZAMENTO AL VOSTRO COMITES PER AVER ORGANIZZATO L’OTTAVA EDIZIONE DELLA CONFERENZA CHE VEDE PROTAGONISTI I NOSTRI RICERCATORI. QUEST’ANNO L’INIZIATIVA ASSUME UN SIGNIFICATO PARTICOLARE POICHÉ APRE L’ANNO DEDICATO ALLA CULTURA ITALIANA NEGLI STATI UNITI E SONO CERTO CHE COSTITUIRÀ UN MOMENTO PREZIOSO DI RIFLESSIONE, CONFRONTO E SCAMBIO TRA LA COMUNITÀ SCIENTIFICA ITALIANA RESIDENTE ALL’ESTERO. LA SCIENZA È UN MOTORE POTENTE E INDISPENSABILE PER LO SVILUPPO E IL PROGRESSO, E INFLUENZA IN MODO STRAORDINARIO LA CAPACITÀ DI COSTRUIRE UN FUTURO MIGLIORE PER TUTTI. VALORIZZARE IL SETTORE DELLA RICERCA È UNO DEI PRINCIPALI OBIETTIVI CHE L'ITALIA DEVE PERSEGUIRE. UNA SOCIETÀ CHE NON CURA LA RICERCA RINUNCIA AL SUO FUTURO E ALLA SUA ECONOMIA, E TRADISCE I SUOI GIOVANI MIGLIORI.

RINGRAZIANDO PROFONDAMENTE TUTTI I NOSTRI CONNAZIONALI, CHE CON IL LORO LAVORO PORTANO ALTO IL NOME DELL’ITALIA NEL MONDO, AUGURO PIENO SUCCESSO ALLA MANIFESTAZIONE E INVIO A LEI E A TUTTI I PARTECIPANTI I MIEI PIÙ CORDIALI SALUTI.

RENATO SCHIFANI

VINCENZO ARCOBELLI

PRESIDENTE COM.IT.ES HOUSTON

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 VIII Conferenza "*Ricercatori italiani nel mondo*", promossa dal Com.It.Es della Circoscrizione consolare di Houston con il patrocinio del Consolato Generale d'Italia, che si svolgerà a Houston il 1° dicembre 2012.

Sono certo che i vostri lavori costituiranno una significativa occasione di approfondimento e di confronto tra i nostri studiosi che svolgono la propria attività di ricerca all'estero tenendo alto il nome dell'Italia nel mondo.

Nell'attuale fase di crisi economica, la ricerca scientifica e tecnologica costituisce una condizione essenziale affinché si possa favorire una crescita sostenibile del nostro sistema produttivo, recuperando competitività e garantendo un futuro di serenità e benessere a tutti i cittadini.

Una rivoluzione che si potrà realizzare solo considerando le risorse stanziate per l'istruzione e la ricerca come investimenti e non come spese e affermando il principio del merito nei settori cruciali dell'economia, della Pubblica Amministrazione e dell'educazione. Queste sono alcune delle grandi sfide per lo sviluppo che attendono ciascun Paese e, in particolare, l'Italia nel presente e nel prossimo futuro.

Per vincere questa sfida, le Istituzioni devono sostenere, tra l'altro, i nostri scienziati e i nostri ricercatori all'estero assicurando loro, al contempo, la concreta possibilità di tornare a operare efficacemente in Italia, qualora lo desiderino.

Rivolgo a Lei e a tutti coloro che animeranno la Conferenza un sentito augurio per il miglio esito dell'iniziativa programmata.

Gianfranco Fini

Il Ministro degli Affari Esteri

PROT. 267001

Roma, 26 OTT. 2012

Caro Presidente,

desidero ringraziarLa vivamente per la Sua cortese lettera del 16 ottobre scorso relativa all'Ottava Conferenza dei Ricercatori Italiani nel Mondo, promossa e organizzata dal Suo Comitato in stretta collaborazione con il nostro Consolato Generale a Houston e in programma il 1° dicembre prossimo.

Tale appuntamento, come nelle precedenti edizioni, costituisce un'importante occasione per valorizzare il lavoro dei nostri ricercatori e scienziati attivi negli Stati Uniti, e in particolare in Arkansas, Louisiana, Oklahoma e Texas.

La Conferenza, che avrà luogo a pochi giorni dall'avvio dell'Anno della Cultura Italiana negli Stati Uniti 2013, consentirà di rinsaldare ulteriormente la già proficua collaborazione tra Italia e Stati Uniti in ambito accademico, scientifico e tecnologico.

Sono pertanto lieto di comunicarLe che anche quest'anno il Ministero degli Affari Esteri assicurerà il proprio patrocinio per questa importante iniziativa.

AugurandoLe il pieno successo dei lavori della Conferenza, ai cui partecipanti sono lieto di indirizzare l'allegato messaggio di saluto, colgo l'occasione per inviarLe i miei più cordiali saluti.

Cordialmente

Giulio Terzi

Egregio Dottor
Vincenzo Arcobelli
Presidente
COM.IT.ES.
HOUSTON

Il Ministro dell'Istruzione,
dell'Università e della Ricerca

Saluto Ministro Prof. Francesco Profumo

8^ Conferenza dei Ricercatori Italiani nel mondo
Houston (Texas – US), 1 dicembre 2012

Signor Presidente,

desidero ringraziare Lei e il Comitato degli Italiani all'Estero per l'invito a partecipare all'8^ Conferenza dei ricercatori italiani nel mondo, che si tiene in Texas, uno dei Paesi più importanti degli Stati Uniti d'America e più avanzati al mondo quanto al settore della ricerca.

Purtroppo, a causa di impegni istituzionali, non posso essere presente alla Vostra iniziativa. Per questo, desidero esprimere le mie scuse, e rivolgere a tutti Voi un messaggio di saluto e augurio.

Oggi le difficoltà che l'economia italiana e mondiale stanno affrontando sono molte. Tuttavia, ritengo che si debba guardare oltre la crisi, con fiducia e speranza nelle capacità che l'Italia e i suoi professionisti impegnati nel mondo dimostrano ogni giorno. C'è un unico modo, quindi, per riprendere la strada della crescita, umana e culturale prima che economica: fare rete e puntare su capitale umano, ricerca e innovazione.

Cambiare strutturalmente il nostro sistema economico significa tornare a presidiare settori ad alta tecnologia e ad elevato valore aggiunto, con imprese di dimensione adeguata e ricche di conoscenza e talenti, realizzando un nuovo patto tra ricerca e sistema produttivo. E nella costruzione di una visione strategica di medio periodo, l'Italia deve essere in grado di realizzare un più virtuoso rapporto con le nuove politiche europee della strategia Horizon 2020. E' un programma al quale il sistema-Paese è chiamato a partecipare attivamente: le imprese, le istituzioni, gli enti di ricerca devono sentirsi direttamente coinvolti.

E' necessaria una nuova centralità delle politiche per la ricerca e l'innovazione nelle scelte di governo e, insieme, una più incisiva presenza del nostro Paese nelle politiche europee e internazionali in materia di ricerca e innovazione.

Il grande programma su cui pensiamo sia fondamentale puntare è quello sulle Smart Cities, che sarà da un lato una fondamentale fonte di sostegno finanziario, dall'altro un'occasione irripetibile per costruire una nuova visone strategica del futuro delle nostre città e offrire agli investitori privati una prospettiva credibile e stabile nel medio periodo.

L'incontro che avete organizzato è perciò di straordinaria importanza: evidenzia che l'Italia è un Paese di eccellenze, in grado di farsi valere e ammirare all'estero per l'impegno e la professionalità; e dà rilievo a un settore al quale mi sento anche personalmente legato, se non altro per il mio recente passato: quello della ricerca, pura e applicata.

In tale contesto, il nostro Paese, attraverso le proprie peculiarità, è chiamato a dare – e dà già, molto spesso – un contributo fondamentale, aiutando a costruire e a far maturare le relazioni scientifiche bilaterali con i Paesi amici. Voi ricercatori, scienziati e professionisti riuniti oggi a Houston ne siete la viva testimonianza.

La logica delle reti è la logica vincente nell’età della conoscenza. E il nostro Paese deve imparare a lavorare in squadra, a “cooperare per competere”, come la Vostra presenza negli Stati Uniti sta dimostrando in molte occasioni.

E’ con orgoglio e riconoscenza, perciò, che guardiamo oggi a Voi, che siete i rappresentanti della comunità scientifica italiana all’estero, e alle Vostre ricerche, complimentandoci per i risultati raggiunti e, soprattutto, incoraggiandoVi nel percorso di vita e professionale che avete intrapreso.

Concludo il mio saluto ricordando che proprio in questi giorni in Italia – assieme al Presidente della Repubblica, a molti colleghi di governo, a tanti imprenditori e intellettuali – abbiamo riaperto il dibattito sul valore della cultura, e sull’importanza che la stessa riveste non solo e non tanto come patrimonio da conservare, ma soprattutto come volano per la crescita e il progresso, e come propulsore per l’innovazione sociale e, quindi, per il miglioramento della qualità della vita.

E’ perciò con l’auspicio che davvero l’Italia possa tornare ad essere protagonista e a far valere il proprio capitale conoscitivo come fattore chiave per lo sviluppo, che saluto l’avvio dell’8^ Conferenza dei ricercatori italiani nel mondo.

Nel ringraziare nuovamente il Presidente Arcobelli, e nel congratularmi per il lavoro che COMITES porta avanti quotidianamente con le nostre comunità all’estero, formulo i migliori auguri per uno svolgimento proficuo dei lavori.

Prof. Francesco Profumo
Ministro dell’Istruzione, dell’Università e della Ricerca

Istituto Superiore di Sanità
IL PRESIDENTE

00161 ROMA 26 OTT 2012
VIALE REGINA ELENA, 299

PRE 602/12

Comm. Vincenzo ARCOBELLI
Presidente Comitato
Italiani Estero-Houston
7684 Green Meadow Ct.
Flower Mound, Texas 75022
U.S.A.

Gentile Presidente,

desidero ringraziarLa per il gradito invito all'Ottava Conferenza dei Ricercatori Italiani nel Mondo che si svolgerà a Houston il prossimo 1 dicembre, alla quale non potrò però partecipare per impegni assunti proprio in quella data e che non mi è possibile procrastinare.

Come per le passate edizioni, sono lieto di assicurare il patrocinio dell'Istituto Superiore di Sanità a questa prestigiosa manifestazione che celebra l'importante lavoro svolto a tutto campo dai nostri ricercatori residenti all'estero, spaziando dal settore umanistico a quello scientifico e che quest'anno comprende anche un importante spazio dedicato alla diffusione della cultura italiana negli Stati Uniti d'America.

Ritengo, infatti, che in questo momento di crisi economica globale dare risalto e valore al contributo portato dall'Italia alla cultura e alla scienza in ambito internazionale costituisca motivo di vanto per il nostro Paese e rappresenti un valido sprone per proseguire le attività a vantaggio della comunità mondiale.

Nell'esprimerLe il mio più vivo apprezzamento per le importanti iniziative svolte in tutti questi anni dal Comitato da Lei presieduto, colgo l'occasione per augurare all'evento il meritato successo e inviarLe i miei più cordiali saluti.

Enrico Garaci

The Ambassador

Embassy of Italy
Washington

Prot. n. 5145
16 novembre 2012

Caro Presidente Arcobelli,

sono lieto di presentare il mio saluto ai partecipanti all'Ottava Conferenza dei Ricercatori Italiani nel Mondo, alla cui inaugurazione sarò presente.

Questa iniziativa costituisce un significativo esempio di collaborazione tra le diverse Istituzioni ed organizzazioni nelle quali si articola la presenza italiana all'estero, ed un riconoscimento del ruolo importante svolto dalla comunità dei ricercatori italiani all'estero per promuovere l'internazionalizzazione della nostra ricerca, specie in un contesto dinamico quali gli Stati Uniti d'America.

La ricerca, la scoperta e l'innovazione sono del resto i temi al centro del "2013, Anno della Cultura Italiana negli Stati Uniti" e costituiscono una componente importante della nostra identità, che eventi come quello che vi apprestate a realizzare contribuiscono a far meglio conoscere e valorizzare.

Nel formulare i migliori auguri di successo all'Ottava Conferenza dei Ricercatori Italiani nel Mondo, mi e' gradita l'occasione per presentare i miei più cordiali saluti.

Claudio Bisogniero

Comandante Vincenzo Arcobelli
Presidente
Comites Houston

Claudio Bisogniero
Ambasciatore d’Italia negli Stati Uniti

Nato a Roma il 2 luglio 1954, si laurea in Scienze Politiche nel 1976 all’Università La Sapienza con una tesi in economia internazionale.

Entra in carriera diplomatica nel 1978 e, dopo alcuni anni alla Direzione Generale per il Personale, presta servizio dal 1981 al 1984 presso l’Ambasciata d’Italia a Pechino quale Primo Segretario Economico-Commerciale, responsabile anche per i programmi di cooperazione allo sviluppo dell’Italia con la Cina.

Dal 1984 al 1989 è Consigliere alla Rappresentanza presso la NATO a Bruxelles, responsabile per le questioni politiche e di disarmo, e delegato al Comitato Politico Senior, in una fase assai delicata e dinamica dei rapporti Est-Ovest seguita all’ascesa al potere di Gorbaciov e all’importante stagione di negoziati e di accordi con l’Unione Sovietica nel campo del disarmo nucleare e convenzionale.

Rientrato a Roma, dal 1989 è al Quirinale, all’Ufficio del Consigliere Diplomatico del Presidente della Repubblica, Francesco Cossiga, ove segue tutti i diversi aspetti dell’agenda e dei rapporti internazionali del Capo dello Stato.

Dal 1992 al 1996 è Primo Consigliere Economico-Commerciale all’Ambasciata d’Italia a Washington, responsabile anche per le questioni finanziarie, i rapporti con Fondo Monetario Internazionale e Banca Mondiale, i contatti con i think tanks americani, la collaborazione con gli Stati Uniti nel campo dell’industria della difesa.

Viene quindi destinato alla Rappresentanza presso l’ONU a New York, ove dal 1996 al 1999 segue le questioni politiche, fa parte della delegazione italiana al Consiglio di Sicurezza e all’Assemblea Generale dell’ONU, ma soprattutto si occupa in maniera diretta della cruciale questione della riforma del Consiglio di Sicurezza dell’ONU e della tutela degli interessi italiani in questa difficile contesa.

Rientrato a Roma nel 1999, svolge una pluralità di incarichi di rilievo alla Farnesina fra i quali, una volta promosso Ministro Plenipotenziario: dal 2002 al 2005 Vice Direttore Generale per gli Affari Politici Multilaterali (responsabile per ONU, NATO; G8, OSCE, disarmo, diritti umani e lotta al terrorismo) e dal 2005 al 2007 Direttore Generale per i Paesi delle Americhe (responsabile per i rapporti dell’Italia con i nostri grandi partner del nord America - Stati Uniti e Canada - ma anche con tutti i Paesi dell’America Latina).

Dall’ottobre 2007 e’ Vice Segretario Generale della NATO a Bruxelles., e in queste funzioni oltre a svolgere mansioni vicarie del Segretario Generale e’ responsabile di alcuni importanti dossier politici e di sicurezza dell’Alleanza. Nel gennaio 2008 viene promosso al grado di Ambasciatore.

Viene infine nominato Ambasciatore d’Italia a Washington e il 18 gennaio 2012 presenta le lettere credenziali al Presidente Obama.

Il Console Generale d'Italia
Houston

Cari Amici,

sono lieto di presentare il mio saluto a tutti coloro che, come organizzatori, partecipanti o semplicemente con il loro sostegno ed interesse, hanno contribuito al successo della Conferenza dei Ricercatori Italiani nel Mondo, che quest'anno giunge alla sua ottava edizione.

La crescita di questa Conferenza nel corso degli anni costituisce un modello di collaborazione tra le istituzioni ed i soggetti che rappresentano l'Italia all'estero nonche' un motivo di profonda soddisfazione per chi, nel corso degli anni, si e' adoperato per promuovere negli Stati Uniti un'immagine dinamica ed aggiornata del nostro Paese.

Il riconoscimento del ruolo inestimabile svolto dai nostri ricercatori in numerosi settori chiave e' riconosciuto dalle massime autorita' della Citta' di Houston e dello Stato del Texas, che beneficiano grandemente del contributo dei nostri studiosi, ed acquista un valore ancora maggiore ove si consideri che ricerca, scoperta e innovazione sono temi centrali per l'Anno della Cultura Italiana negli Stati Uniti. La sinergia positiva tra ricerca, sviluppo e crescita economica e' stata sottolineata dall'inserimento per la prima volta nel programma della Conferenza di un'intera sessione dedicata alla ricerca svolta dalle aziende, a dimostrazione delle ricadute positive della anche nell'economia.

Mi e' gradita l'occasione per far giungere a voi ed ai vostri cari i miei migliori auguri di Buon Natale e Felice Anno Nuovo.

Cordialmente,

Fabrizio Nava

Deborah Mansfield is the Director, Life Sciences Acceleration, Houston Technology Center, Houston, Texas, a non-profit business accelerator assisting the commercialization of emerging technology companies from the Texas Gulf Coast Region. Deborah has an extensive background in business development, management, non-equity funding, entrepreneurship, compliance, and research in the Life Sciences sector. She has provided operations support to the Governor’s Council on Science and Biotechnology Development and currently acts as Associate Director, Gulf Coast Regional Center of Innovation and Commercialization, supporting commercialization award programs out of the Texas Emerging Technology Fund. Prior to joining HTC in 2004, Deborah served in a number of management and research roles at the University of Texas M.D. Anderson Cancer Center and Thomas Jefferson University, as well as, started her own business development firm. She is an avid participant in a variety of entrepreneurship enabling groups such as MIT Enterprise Forum of Texas, TeXchange Houston, and Bio/Medical Technology Club of Houston. She functions in an advisory capacity to ACCION Texas-Louisiana, Laser Tissue Welding, Inc., Fairway Medical Technologies, Inc., and The Rice Alliance for Technology and Entrepreneurship, Rice University. Deborah holds a MBA in management, MS in physiology, and BS in biology; work life balance includes performing with choral groups in Texas, New York City and abroad, as well as, being the biggest fan of daughter, Christine – a recent UC Berkeley grad.

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

Program

8th Conference of Italian Researchers in the World

9:00-9:15 AM
National Anthems and Welcome Messages:
Opening remarks Vincenzo Arcobelli, Presidente Comites
H.E. Claudio Bisogniero, Ambassador of Italy in the United States
Oliver Pennington, City of Houston Council Member
Andrea Duchini, Comites Councillor

9:15-10:15 AM
"Scientific Cooperation Italy-USA: Where We Are and Where We Are Going"
Moderators: Nicola Perone, Cristiana Rastellini
Luca Cicalese. UTMB
Gaetano Guglielmi and Maria Novella Luciani, Ministero Salute
Deborah Mansfield, Houston Technology Center

10:15-10:30 AM
Keynote Speaker
Moderator Michele Sartori
Giuseppe Colasurdo UTHealth

10:30-11:00 AM
Biostatistics
Moderators; Stefano Sdringola, Daniel Minisini
Marina Vannucci, Rice University,
Francesco Stingo, PhD, MD Anderson Cancer Center
Marco Sardiello, Ph.D., Baylor College of Medicine

11:00 AM -12:00 PM
Regenerative Medicine
Moderator; Giulio Taglialatela, Davide Cattano
Fabio Triolo, UTHealth
Maria Adelaide Micci, UTMB
Cristiana Rastellini, UTMB
Ennio Tasciotti, TMHRI
Mauro Ferrari, TMHRI

12:00-12:20 PM Lunch Break

12:20-1:50 PM
Biomedicine
Moderators; Dario Marchetti, Andrea Giuffrida
Massimiliano Tuveri, UTMB
Paolo Strati MDACC
Fabiana Quagliarini, UTSWMC
Monica Longo UTMB
Armando Cevenini TMHRI
Silvia Minardi TMHRI
Alessandro Parodi TMHRI
Ahmad Salameh, MDACC
Alessandro Bonanni, TSU

2:00-2:30 PM
HISD Program: Italian as a foreign language: Award ceremony
Moderator; Francesca Behr, Marina Mocci
Sara Costello, UH

2:30-3:20 PM
Technology
Moderators; Luca Perotti
Angela Lombardi, UTSA
Marco Buongiorno Nardelli, UNT
Gianluca Giuliani, Texas A&M
Michael V. Pishko, Texas A&M

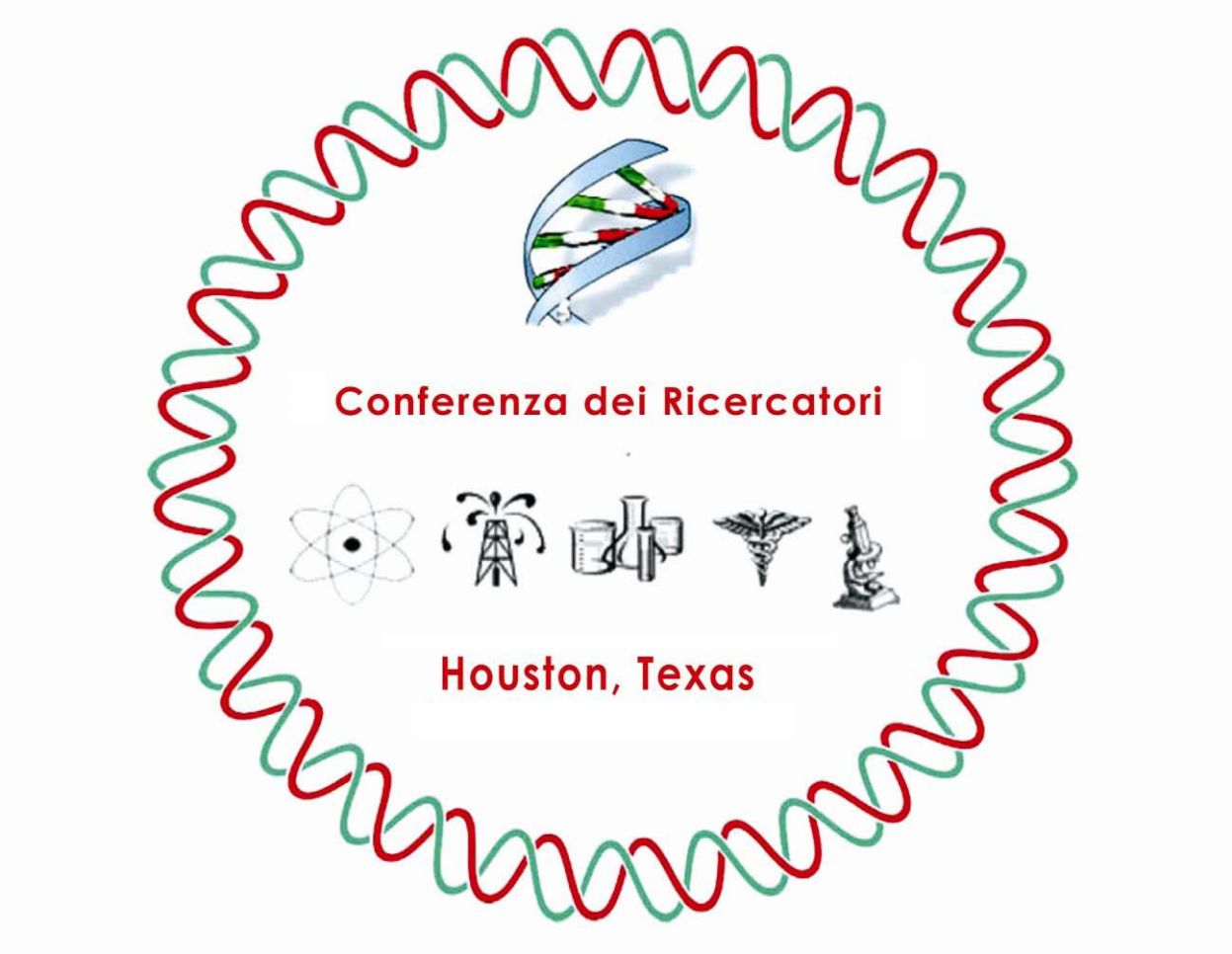
3:20-4:00 PM
Aerospace
Moderators; Francesco Fusco
David Cisco, Author “Full Circle”, Nasa Apollo Alumni
Peter Hasbrook, NASA-JSC

4:00-5:15 PM
“Role of technology innovation and research in the success of Italian companies in the world”
Moderators; Paolo Papi, Silvia Giacone
Antonella Folgori, Okairos;
Brando Ballerini, Drillmec
Nicola Montorsi, Bellelli Engineering International
Domenico Santisi, Dipietro Srl

5:15-5:30 PM Coffee break

5:30-6:00 PM
Roundtable; “Cooperazioni internazionali e sviluppo economico”
Patrizia Livreri and Giovanni Pellerito;
SI PARTE: Scienziati Italiani Patrimonio dell’Umanità
18;00 Conclusive Remarks Vincenzo Arcobelli

Organizing Committee
Vincenzo Arcobelli
Francesca D’Alessandro Behr
Andrea Duchini
Daniel Minisini
Paolo Papi
Stefano Sdringola
Giulio Taglialatela
Fabio Triolo



ABSTRACTS AND AUTHORS 2012

Il Tricolore assieme all’astronauta Roberto Vittori e Paolo Nespoli a bordo della Stazione Spaziale Internazionale. La Bandiera era stata consegnata a Reggio Emilia, dal Presidente della Repubblica Italiana Giorgio Napolitano, al Colonnello Roberto Vittori, nell’occasione dell’inaugurazione delle celebrazioni dei 150 anni dell’unita’ d` Italia.

Development of a new class of CDKs complex inhibitors for treatment in cancer diseases

Authors: Agnese A. Abate, Antonio Giordano.

Cyclin dependent kinases (CDKs) are key proteins strictly involved in cell cycle, and they have been recognized to be a good target for developing new small molecules with anti-proliferative activity in cancer cells. In fact, the alteration of mechanisms that regulate cell cycle is a hallmark of most cancer types; therefore, targeting CDKs has been considered one of the most attractive therapeutic approaches for several cancer diseases. All the recent data show that CDKs are frequently hyperactive in human cancers and have been shown to have a key role in oncogenic process for specific cancers. Due to the fact that many CDKs inhibitors are currently in clinical trial, but none has been approved, drug discovery of new small molecules able to inhibit CDKs complex needs additional researches.

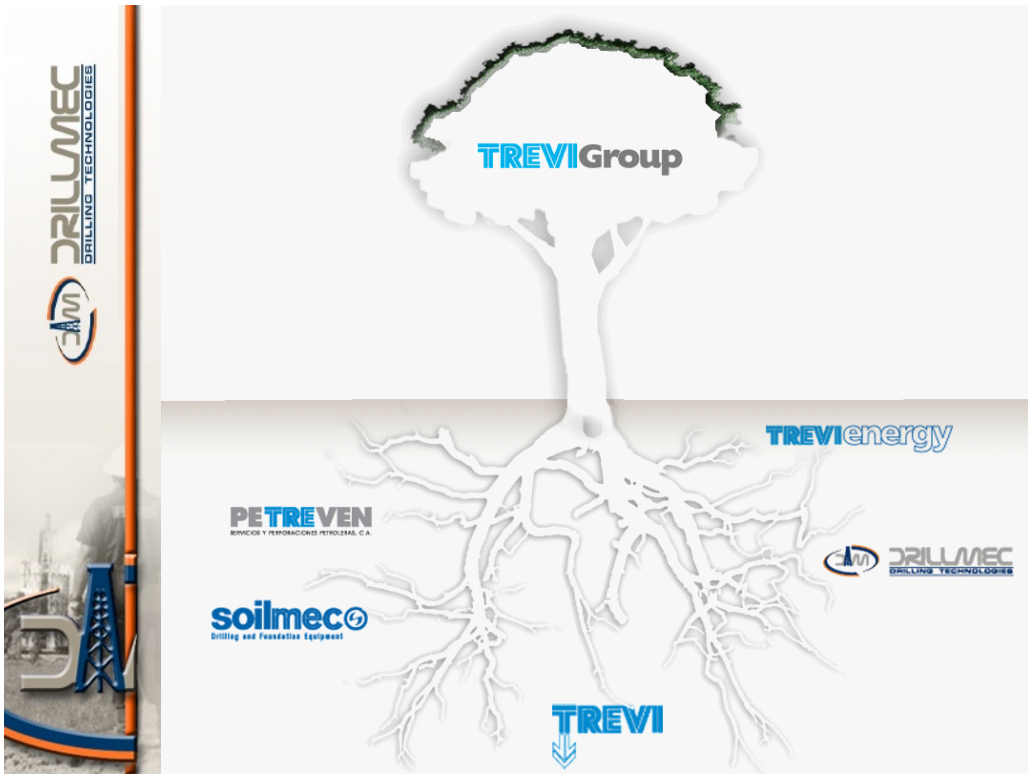
In recent decades, develop small molecules, term that indicates biologically active entity in general, has had a big impact in pharmaceutical chemistry for the treatment of diseases. By definition, small molecules are organic molecules that possess a biological activity determined by the fact of binding to the active site of a protein responsible for the disease, called "molecular target". These small molecules arise from the close collaboration between the biologist and chemist. However, it should be noted that, not all small molecules may become drugs, to be considered as such, they must comply with specific chemical-physical parameters relatively to the absorption, metabolism and toxicity of the drug within the human organism. This is the reason why none of CDKs inhibitors has currently reached the market.

Taking in consideration all these facts and based on our recent discovery of a specific inhibitor of CDK2/A complex, we are going to continue discovering of possible alternative strategies to target CDKs complex that specifically block cell cycle progression in cancer cells without side effects. In fact, our inhibitor is a small peptide that has shown good results in in vivo tests on mouse models and has been able to reduce solid tumor without toxic effects for animals. Based on this approach, we are confident to be able to continue with our strategy and develop of new class of inhibitors specific for CDK2/A.

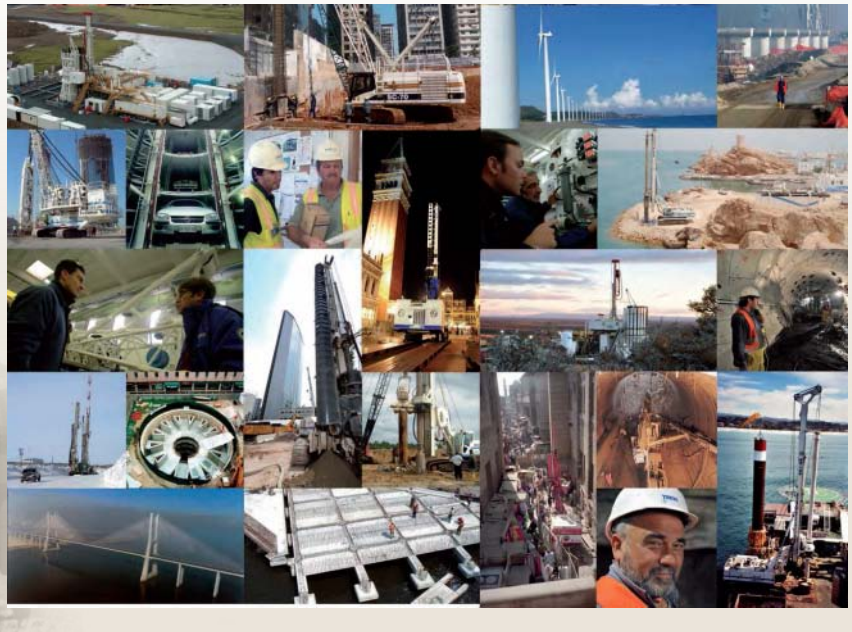
Biography of Agnese A. Abate

Dr. Abate has studied Chemistry at University of Milan in Italy and she has finished her Master’s Degree in 2001. Since 2006, when she has got Ph.D. in Chemistry at Politecnico of Milan, her research has focused on drug discovery of new small molecules, having biological activity, in particular for cancer therapy. Dr. Abate has developed research projects concerning the cure of cancer, working previously in the group of Dr. Varasi at European Oncology Institute of Milan. In 2011 Dr. Abate has reached the group of Dr. Giordano in Philadelphia at SHRO Institute, where she is currently involved in drug discovery of new small molecules at Buffalo.


Role of technology innovation in the success of an Italian Company in Texas
DRILLMEC
DRILLING TECHNOLOGIES
a TREVIGroup company
Presented by
Brando Ballerini, President of Drillmec Inc.


TREVIGroup
TREVIenergy
PETREVEN
soilmec
DRILLMEC
TREVI

TREVI GROUP COMMITTED TO NEW TECHNOLOGIES AND CHALLENGING PROJECTS



Peter Drucker once said "INNOVATION IS THE SPECIFIC INSTRUMENT OF ENTREPRENEURSHIP"

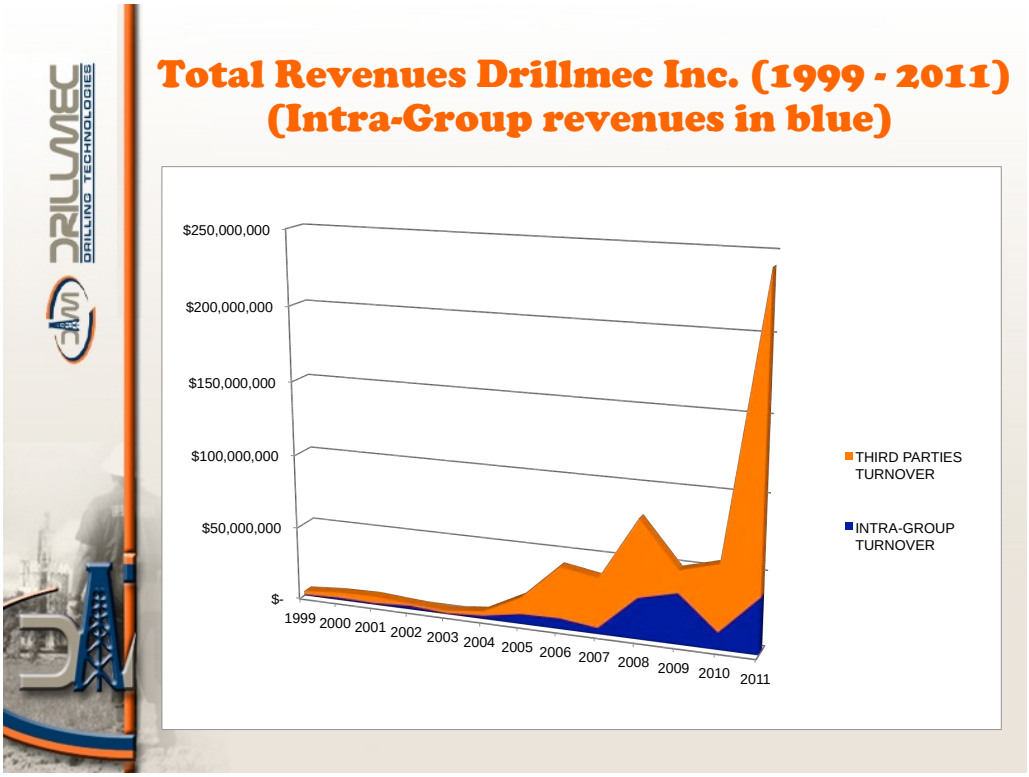
Oil & Gas business has strong external forces impacting success which has led Drillmec to innovate and, keeping Research and Innovation as a “must”, to develop its current model of business

DRILLMEC BUSINESS MODEL

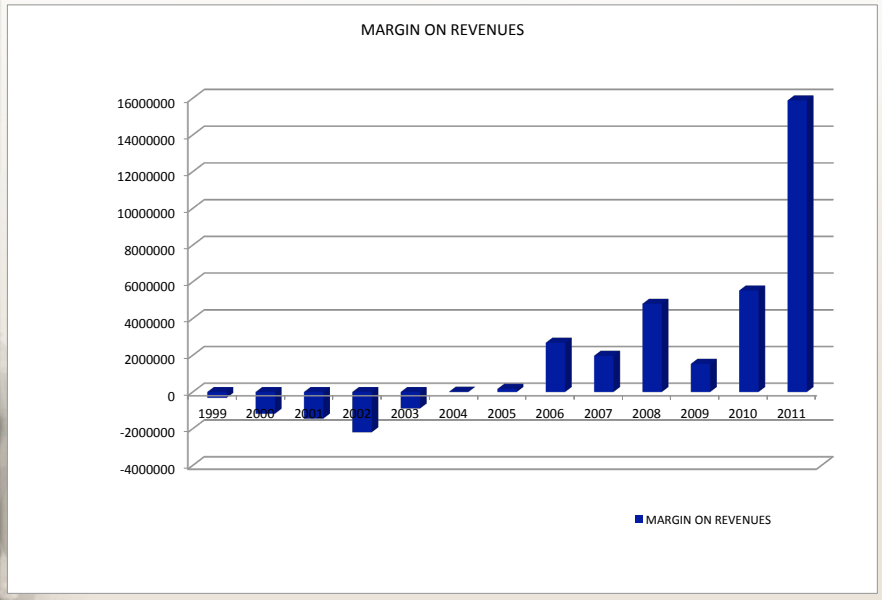
Research and Innovation to create wealth

In 1999 Drillmec acquires 72% of Branham Industries Inc. of Conroe,Texas…a brand with a great past but years of consecutive volume loss in market share due to lack of Innovation in its product line


DRILLMEC
DRILLING TECHNOLOGIES
DRILLMEC INC
DRILLING TECHNOLOGIES
a TREVIGroup company
Drillmec during the years change the management, establish a structured R&D department and open a new production facility near Houston’s Int’l Airport


DRILLMEC
DRILLING TECHNOLOGIES
Total Revenues Drillmec Inc. (1999 - 2011)
(Intra-Group revenues in blue)
$250,000,000
$200,000,000
$150,000,000
$100,000,000
$50,000,000
$-
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011
THIRD PARTIES TURNOVER
INTRA-GROUP TURNOVER

Profit / Loss of Drillmec Inc. (1999 - 2011)



Lesson learned from our investment in Texas

- ✓ **Innovation in technology and business model create success**
- ✓ **If business stagnate, you should innovate**
- ✓ **Market rewards research and innovation in the industry**
- ✓ **R&D costs are paid back from the resulted wealth of the Company which invested in.**

Latest Achievement

In 2012 Drillmec Inc. received from Grupo Mexico, its US venture largest contract for over $160M and today we can finally affirm that our Group experience in Texas has been successful in terms of return on investment, image, revenues and profit. In 2011 Trevi group decided another investment in Texas for $ 20M buying the majority of a company in the rig foundation industry, located in Dallas –Fort Worth area....The story restarts....

SUGGESTION...DON'T BE DISCOURAGED FROM A TOUGH STARTING AND INVEST IN RESEARCH AND TECHNOLOGY

FRANCESCA D’ALESSANDRO BEHR

Associate Professor of Classics and Italian Studies

Department of Modern and Classical Languages, University of Houston

Houston, TX 77204-3006

fbehr@central.uh.edu

Francesca D’Alessandro Behr has studied Classical Philology and Archaeology at the University of Rome, La Sapienza. In the USA she has continued her training and obtained an MA as well as a Ph.D. in Classics at the State University of New She is an Associate Professor of Classics and Italian Studies at the University of Houston. She is currently working on a book on the reception of Classical texts during the Italian Renaissance.

EDUCATION

Ph.D (2000)	State University of New York at Buffalo
	Faculty of Arts and Letters
	Latin Literature
M.A. (1997)	Greek Literature
Undergraduate Studies	Università degli studi di Roma "La Sapienza"
(1988-1991)	Faculty of Letters and Philosophy
	Department of Ancient History, Anthropology and History of Art

MOST RECENT SCOLARSHIP AND AWARDS

2012 UH Small Grant "Women and Reception of Classical Authors in Early Modern Venice: Humanism, Education, Gender, and Resistance."

2011 UH Women's Studies Travel Grant

2010 Ross M. Lence Teaching Excellence Award

SELECTED PUBLICATIONS

Books:

- Book: Feeling History: Lucan, Stoicism and the Aesthetics of Passion, Ohio State University Press, 2007.

Articles, Conference Proceedings and Book Chapters

- Article: "Lucan's Cato, Joseph Addison's Cato and the Poetics of Passion" in Companion to Lucan, ed. Paolo Asso, Brill 2011.
- Article: "Archetypal Encounters: Circe and Odysseus in the Imagination of a Renaissance woman artist," in ed. H. Frendo, The European Mind: Narrative and Identity (Vol. I & II), Malta: Malta University Press, 2010.
- Article "Open Bodies and Closed Minds? Persius' Saturae in the Light of Bakhtin and Voloshinov," Oxford readings in Persius and Juvenal in the series Oxford Readings in Classical Studies, edited by Maria Plaza (Göteborg University 2009)

Facial Disfigurement, Cancer and Stigma: Effects on Social Interaction

Alessandro Bonanno, Ph. D.

Texas State University System Regents’ Professor of Sociology

Sam Houston State University

Background

This research studies the social consequences of surgical treatment in patients with cancer of the head and neck. In particular, it studies the manner in which social stigma is generated when patients reenter society after appropriate therapies are concluded. Progress in medicine has allowed cancer patients to survive for an extended period of time. In the case of patients suffering from cancer of the head and neck, surgery is often necessary for the removal of the areas affected by the malignancy. One of its most common consequences is the alteration of the patient’s face and his/her permanent disfigurement. Surgical procedures to restore the original appearance of the face are common as common is the availability of increasingly sophisticated - though often expensive and difficult to use - prostheses. However, the severity of the alterations caused by the removal of the tumor frequently result in permanent disfigurement. The consequence is that the patient’s survival and the success of surgical and medical procedures translate into a social problem. Given the importance of the face in social relations, individuals with the disfigured face are stigmatized and treated differently than the rest of the members of society.

Objectives

Despite the advances in reconstructive surgery and the availability of prosthesis, patients often remain disfigured and spend the rest of their lives with the stigma of difference. This study analyzes the processes of interaction between patients and secondary groups (strangers and acquaintances) that produce stigma.

Methodology

The study consists of interviews with a sample of patients who underwent surgery. In addition, a family member for each of the selected patients was also interviewed. The interviews were analyzed using techniques for the analysis of texts.

Results

The interaction of the patient with secondary groups (strangers and acquaintances) leads to stigmatization in situations where “intrusion” and “support” are created. While you stigma is not created when “benign neglect” occurs. “Intrusion” refers to interaction based on attention that is not required by patients. “Support” indicates unsolicited comments, attention and/or actions that show support for patients and the desire to be helpful. While benign neglect denotes a situation in which, in the interaction, interacting individuals do not paying particular attention to patients. Results have been employed for the creation of behaviors that avoid the creation of stigma.

Biography

Alessandro Bonanno is Texas State University System Regents Professor and Distinguished Professor of Sociology in the Department of Sociology at Sam Houston State University. He holds the title and position of Scholar in Residence in the College of Humanities and Social Sciences of the same university. Dr. Bonanno is the author of numerous books and articles that have appeared in English and other major languages. Professor Bonanno received his Ph.D. in Sociology from the University ‘of Kentucky and resides in the metropolitan area of Houston, Texas.

Cav. Antonio Capone Jr., MD

Abstract

Familial exudative vitreoretinopathy (FEVR) was first described by 1969. It is a retinal vascular disease in which blood vessels fail to grow into the far peripheral retina, leaving areas of avascular retina. In its more severe form, FEVR is a lifelong active retinal vascular disease. It is underdiagnosed, with early milder stages of FEVR diagnosed as congenital retinal folds and more severely involved eyes diagnosed as congenital retinal detachments. We have found this to be the case in the Italian population as well, as the disease is uncommon (though not rare), and many ophthalmolpogists therefore unfamiliar with the spectrum of disease. The clinical diagnosis often is made by the examiner noting, "This looks like retinopathy of prematurity, but the child was not premature." Early diagnosis is critical to prevention of vision loss.

Long-term follow-up data following surgery for FEVR is limited. We reviewed FEVR surgical outcomes in a retrospective, noncomparative, interventional case series of 102 eyes of 71 patients requiring retinal surgery from 1984 to 2009 (Wong SC, Tancho TM, Luo CK, Ho LY, Drenser KA, Capone JR A, Trese M). Patients with under 6 months of follow-up were excluded. Absolute anatomical success was defined as either partial or complete retinal reattachment. Qualified anatomical success was defined as nonprogression of TRD extent in stage 3 (macular-sparing) and 4 (macular-involving), and prevention of total blindness.

Median age at primary surgery was 1.1 years (interquartile range, or IQR, 0.3-6.1 years). Median follow-up was 45 months (IQR 26-86). Overall, absolute and qualified anatomical success were 34% (35/102) and 80% (82/102), respectively, with a mean of 1.4 (SD 0.67) procedures. Overall, 45 eyes had visual acuity (VA) follow-up data; 40% (18/45) improved, 27% (12/45) remained unchanged and 33% (15/45) worsened. In stage 5 eyes, VA improved in 35% (7/20), and was light perception or better in 95% (19/20).

Vitreoretinal surgery appears to have a role in managing complicated cases of FEVR, with low risks of blindness.

Biosketch

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

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

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

Perioperative assessment of platelet function by Thromboelastograph(®) Platelet Mapping™ in cardiovascular patients undergoing non-cardiac surgery

Davide Cattano

Platelet inhibition is an integral part of treatment for patients with coronary artery disease (CAD). Drug eluting stents have become the most common intervention performed for patients with CAD and dual antiplatelet therapy is effective in reducing the risk of any major cardiac event in these patients. Thrombelastograph platelet mapping (TEG-PM™)(Haemoscope Corp., Niles, IL) is an assay using whole blood that measures clot strength, and detects platelet inhibition (%) of arachidonic acid (AA)-induced aggregation and/or inhibition of ADP-induced aggregation. After IRB approval, informed consent was obtained in the preoperative anesthesia clinic or day surgery area from 97 adult patients who were receiving or had recently suspended aspirin and clopidogrel therapy. Ninety four patients (mean age 65.4 ± 10.4 years) were included for analysis. Demographics and baseline MA were similar between the clopidogrel and aspirin groups. Average interruption was 4.2 ± 7.2 days for clopidogrel and 2.5 ± 4.2 days for aspirin. Preoperative clopidogrel (ADP) % inhibition for 94 patients was 40.6 ± 22.3% (median 36.6, 25-75 inter-quartile range 21.1-58.1%). Preoperative aspirin (AA) inhibition for this cohort was 54.2 ± 32.4% (median 53.5, 25-75 inter-quartile range 26.3-90.2%). Resistance to antiplatelet therapy may be a clinically relevant problem. Our preliminary data suggest that preoperative assessment of the antiplatelet effects of aspirin and clopidogrel is not only feasible, but also necessary as the level of preoperative inhibition after short-term interruption was low, with decreasing inhibition with longer interruption of therapy.

Biography

Davide Cattano, M.D., Ph.D. is born in Rome, Italy (1974). He graduated from Universita Campus Bio Medico of Rome, Italy, Magna Cum Laude (1999). He graduated at the Anesthesiology Intensive Care-Critical Care Residency Program Medical School University of Pisa, Italy, Magna Cum Laude (2003). Dr. Davide Cattano obtained his Ph.D. in Morphology and Physiology and Pathophysiology of Cells and Tissues in the Department of Human Morphology and Applied Biology, University of Pisa, Italy (2007). Dr. Cattano is Associate Professor of Anesthesiology and Director of Clinical Research in the Department of Anesthesiology at The University of Texas Medical School at Houston. He is also the Medical Director of the Preoperative Anesthesia Clinic Memorial Hermnn Hospital and service Chief for ENT/OMF, plastic and eye surgery. He is an educator, scholar, clinician and researcher, interested in patient safety, airway management and platelet function. Most recent publications are:

Cattano D, Altamirano AV, Kaynak HE, Seitan C, Paniccia R, Chen Z, Huang H, Prisco D, Hagberg CA, Pivalizza EG. Perioperative assessment of platelet function by Thromboelastograph(®) Platelet Mapping™ in cardiovascular patients undergoing non-cardiac surgery. J Thromb Thrombolysis. 2012 Aug 1.

Cattano D, Corso RM, Altamirano AV, Patel CB, Meese MM, Seitan C, Hagberg CA. Clinical evaluation of the C-MAC D-Blade videolaryngoscope in severely obese patients: a pilot study. Br J Anaesth. 2012 Oct;109(4):647-8.

Cattano D, Doursout MF. Pulmonary hypertension: have we learned enough yet? Intern Emerg Med. 2012 Oct;7(5):395-7.

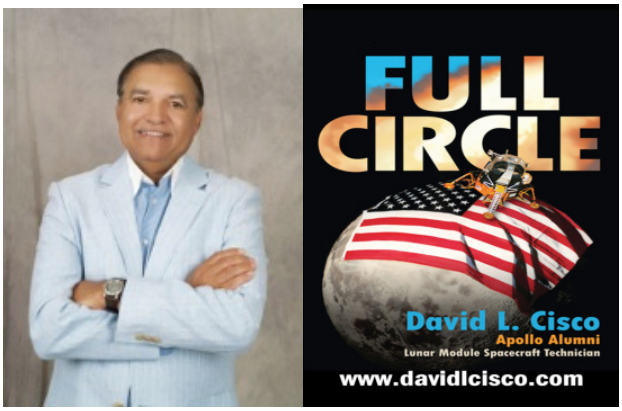
Assessing Preoperative Platelet Inhibition With Thrombelastograph Platelet Mapping™

Davide Cattano, MD, PhD, Alfonso Altamirano, MD, Carin A. Hagberg, MD, Evan G. Pivalizza, MD

Armando Cevenini

Armando Cevenini earned his M.S. in Biology in 2003 and a Ph.D. in Genetics and Molecular Medicine in 2007 at the University Federico II, Napoli, Italy. During the period of the Ph.D. course he also received a postgraduate one-year genomic research scholarship by the GEAR center, Napoli, Italy and several contracts for molecular biology research by the CEINGE research institute (Napoli, ITALY). In 2007 he received by the CEINGE institute a contract as Post-doctoral Fellow and in 2008 he become Assistant Professor of Clinical Biochemistry and Clinical Molecular Biology at the University Federico II and Researcher at CEINGE institute . Since May 2012, Armando joined to the group of Prof. Ennio Tasciotti (Department of Nanomedicine -The Methodist Hospital Research Institute (TMHRI)) (Houston, TX) to participate into a collaborative project with CEINGE institute, in order to optimize the drug delivery platforms developed by this lab to improve the conventional treatments of colon cancer. Here, Armando is acquiring scientific skills and competence in the field of synthesis and application of nanocarriers for cancer therapy. Most of traditional chemotherapy strategies are performed by systemic administration of drugs, mainly by endovenous injection. The efficacy of such therapies is limited by the fact that the drug molecules encounter several obstacles before to reach the true disease cells. Nanotechnology emerged as a promising approach to specifically target and kill tumor cells. While in vitro studies highlighted the potential advantage of nanotechnology, the use of nanodelivery platforms in vivo still remains limited due to biological barriers, the natural defense of the body against foreign agents. In particular Endolysosomal compartmentalization is one of the major barriers responsible for impeding the delivery of therapeutic molecules into cytoplasm and for the neutralization of active principles via biological and pH degradation. Many new promising therapeutic strategies, based on biologicals (e.g. siRNA) are strongly limited by the digestive function of these organelles. Although many efforts were done in synthesizing particles capable of performing endolysosomal escape, the understanding of the biological impact of these strategies is still incomplete. In this study we characterized the detoxification process which occurs after lysosomal escape in a human primary endothelial cell line, from the cellular and the biomolecular point of view.

DAVID L. CISCO



Mr. Cisco a businessman, and owner of a travel management company for over twenty nine years, now Retired and promoting two days a week, as a NASA official escort / Docent at Space center Houston. He educates the public on the benefits of space, and, NASA’s future space programs. He is the Author, of his book “ FULL CIRCLE” a memoir of his time at NASA, and all the stories along the way.

His career started with Grumman Engineering Corporation in the initial stages of the Lunar Module program. He was reassigned from New York to the Manned Spacecraft Center in Houston, as a spacecraft ground technician, for testing of the Lunar Module LTA8 and LM-2.

He has acquired several hundred hours in the spacecraft as Lunar Module Stand in commander/ Pilot technician, during integrated and individual system testing. Also formally employed at Rockwell International, serving in a staff position to the Vice President of field operations.

Held a position for a US major airline in management, responsible for employment system-wide. He also has been acknowledged in the industry for employing, the first African American female, commercial Airline Pilot in the United States. He holds both technology and business degrees, NASA award include Apollo Achievement award, Skylab emergency thermal shield development team award, and NASA’s Astronauts, highest award, Silver Snoopy. Less than 1% of all NASA employees receives this award for professional excellence; presented to Mr. Cisco by Alan Bean, fourth man to walk on the moon.

Mr. Cisco is very civic minded and has some unique qualifications.

- Former chairman and Police commissioner, Lake View PD
- Elected City Councilman two terms in the City of Taylor Lake, Village
- Served on a United States Presidential task force committee
- His, Highest honor was being invited to the White House by the President of the United States.

President Giuseppe N. Colasurdo, M.D.

The University of Texas Health Science Center at Houston (UTHealth)
October 2012–Present; President

UTHealth Medical School
2007–Present; Dean

An internationally known researcher and pediatrician, Giuseppe N. Colasurdo, M.D., was appointed president of The University of Texas Health Science Center at Houston (UTHealth) and the Alkek-Williams Distinguished Chair Oct. 22, 2012.

He became dean and H. Wayne Hightower Distinguished Professor in the Medical Sciences of The University of Texas Medical School, part of UTHealth, Sept. 1, 2007. Dr. Colasurdo will continue to serve as dean until a national search for his successor is completed.

Born in Morrone Del Sannio, Italy, Dr. Colasurdo completed his undergraduate education at The Liceo Scientifico “Galileo Galilei” in Pescara, Italy. He earned his medical degree summa cum laude from G. D’Annunzio School of Medicine in Chieti, Italy. Determined to achieve the best medical training in the world, Dr. Colasurdo decided to come to the United States in 1988.

He completed his residency at The University of Texas Medical Branch in Galveston and his fellowship at the University of Colorado Health Science Center and the National Jewish Medical and Research Center in Denver. In Colorado, he worked in the laboratory of Dr. Gary L. Larsen and initiated his studies on the autonomic regulation of the airway smooth muscle, the biology of respiratory syncytial virus (RSV) infection, and ontogeny of airway dysfunction and inflammation in childhood asthma.

Dr. Colasurdo joined the Medical School’s faculty in 1995 as an assistant professor of pediatrics in the Division of Pulmonary Medicine. He became the division head in 1997 and started directing the fellowship training program in pediatric pulmonary medicine in 2001. He was named chair of the Department of Pediatrics in 2005.

The physician-in-chief at Children’s Memorial Hermann Hospital and the David R. Park Professor in Pediatric Medicine, Dr. Colasurdo specializes in RSV, pediatric asthma, and other lung disorders in infants and children. Dr. Colasurdo has received research funding from the National Institutes of Health, the Children’s Miracle Network, and the Cystic Fibrosis Foundation.

His numerous awards include the Dean’s Excellence Awards, the David W. Smith Trainee Award from the Western Society for Pediatric Research, and the Basic Scientist Development Award from the National Institutes of Health. In 2008, he received Houston’s Executive Communicator of the Year Award from the International Association of Business Communicators; the Distinguished Alumnus Award from the Department of Pediatrics at The University of Texas Medical Branch (UTMB); was elected to faculty membership in the Alpha Omega Alpha Honor Medical Society-Houston Delta Chapter; received the Facolta di Medicina e Chirurgia Award from the G. D’Annunzio School of Medicine in Chieti, Italy; and received the Knight of the Order of Merit of the Italian Republic, presented by the Consul General of Italy.

In addition to publishing more than 120 manuscripts, abstracts, book chapters, and review articles, Dr. Colasurdo holds editorial reviewer positions on several scientific journals, including The American Journal of Physiology, The American Journal of Respiratory and Critical Care Medicine, and Pediatric Pulmonology.

A strong proponent of preserving and promoting the best in medical education, Dr. Colasurdo brought to the UTHealth Medical School two fellowship training programs recognized by the Accreditation Council of Graduate Medical Education: pediatric pulmonology and pediatric critical care. He also created a Division of Medical Education in the Department of Pediatrics dedicated to focusing on new strategies and technologies for resident learning.

As dean, Dr. Colasurdo developed a structure to promote health care quality and safety throughout the clinical, research, and educational missions of the Medical School. He also promulgated a Scholarly Concentrations Program aimed at helping medical students enrich their academic pathways into medical specialties. Under his leadership, the UT Physicians clinical practice of the Medical School has expanded beyond the confines of the Texas Medical Center and into the neighborhoods of Houston and surrounding areas.

Board certified in Pediatric Pulmonology and licensed to practice medicine in Italy, Texas and Colorado, Dr. Colasurdo remains an active clinical pulmonologist and has hospital privileges at Memorial Hermann-Texas Medical Center, Lyndon B. Johnson General Hospital, which is part of the Harris Health System, and The University of Texas MD Anderson Cancer Center. He is the CEO and president of UT Physicians, the medical practice of the UTHealth Medical School, one of the fastest growing academic medical practices in the country.

Bringing Ancient Rome to Life

Sarah Kielt Costello

Rome has the particular distinction of being a modern city in which you can still walk among significant remains of ancient buildings, allowing the visitor or resident to literally walk through history. In this talk, I discuss the ways in which a study abroad experience allowed students from THE UNIVERISITY OF Houston to experience ancient Rome in personal and immediate ways. Since not every student can study abroad, however, I will also share some tools from technology that allow me to bring Rome to life, even in the classroom.

Speaker bio: Sarah Kielt Costello

Dr. Costello is an archaeologist and art historian who specializes in the ancient Mediterranean and ancient Near East. She earned her Ph.D. in anthropology from the State University of New York, Binghamton and her Masters degree in Classical and Near Eastern Archaeology at Bryn Mawr College. She is an Instructional Assistant Professor in Art History at the University of Houston, and adjunct Assistant Professor of Anthropology at Rice University. She has excavated in Turkey, Cyprus, Israel, Greece, and the United States, and taught students on site in Cyprus and Rome. Her work has appeared in the journals Antiquity, Cambridge Archaeological Journal, Near Eastern Archaeology, and Istanbuler Mitteilungen.

FPSO COMPUTATIONAL FLUID DYNAMICS (CFD) ANALYSIS IN HEAVY SEA STORM CONDITIONS FOR THE VALIDATION OF PROCESS DESIGN

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1Bellelli Engineering International, Chiasso, Switzerland

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3Faculty of Engineering, Ferrara University, Italy

In the last years, the use of FPSOs is becoming widespread technology because it’s a practical and convenient system for producing small fields or deepwater and ultra-deepwater wells, i.e. fields for which installation of pipelines is too expensive. Recently, a growing attention has been devoted to the advanced design of vessels able to operate effectively even when the system is subject to abrupt movements. The study of the behavior of process fluids (gases and liquids) and their mutual interfaces within the FPSO separators is a very challenging task, which can be tackled effectively by means of Computational Fluid Dynamics (CFD) techniques.

In this paper, a fluid dynamic model of a FPSO separator is developed using a CFD methodology. This model is able to predict the behavior of the fluid and of their interfaces within the separators to be installed on FPSOs. Several simulations were carried out to study the behavior of the fluids and the efficiency of several vessel types, as for instance flash drums and surge vessels. The vessels are subjected to typical ocean storm forcing conditions, i.e. surge, sway, heave accelerations and roll, pitch and yaw rotations, gathered from real historical data. Transient simulations were carried out applying time-varying accelerations to the vessel. The methodology is described in order to give general guideline for FPSO simulations.

The main technical contributions of this study are:

- The understanding of liquid’s behavior in a FPSO mounted separator in different storm conditions;
- The validations of FPSO separator design to assure their functionality even during heavy storms;
- The development of a numerical methodology to implement complex CFD simulations in presence of time-varying boundary conditions which models the effect of sea movements of on-board ship devices.

Mauro Ferrari, Ph.D.
President and CEO

Ernest Cockrell Jr. Distinguished Endowed Chair

The Methodist Hospital Research Institute

President, The Alliance for NanoHealth

Professor of Biomedical Engineering in Medicine
Weill Cornell Medical College of Cornell University

E-mail: mferrari@tmhs.org

Education

Dottore Mathematics, Universita’ di Padova, Italy

Ph.D. Mechanical Engineering, University of California, Berkeley Biography

Dr. Ferrari was born in Padova, Italy in 1959. He is married to Paola Del Zotto Ferrari. They have five children: Giacomo (age 23); Kim and Chiara (twins, age 21), and Ilaria and Federica (twins, age 14). Dr. Ferrari is a citizen of the USA.

Dr. Ferrari serves as President and CEO of The Methodist Hospital Research Institute, where he holds the Ernest Cockrell Jr. Distinguished Endowed Chair, and is President of The Alliance for NanoHealth in Houston.

Dr. Mauro Ferrari is a founder of biomedical nano/micro-technology, especially in their applications to drug delivery, cell transplantation, implantable bioreactors, and other innovative therapeutic modalities. In these fields, he has published more than 200 peer-reviewed journal articles and six books. He is the inventor of more than 30 issued patents, with about thirty more pending in the US and internationally. His contributions have been recognized by a variety of accolades, including: the Presidential Young Investigator Award of the National Science Foundation; the Shannon Director’s Award of the National Institutes of Health; the Wallace H. Coulter Award for Biomedical Innovation and Entrepreneurship; and the Italiani nel Mondo Award from the Italian Ministry of Foreign Affairs. His career research and development portfolio totals over $50 million, including support from the NCI, NIH, DoD, NASA, NSF, DARPA, DoE, the State of Texas, and the State of Ohio, The Ohio State University, and several private enterprises. He began his academic career at the University of California, Berkeley, where he tenured in Material Science, Civil Engineering, and Bioengineering. Upon recruitment to the Ohio State University, he served as the Edgar Hendrickson Professor of Biomedical Engineering, Professor of Internal Medicine, Mechanical Engineering, Materials Science and Associate Vice President, Health Sciences Technology and Commercialization, Associate Director of the Dorothy M. Davis Heart and Lung Research Institute and Director of the Biomedical Engineering Center. Upon recruitment to Houston, he served as Professor and Chair of the Department of Nanomedicine at the University of Texas Health Science Center.

Dr. Ferrari also served as Special Expert on Nanotechnology at the National Cancer Institute in 2003-2005, providing leadership into the formulation, refinement, and approval of the NCI’s Alliance for Nanotechnology in Cancer, currently the world’s largest program in medical nanotechnology.

Dr. Ferrari’s degrees are in Mathematics (Padova, 1985, Italy), and Mechanical Engineering (U.C. Berkeley, M.S. 1987, & Ph.D. 1989). He attended medical school at the Ohio State University (2002-03).

Dr. Ferrari is an academic- entrepreneur, with several companies that originated from his laboratory. He currently serves on the Board of Director three companies: Nanomedical Systems of Austin TX; Leonardo Biosystems of Houston TX, and NASDAQ-traded Arrowhead Research Corporation (NASDAQ:ARWR).

Research Interests

• Nanomedicine for oncology, traumatic injury, cardiovascular disease, infectious pathologies, and diabetes

• Nanofluidics

• Biomedical Microtechnology (BioMEMS)

• Drug delivery

• Proteomics and peptidomics for early detection and therapeutic monitoring

• Cell transplantation, regenerative medicine, and tissue engineering

• Biosensors and bioseparation technology

• Multiscale discrete/continuum mechanics and biomechanics

• Bioethics

Major Areas of Research

Nanotechnology, Biomechanics, Microtechnology, Bioengineering, Biomaterials

Antonella Folgori

Biography

Antonella Folgori is the Immunology Director of Okairos, an industrial spin off, to discover and develop genetic vaccines for important human diseases that she co-founded in 2007.

Dr. Folgori has vast experience in immunology and vaccine research for human infectious diseases. She has been the leading scientist of the Hepatitis C vaccine project at “Istituto di Ricerche di Biologia Molecolare” in Rome (IRBM, a Merck subsidiary) until 2007. Before joining IRBM she conducted post-doctoral studies in immunology at the “Institute de Genetique et de Biologie Moleculaire et Cellulaire” (IGBMC) in Strasbourg, France. She received her degree in Biology and a PhD in Molecular and Cellular Biology from the University of Rome “La Sapienza” where she focused her research interest in the field of diagnosis and prevention of chronic infectious diseases. She has authored many scientific publications on subjects including peptide phage display technology, immunology, viral infections and vaccines.

Okairos Overview

Okairos is a clinical stage biopharmaceutical company spun off in 2007 from IRBM, a Merck, Inc. subsidiary located in Rome (Italy). The company develops genetic vaccines for major infectious diseases, including hepatitis C (HCV), malaria and Influenza, using a novel proprietary technology. Okairos AG was founded in 2007, in Basel, Switzerland. Okairos AG fully owns Okairos SRL (Limited Partnership) with laboratories and offices located in Rome and Naples, Italy.

Research, technology and its innovativeness

The spectacular past successes of vaccines were based on the protective action of antibodies. However, for infectious diseases and cancer, vaccines exclusively based on the humoral response are largely ineffective. Thus, a large untapped source of protective immunity lies in the yet unexploited cellular arm of the immunological response. The most relevant T cell population for the clearance of intracellular pathogens and the elimination of tumor cells are cytotoxic CD8 T cells. Adenovirus is one of the most potent vectors for the induction of CD8 T cell responses in humans, while also inducing protective antibody responses. Its effectiveness as a vaccine requires, in addition to high immunological potency, high productivity (growth in cell lines) and low seroprevalence (pre-existing neutralizing antibodies against the Adenovirus vector). The available Adenovirus vectors are either neutralized by existing antibodies or have shown poor immunological potency. At Okairos, we have isolated and extensively characterized a large number of Adenovirus strains from chimpanzees. New highly potent Adenovirus vectors have thereby been developed that are not neutralized by antibodies present in humans and are capable of infecting and growing in human cell lines approved by regulatory agencies.

Okairos has developed a vaccination protocol involving a heterologous prime-boost in which the primer is an Adenovirus vector carrying the desired antigen, whereas the boost can be either another genetic vaccine or even a recombinant protein. In our optimized vaccine regimens, two vectors are used, each encoding the same antigen: an Adeno vector for priming and a non-cross reacting Adeno or a MVA (Modified Vaccinia Ankara) poxvirus for boosting. This protocol yields a dramatically increased immune response as well as a higher antibody titer.

Okairos has also developed a proprietary cell line, Procell-92, which allows the production of Adenovirus vectors that do not replicate in traditional cell lines. Our technology platform can now be used to generate vaccines against a wide range of diseases for which there are currently no adequate vaccines.

The most advanced program is a vaccine to prevent hepatitis C virus (HCV) infection. HCV infection is a major public health problem and a global HCV incidence of 3-4 million (~50,000/year in US and EU) is propagating significant disease burden. Major complications of HCV infection, such as liver failure and liver cancer, cause about 50,000 HCV-related deaths worldwide annually, according to WHO. Introduction of triple therapy to treat HCV (Interferon and ribavirin plus the recently approved Incivek or Victrelis) improves outcomes, but at substantial cost, with significant side effects. There is thus a clear need for a prophylactic vaccine that will prevent progression to chronic HCV disease contributing to control viral dissemination.

A proportion of individuals exposed to HCV are able to mount an immune response that clears the virus. The immunological and genetic evaluation of these individuals suggests an important role for T cells in providing protective immunity (Folgori et al. Gut 2006). The induction of robust T cell responses with a prophylactic vaccine could therefore provide effective immune control of acute HCV infection. We have previously shown that adenoviral vectored vaccines encoding non-structural (NS) HCV proteins induce potent T-cell responses. Efficacy studies in chimpanzees demonstrate that these responses can be protective against challenge with a heterologous strain of HCV (Folgori et al. Nat Med. 2006). Our first vaccine trial in humans has utilized vectors derived from both a human adenovirus (Ad6) and a novel simian adenovirus (ChAd3, Colloca et al. Science Transl. Med 2012). Both these vaccines encode the NS region of HCV and have been demonstrated to be safe and immunogenic inducing high levels of T cell responses targeting multiple proteins. However, although responses to priming are strong, boosting with heterologous adenoviral vectored vaccines does not result in significant increases to peak responses (Barnes et al. Science Transl. Med 2012). We have therefore generated a novel vaccine based on simian adenovirus and MVA vectors used in a prime boost regimen that is safe in man and highly immunogenic. The induced T cells comprise both CD4+ and CD8+ subsets, secrete multiple cytokines, demonstrate cross-reactivity between HCV genotypes and have strong proliferative capacity. A phase II efficacy study using this vaccine has just started in high risk population.

Transparent Development: Collaborating with IBM Tivoli Development to Build Better Products.

Silvia Giacone, IBM

Transparent development is a new process within IBM Tivoli that is being adopted to develop some of its key products.

Transparent development provides open access to development plans, demos, code downloads, roadmaps, best practices and other pre-release content so that external users can collaborate with IBM Tivoli development and help steer the direction of product development.

More clients and potential clients can see that their feedback is being considered and used while we adjust plans early to avoid unnecessary expense, maximize profit and customer satisfaction.

Transparent development leverages a new platform, Service Management Connect, a new collaborative portal through which clients and business partners can have a direct impact on the development of IBM Tivoli products.

Thanks to the Transparent Development approach and the Service Management Connect community, clients can connect more easily to our technical experts and the development teams can better understand clients goals, requirements and pain points.

All of this focused at improving our product’s quality, our client’s user experience and and overall time to value.

Biography

Silvia Giacone is a Senior Manager responsible for managing the central quality and process transformation team for the Tivoli, a division of IBM Software Group. Also responsible for leading key initiatives to transform the development organization to more effectively and efficiently respond to customer’s demands on quality software solutions. Development process owner, responsible for responding to corporate audits related activities.

Silvia has held a wide variety of positions in her IBM career, starting as a tester and then moving into management where she was able to grow her expertise on developing, testing and supporting software products as well as helping out acquired teams during their transition phase. Extensive project management responsibilities and customer’s interactions. Skilled in Software Development Process (traditional and agile), Silvia has led the IBM Rational tools adoption within the SWG Rome Lab that in 2010 became a Rational official reference.

Silvia enjoys reading, travelling and cooking. Silvia is a graduate on Mechanical Engineering from the Universita’ La Sapienza (Rome, Italy). Together with her husband Giancarlo and 10 years old daughter, Marina, they relocated in June of this year from Rome, Italy to Austin, TX.

Sbarro Institute of Cancer Research and Molecular Medicine

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Temple's Sbarro Institute for Cancer Research and Molecular Medicine, part of the Sbarro Health Research Organization (SHRO), is home to state-of-the-art research into cures for cancer, cardiovascular and other diseases through the identification of their underlying molecular mechanisms. Institute director and president of the SHRO Antonio Giordano and colleagues perform research devoted to understanding the molecular and cellular workings of cancer and cardiovascular disease, the connection between obesity and cancer, and molecular therapeutics. Visit the Sbarro Health Research Organization website for more information.

Antonio Giordano

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Biography

Antonio Giordano (born October 11, 1962), is an Italian-American molecular biologist, best known as the discoverer of Rb2/p130, a tumor suppressor gene. Giordano is the President and Founder of the Sbarro Health Research Organization, which conducts research to diagnose, treat and cure cancer, cardiovascular disease, diabetes and other chronic illnesses. He is a Professor of Molecular Biology at Temple University in Philadelphia and a 'Chiara fama' Professor in the Department of Pathology & Oncology at the University of Siena, in Siena, Italy. He is also the Director of the Sbarro Institute for Cancer Research and Molecular Medicine and the Center for Biotechnology at Temple's College of Science & Technology. He is a founder and Chairman of the Scientific Advisory Board of the Human Health Foundation Onlus (HHF), an Italian charity for basic medical research supported by the Banca Popolare di Spoleto, located in Terni, Umbria. He also serves as President of the Scientific Advisory Board of the Centro di Ricerche Oncologiche di Mercogliano (CROM), Mercogliano, Italy. Giordano was born in Naples, Italy, on October 11, 1962. He received his medical degree from the University of Naples, Italy, and his doctorate in Pathology from the University of Trieste Medical School. He was a post-doctoral fellow in the Department of Microbiology and Immunology at the New York Medical College in Valhalla, New York and at Cold Spring Harbor Laboratory (CHSL) in Cold Spring, New York, where he studied under Nobel Laureate James Watson.

Discoveries

At 26, while a post-doctoral fellow at Cold Spring Harbor Laboratory in New York, Giordano made significant contributions to the field of cancer research. His work led to the recognition that an identical protein species occurs in complexes with both a virus and with the cell cycle regulatory kinase cdc2. Later, this protein species was identified as protein cyclin A, a substance that regulates growth in the cell cycle. This work helped set the stage for subsequent discovery in several other laboratories. Giordano went on to discover Rb2/p130 in the early 1990s while serving as a member of Temple's School of Medicine faculty and as a researcher at the Fels Institute for Cancer Research and Molecular Biology. Since that time, Giordano and SHRO researchers have established links between Rb2/p130 and its expression with the regression of cancer in the lungs, the aggression of cancer in the liver and ovaries, the effectiveness of drug therapies against breast cancer, and as a potential prognosticator of prostate cancer. Giordano also discovered Cdk9 and Cdk10, genetic substances that must be activated to guarantee proper progression through the cell cycle. Research has subsequently shown that Cdk9 is a multifunctional protein that plays a critical role in cell differentiation, particularly in muscles, HIV transcription, and the inception of tumors. Recent research has focused on the role of Cdk9-55 in helping to regenerate muscle tissue in cases of muscle wasting from disease or aging. In 2004, Giordano discovered Novel Structure Proteins (NSPs), a new family of structure proteins with a possible role in nuclear dynamics during cell division. One form of the gene, the isoform NSP5a3a, is highly expressed in some tumor cell lines and could be very useful as a tumor marker. A protein isoform is a version of a protein with only small differences to another isoform of the same protein.

An International Model

In 1993, Giordano founded the Sbarro Institute with a donation from Mario Sbarro, founder of the Sbarro restaurant chain, following Dr. Giordano’s discovery of the tumor suppressor gene pRb2/p130. Initially named the Sbarro Institute, the research center was located at Thomas Jefferson University, where Giordano was a professor. When Giordano moved to Temple University in 2002, he and twenty fellow scientists forged a new, three-year alliance with Temple University in Philadelphia, Pennsylvania. Under the new arrangement, the original Sbarro Institute was renamed the Sbarro Health Research Organization, Inc., which includes the Sbarro Institute for Cancer Research and Molecular Medicine. SHRO funds a program in the University of Siena.

In 2006, Giordano founded the Human Health Foundation (HHF) with the Banca Popolare di Spoleto. The charitable organization raises funds to support biomedical research and health education in Italy.

Patents and Publications

Since 1992, Giordano has been awarded twelve patents, with eight patents pending. He has published over 400 papers on his work in the fields of cell cycle, gene therapy and the genetics of cancer. He serves on the editorial boards of a number of professional journals. His work is funded by National Institutes of Health (NIH) grants, as well as individual and program project grants from SHRO. He is most recently co-editor of 2 major oncology textbooks entitled Diagnostic and Prognostic Biomarkers and Therapeutic Targets in Melanoma (Current Clinical Pathology) (Humana Press), and Biotargets of Cancer in Current Clinical Practice, (Current Clinical Pathology) (Humana Press) published in 2012.

Constrained Molecular Dynamics approach for nuclear systems

G.Giuliani

The study of the atomic nucleus started at the beginning of the nineteenth century. After more than one hundred years, nowadays Nuclear Physics is a very wide discipline with an high branches degree. At the basic research level, the aim of Nuclear Physics is to understand the behavior of atomic nuclei by leading such systems far from their rest (equilibrium) conditions;

it can be done by means of the so-called nuclear reactions. A nuclear reaction can be obtained from a collision between two nuclei: the projectile and the target. By means of a nuclear accelerator the projectile will gain a certain amount of kinetic energy and will hit the target (which is at rest), after/during such collision the reaction takes place. Depending on the incident energy involved in the collision it is possible to investigate several aspects related to a nuclear system: the behavior of the forces between its constituents (nucleons), which kind of break-up modes can be observed, what is its inner structure and its response to high temperatures etc. All these informations can be obtained by measuring the kinetic energy, the electric charge and the mass of the so-called reaction products. Beside such experimental work the Nuclear Reactions Theory has been developed in order to provide the correct mathematical description, make predictions and indicate those signatures able to explain the outcome of a nuclear reaction.

A branch of Nuclear Reactions Theory consists in the development of the so-called Dynamical models. By means of such models it is possible to study the time evolution of a nuclear reaction and to calculate all the quantities of interest related to the investigated system.

In my presentation I will discuss, in a very general way, the main features of the Constrained Molecular Dynamics Model. During the last ten years, it has been developed and improved by taking into account the following issues:

- handle nuclear forces acting between nucleons (neutrons and protons) and their properties
- apply a method to produce the projectile and target nuclei in their ground states (rest conditions)
- solve the Equations of motion (calculate positions and velocities) of nucleons during the time evolution
- create a strategy to identify reaction products and their masses and charges

Recent results concerning the new version of the model (_-CoMD) will be discussed.

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Dr. Gianluca Giuliani Scientific Biography

I started my research activity in 2004 at the physics department of the University of Catania. During the preparation of the Master0 s Degree thesis and after the graduation I worked for the CHIMERA collaboration of the Laboratori Nazionali del Sud (LNS) of Istituto Nazionale di Fisica Nucleare (INFN). During this period I achieved the PhD degree in Physics at the Physics Department of the University of Catania. 2009-2010 I worked for the Research project \Nuclear Reactions at Intermediate Energies” of the University of Catania 2011: I worked for the Centro Siciliano di Fisica Nucleare e Struttura della Materia on the research topic:\Constrained Molecular Dynamics Simulations for the reaction 27Al+48Ca at 40 MeV/nucleon 2011-present:Post-Doctoral Researcher at the Cyclotron Institute of the Texas A&M University.

List of Published Papers (other authors are included):

_ “Pre-Equilibrium -ray emission in the 40Ca +48 Ca System at 10MeV/nucleon and Isospin Equilibration Processes\, Physical Review C 72, 064608 (2005).

_ “Constrained Molecular Dynamics-II: an N-body approach to nuclear systems\, Journal of Computational Physics 208 (2005), pg 403-415.

_ Nucleon-Nucleon Symmetry Potential Term and Giant Dipole Resonance -ray emission, Physical Review C 73, 0315601 (R) (2006).

_ Dynamical Multi-Breakup Processes in the 124Sn+64Ni System at 35MeV/nucleon, Physical Review C 75, 054616 (2007)

_ Centrality dependence of isospin e_ect signatures in 124Sn+64Ni and 112Sn +58 Ni reactions, Physical Review C 77, (2008) 014610.

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_ Isospin Dependence of Incomplete Fusion Reactions at 25 MeV/nucleon, Physical Review Letters 102, 112701 (2009).

_ Dipolar Signal and Dynamical Correlations in Isospin Equilibration Processes, International Journal of Modern Physics E Vol. 20, No. 4(2011) 10621065.

_ Isospin Transport E_ects in Nuclear Reactions at 25 MeV/nucleon, Physical Review C 82, 014608 (2010)

_ Density and Temperature of Bosons from Quantum Fluctuations, Nuclear Physics A 892, Pages 4357

ACTIVATION OF PPAR GAMMA RECEPTORS REDUCES LEVODOPA-INDUCED DYSKINESIAS IN AN ANIMA MODEL OF PARKINSON'S DISEASE

Andrea Giuffrida[1], Anna Carta[2], Augusta Pisanu[2] and Alex A. Martinez[1]

[1]Department of Pharmacology, UT Health Science Center at San Antonio, USA

[2]Department of Toxicology, University of Cagliari, Italy

Long-term administration of L-3,4-dihydroxyphenylalanine (L-DOPA), the gold standard therapy for Parkinson's disease (PD), is accompanied by fluctuations in its duration of action and disabling motor complications known as L-DOPA-induced dyskinesias (LID). As PD is the second most frequent neurodegenerative disorder and L-DOPA the most effective treatment, there is a strong need to develop new therapeutics to prevent LID expression while maintaining L-DOPA beneficial effects.

LID can be modeled in rats with unilateral 6-OHDA lesions of the nigrostriatal pathway via chronic administration of low doses of L-DOPA, which induce increasingly severe axial, limb and oro-facial abnormal involuntary movements. Previous studies in our laboratory showed that elevation of brain endocannabinoids can alleviate LID via activation of cannabinoid CB_1 receptors and PPARg nuclear receptors. Administration of the PPARg agent Rosiglitazone (Avandia®) also alleviated LID dose-dependently without affecting L-DOPA antiparkinsonian action, as revealed by a battery of somato-sensory behavioral experiments to test motor asymmetries in 6-OHDA-treated rats. Rosiglitazone reached its peak brain concentration within 1 hour after injection, and approximately 2.3% of plasma Rosiglitazone was able to enter the central nervous system without affecting the bioavailability of striatal dopamine.

To determine the distribution of PPARg receptors in brain areas relevant to PD, striatal samples from 6-OHDA rats receiving vehicle or Rosiglitazone were labeled with immunofluorescent probes for PPARg, dynorphin (striatonigral marker) and enkephalin (striatopallidal marker). Our results indicated that PPARg are expressed in both the direct (striatonigral) and indirect (striatapallidal) pathways. We next investigated the effects of Rosiglitazone on the dyskinesia markers Zif-268, deltaFosB, phospho-Erk and pro-dynorphin by in situ hybridazation. Chronic L-DOPA increased Zif-268 and pro-dynorphin mRNA levels as well as phospho-Erk in the denervated striatum of 6-OHDA rats. These increases, however, were significantly attenuated in animals treated with Rosiglitazone.

Together, these data suggest that PPARg receptors are a novel pharmacological target for the treatment of LID and that Rosiglitazone may attenuate LID without reducing L-DOPA antiparkinsonian action.

Supported by RO1-NS050401-07, MJFox Foundation (A.G.) & NRSA (A.M.)

Biography

Dr. Andrea Giuffrida received his PhD in Biology from the University of Catania, Italy. In 2001, he was appointed Assistant Adjunct Professor at the University of California Irvine, and in 2003 he accepted a faculty position in the Department of Pharmacology at the University of Texas Health Science Center San Antonio (UTHSCSA), where he works as a tenured Associate Professor. In 2011, he received a AAAS Science & Technology Policy Fellowship to work in the Office of the NIH Director on the regulatory science of clinical trials and NIH-FDA collaborative initiatives. Dr. Giuffrida has been appointed Director of Biomedical Research Development in the Office of the VP for Research at UTHSCSA and is actively involved in neuroscience-related outreach activities as past President of the San Antonio Chapter of the Society for Neuroscience.

Dr. Giuffrida’s research interests focus on 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 in the brain (cannabinoid receptors).

Pete Hasbrook
Associate Program Scientist
NASA’s International Space Station Program Office
Updated: October 2012

Mr. Hasbrook is an Associate Program Scientist in the International Space Station (ISS) Program Office at NASA’s Jonson Space Center (JSC) in Houston. The Program Science Office coordinates between the ISS Program and scientific discipline working groups, to optimize the selection and execution of research on the ISS. This includes identifying opportunities, synergies, and issues to working group leadership as well as ISS Program leadership. Mr. Hasbrook works specifically with ISS International Partners to develop and implement multilateral plans, and to report accomplishments and results from ISS utilization.

Prior to becoming an Associate Program Scientist, Mr. Hasbrook served as an “Increment Manager” in the ISS Program. Prior to each 6-month “increment” mission, he worked with NASA and the International Partners to prioritize all of the activities that would be needed on the ISS, and to budget ISS resources accordingly. During each increment, he worked in the ISS Management Center (IMC) in Mission Control Houston, and served as the Executive Secretary of the ISS Mission Management Team. Mr. Hasbrook began his career in Space Shuttle flight planning, becoming a Flight Activities Officer (FAO) in Mission Control. He later served as an Emergency, Environmental and Consumables Operations Manager (EECOM) flight controller, and was the EECOM group lead. Mr. Hasbrook moved to the ISS Program in 2002.

Mr. Hasbrook graduated from the University of Notre Dame in 1985, with a Bachelor of Science degree in Aerospace Engineering. He earned a Master of Science degree in Physical Sciences from the University of Houston - Clear Lake in 1989.

International Space Station Research Benefits - presentation summary

The International Space Station (ISS) Partnership consists of space agencies from fifteen nations, including NASA and the Italian Space Agency (ASI). The ISS Program represents international achievement, engineering achievement, and provides new knowledge and benefits.

Almost as soon as the International Space Station was habitable, researchers began using it to study the impact of microgravity and other space effects on several aspects of our daily lives. This unique scientific platform continues to enable researchers from all over the world to put their talents to work on innovative experiments that could not be done anywhere else. Although each space station partner has distinct agency goals for station research, each partner shares a unified goal to extend the resulting knowledge for the betterment of humanity. We may not know yet what will be the most important discovery gained from the space station, but we already have some amazing breakthroughs. In the areas of human health, telemedicine, education and observations of Earth from space, there are already demonstrated benefits to human life. These benefits serve as examples of the space station’s potential as a groundbreaking scientific research facility.

S118E09467

Patrizia Livreri

SCIENZIATI ITALIANI PATRIMONIO DELL’UMANITÀ -SI PARTE

di Patrizia Livreri e Giovanni Pellerito

L’obiettivo di questa iniziativa e’ quello di far partire un processo di riavvicinamento culturale e scientifico tra i tanti scienziati italiani sparsi nel mondo e le università italiane.

L’auspicio e’ quello di vedere i nostri scienziati impiantare un piccolo seme del loro ingegno all’interno degli atenei italiani. Poter creare un momento di grande empatia tra le menti italiani e le sedi universitarie darebbe al nostro paese quella speranza di riappropriarsi di una disciplina come la scienza che per secoli ha visto l’Italia prima Nazione al mondo per capacita’ e creativita’. Il nostro Paese manca di quello spirito emulativo e competitivo che rappresenta il vero carburante per lo sviluppo! I nostri giovani hanno poche “star” da emulare, la maggior di esse sono negli Stati Uniti e spesso italiane!

SI PARTE non ha la volonta’ di far rientrare i cervelli ma l’entusiasmo e la voglia di far diventare cervelli!
L’Italia deve alzare l’asticella della competitivita’, e per farlo deve andare a scuola di “Ingegno” e purtroppo la quasi totalita’ di professori di ingegno e’ all’estero! Ecco, SI PARTE si prefigge innanzitutto di dare alle nuove generazioni voglia e stimolo a diventare ed emulare i grandi padri delle scienza che vivono all’estero!

Abbiamo poco tempo, quindi siete pronti?! Bene! Allora Si Parte!!!

ITALIAN SCIENTISTS ARE WORLD HERITAGE- SI PARTE

by Patrizia Livreri and Giovanni Pellerito

The objective of this initiative is to start a process of rapprochement between the many cultural and scientific Italian scientists around the world and Italian universities.
The hope is to see our scientists implanted a small seed of their talent within the Italian universities. By creating a moment of empathy between minds and Italian universities give to our country that hope to regain a discipline like science, which for centuries has seen Italy as the first country in the world for skills and creativity.
Our country lacks the competitive and the spirit of emulation that is the real fuel for development! Our young people have few "star" to emulate, most of them are in the United States and often Italians!
SI PARTE is not aimed to making brains coming back, but it is focused to increase the brain! Italy must raise the bar of competitiveness, and to do that it has to go to school of "Skill". Unfortunately almost all of professors of ingenuity are abroad!

Here, the main objectives of SI PARTE are to give the younger generation desire and motivation to become and emulate the great fathers of science who live and work abroad!
We have little time, so Are you ready? Well! So Let's go!

Livreri Patrizia, Professor at University of Palermo, born in Palermo, Italy, 1962. Degree in Electronics Engineering, Università degli Studi di Palermo, in 1986 and Ph.D. in 1989, Italy. Head on chief of the Nanotechnology and Nanomaterials National Laboratory, since 2005. She is a board member of Parco Scientifico e Tecnologico della Sicilia and of Pitecnobio International Research Consortium. Prof. Livreri was named to the Italian Ministery of Research as an expert. Recipient Best Paper award, Italians Electronics Group, Prof. Livreri is author of more than 50 papers. Marisa Bellisario Award in 1989, Mimosa d'oro Award in 2006. She has been named to Who's Who in the World.

Professore Universitario - Università degli Studi di Palermo - Facoltà di Ingegneria

Componente Consiglio di Amministrazione del Parco Scientifico e Tecnologico della Sicilia

Componente Consiglio di Amministrazione PITECNOBIO-Piattaforma Tecnologica Ricerca Biotecnologie

Consulente Commissione Attività produttive Assemblea Regionale Siciliana

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Componente Commissione Concorso Ministeriale per Dirigenti Scolastici

Consulente Comunale per Impianti di Energia Rinnovabile

Consulente Banca Nuova per la linea di intervento 4.1.1.1

Presidente CdA Società CRMOSS

Consulente della US NAVY per il Sistema MUOS

Consulente Presidente della Regione per la sicurezza dell’Aeroporto di Palermo

Consulente Assessore Regionale all’Industria, Energia e Ricerca per Attività Industriali e Energetiche- Piano Energetico Ambientale Regione Sicilana

Componente commissione tecnico-scientifica dell’Assessorato Ambiente Comune di Palermo, per l’inquinamento atmosferico

Componente del Comitato Tecnico Scientifico del Progetto “Autoimprenditoria Femminile nel settore dei Beni Culturali” (Finanziamento FSE e MIUR), attivato preso il CUPA.

Componente Commissione Nazionale Pari Opportunità

Isaac Newton Award 2012

Who’s Who in the World 2011

Premio Mimosa d’oro, sezione ricerca scientifica, Agrigento 2006

Premio Marisa Bellisario, sezione laureate in ingegneria elettronica, 1989 Latin American Historic Urban Heritage: Identifying and Protecting Endangered Sites.

A Case Study: the Historic Center of Lima, Peru

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Hand Surgery
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Horizons in Microsurgical

ResearchMicrosurgical research has lead over the course of the last forty years not only to reimplantation of severed limbs but also to the reconstruction of nerves, tendons and arteries. Lately the most significant contribution has been the reconstruction of damaged brachial plexus , a common injury in traction or avulsion injuries especially common in automobile accidents (MVA). The injuries occurs when traction is places on the entire plexus or roots of it leading to avulsion of the nerve or roots involved. As a result part of the entire brachial plexus is lost leading to paralysis of the involved extremity. The loss is especially signficant in the younger population where this trauma is especially common.

Microsurgical reconstruction has lead in recent years to root, segment or nerve reattachement also aided by nerve grafts from other non-essential nerve. The aim is of reconstructiong a ttract or conduit that allows regeneration. Though slow, regeneration over conduits does occur, sometimes over the course of months and/or years. The use of collagen conduits has also improved the chances of recovery by providing a channel for the nerve regeneration. Microsurgery allows the identification of nerve structures and the use or least invasive techniques and suture material.

Results have been impressive with regeneration rates being in the good or better range. The surgery is especially favorable in young individuals(<25 years of age).

Angela Lombardi

Topic Areas: Built Heritage Preservation

The research focuses on developing a methodology of research for identifying and evaluating the endangered built heritage preliminary to rehabilitation processes in some Latin American cities founded by the Spaniards, which still present traces of the original urban lay-out and colonial or pre-colonial structures/buildings. The research methodology intends to be applicable in different cultural and built contexts with the goal of bringing to the attention of the institutions responsible for the conservation the cultural and monumental values of this fragile and controversial architectural heritage. The first phase of the research focused on the historic center of Lima, Peru. As pilot project to set up themethodology, it was divided in five parts: 1) history of the city and its territory, with special emphasis onpre-colonial cultures’ remains; 2) conservation theories and preservation tools for endangered heritage:survey forms for the creation of a built heritage database; 3) traditional construction techniques andrelated methods of preservations, with the aim of pointing the way of recovery and conservation w in caseof buildings’ adaptive reuse; 4) built heritage rehabilitation and strategies for respect of socialenvironment; 5) visibility of the research aiming at involving a wider public. Lima, Peru, can been considered an ideal pilot project, because rich in heritage of great historical and artistic value, still presenting the 16th century urban layout, traces of the pre-colonial settlement and numerous colonial and post-colonial historic buildings. Today it is in an advanced state of decay, threatened by speculative pressures and not protected by appropriate laws and regulations. All the above mentioned five parts of the research have been successfully developing, part 2 still needs an implementation with a GIS database. Part 5 can be presented to the wider public, consisting of an interactive map of the historic center and four videos. The research started in 2009, in Italy, University of Rome, Sapienza and it is still in course of development.

ANGELA LOMBARDI, Ph.D.

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

Master Degree of Architecture (2000), post-master diploma in Architectural Heritage and Landscape Conservation (2009), PhD in Urban and Environmental Rehabilitation (2008) at University of Rome, Sapienza. Post-master Diploma in Integrated New Technologies for Seismic Protection of Historic Heritage (2004) within a MIUR research program. Her Ph.D. research focused on the relationship between historic cities, archaeological sites and related finds, with an outline of the European approaches to safeguarding and enhancement policies of historic architecture and archaeology in urban context. Then she worked in 2010 at the archaeological sites of Baalbek and Tyre in Lebanon. She has almost ten years architectural and preservation experience, with a focus on traditional construction techniques, STONE masonry conservation and, more recently, on EARTHEN MATERİALS conservation.

Sınce 2009 is researching on Latin America urban heritage and she is one of the editors of the book LIMA, Hıstorıc Center. Analysis and Restoration (Rome:Gangemi, 2012).

The identification and characterization of breast cancer CTCs competent for brain metastasis

L. Zhang[1], L.D. Ridgway[1], M. Wetzel[1], J. Ngo[1], W. Yin[1], W. Schober[2], J. C. Goodman[1], M. D. Groves[3], and **Dario Marchetti[1,4*]**

Departments of [1]Pathology & Immunology and [4]Molecular & Cellular Biology, Baylor College of Medicine, One Baylor Plaza, Houston, TX, 77030. Departments of [2]Leukemia and [3]Neuro-Oncology, The University of Texas MD Anderson Cancer Center, 1515 Holcombe Boulevard, Houston, TX, 77030. *Principal investigator and presenting Author

Research summary

Brain metastatic breast cancer (BMBC) represents the most feared consequence of breast cancer because uniformly fatal and increasing in frequency at alarming levels. Despite its devastating outcome, mechanisms causing BMBC remain largely unknown. Similarly, properties and biomarker identification of circulating tumor cells (CTCs), the "seeds" of metastatic disease remain elusive. Here we report novel strategies investigating CTCs isolated from peripheral blood mononuclear cells (PBMCs) of patients with BMBC, including the development and characterization of CTC lines. We identified a unique CTC signature (HER2+/EGFR+/HPSE+/Notch1+/EpCAM-) investigating CTCs that could not be captured by the FDA-approved Veridex CellSearch™ platform (EpCAM - negative CTCs). Second, we analyzed the invasive and metastatic competencies of isolated CTCs. Established CTC lines over-expressing the signature were highly invasive and capable to generate brain metastasis in xenografts. Third, tumor cell morphologies of CTC - induced metastases closely resembled those of pathologically assessed tumors of patients whose blood was source for CTC isolation. Fourth, the expression of proteins of the CTC signature was detected in CTC - induced BMBC. Collectively, we provide first-time evidence of human CTCs isolation and long-term growth by establishing CTC lines, and CTC metastatic competency in the presence of a biomarker signature necessary to promote BMBC.

Biography - Dr. Dario Marchetti

Dario Marchetti, tumor and molecular biologist, graduated from the University of Pavia, Italy in 1979. He worked as postdoctoral fellow at the University of Illinois, Chicago (1980-1982), University of Texas Medical Branch – Galveston (Texas) (1984-1986). He then became a research scientist at the University of Texas Health Science Center – Houston (1986-1991), Research Associate and later Instructor at UT MD Anderson Cancer Center – Houston (1992-1999), Assistant Professor at UT-Houston (1999-2001), and Associate Professor and later Professor (with tenure) at LSU-Baton Rouge, Louisiana (2002-2007). Dr. Marchetti now works at Baylor College of Medicine in Houston as Professor in the Department of Pathology & Immunology with a joint faculty appointment in the Department of Molecular & Cellular Biology. He is also directs the Circulating Tumor Cell (CTC) Core facility at Baylor College of Medicine. Dr. Marchetti's bibliography include 85 publications in peer-reviewed journals in the neurosciences and oncology fields. He has received numerous awards and possesses an un-interrupted record of grant funding since 1991 from federal, state and private Agencies. He is a Reviewer of the most relevant journals in cancer research and the neurosciences, and sits on the Editorial Boards of "Cancer Microenvironment, "Tumor Viruses", "Vascular Cell", "Clinical & Experimental Pathology", "International Journal of Oncology", "Cancer Letters", "Journal of Cellular Biochemistry", and "Cancer Metastasis Reviews" among others. He also serves on grant reviewing panels of the National Institutes of Health of USA and Italy, the Department of Defense of the United States, and acts as invited grant Reviewer for several other national and international Agencies devoted to oncology research.

Bioinformatics of microRNAs in cancer

Francesco Masulli1, 2, Stefano Rovetta2, and Giuseppe Russo1

1Sbarro Institute for Cancer Research and Molecular Medicine, College of Science and Technology, Temple University Philadelphia, PA USA;2DIBRIS, University of Genova, Genoa, Italy

Our collaboration, started in 2008, focuses on a novel area of research which has been dramatically exploding in the past decade: the bridge between biological research at the molecular level and the recent techniques for computer analysis and data storage data. Specifically, a type of nucleic acid (microRNA/miRNA) can negatively regulate protein expression, thus providing a post-transcriptional control mechanism acting on shorter time scales with respect to gene expression. MiRNAs control different aspects of biology such as apoptosis, cell proliferation, development, differentiation, and metabolism. MiRNAs contribute to cancer pathogenesis; those miRNAs with a role in cancer (oncomiRs) may target genes important in cancer initiation and/or progression. The involvement of oncomiRs in various cancers was previously established, but their function has not been clarified. The aim of this research is to investigate oncomiRs, and elucidating their specific machinery. The standard approach is to use computer programs to discover the interaction between a given microRNA and its target genes. This group developed two computer-based techniques. The first is based on gene and microRNA codes: an improved target discovery software program using machine learning to increase its performance on the basis of collected data, so that not only the previously known prediction rules are used, but also the bulk of the implicit knowledge contained in the ever-increasing databases available. The second technique is based not on structure but on function. This method starts from a collection of known microRNA-gene interactions, and tries to identify possible targets of a given microRNA among a set of genes by extracting context information and by generalizing it to other cases of possible interest. These cases then may be further explored by subsequent laboratory experiments.

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

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

Giuseppe Russo, Ph.D. was born in Naples, Italy. Dr. Russo is Research Assistant Professor and Director of the Cancer Systems Biology and eHEALTH Programs. Dr. Russo’s research focuses on understanding the role and the molecular mechanisms of microRNAs in human cells leading to cancer pathogenesis and development, as well as work in Cancer Systems Biology and Bioinformatics. Dr. Russo collaborates with Universities of Genoa, Naples, Rome and Salerno

Cell-Based Therapies for Nervous System Repair

Maria-Adelaide Micci

Department of Anesthesiology, University of Texas Medical Branch, Galveston, TX

Cell based therapies using stem cells represent a promising therapeutic approach for several neurological disorders of the central and peripheral nervous system and for traumatic brain injury (TBI).

TBI represents an important public health problem. Because cell death and functional impairment of areas of the brain (particularly the hippocampus) is often associated with severe cases of TBI, cell replacement therapies using exogenously administered stem cells represent attractive therapeutic avenues in the treatment of these patients. However, the successful development of stem cell therapy and its translation to the clinical setting is currently hampered by 1) the lack of a reliable and safe method to accurately monitor the location, migration and phenotypical differentiation of transplanted cells and 2) the lack of a complete understanding of the mechanisms underlying stem cell-mediated neuroprotection.

The main focus of my lab is to study the potential of stem cell therapy in replacing lost neuronal elements in the injured brain by either transplantation of exogenous stem cells and/or by stimulation of endogenous neural stem cells (NSC) from known neurogenic areas in the brain.

We have recently shown that the expression of the human sodium-iodide symporter (hNIS) in NSC, in combination with SPECT/CT imaging, allows for the visualization of NSC in vivo in the brain of experimental rats. Developing this imaging technique will allow us to more efficiently and rapidly study and optimize the conditions for cell-replacement therapies that will result in optimal grafting of cells and significant improvement of neurological function after TBI and other neurological disorders of central nervous system.

We are also currently characterizing the genomic changes that occur in the host tissue after NSC transplantation in the brain of rats that were subjected to fluid-percussion injury (an established model of TBI) and the reciprocal effect of the host tissue on NSC (endogenous and transplanted). Preliminary data show that NSC transplantation induces a specific genomic profile that favor cell survival and regeneration in host cells.

The results of these ongoing studies will provide us with critical insights into how stem cell therapy affect changes in the recipient host genome that results in improved function. Moreover, it will enable us to design combinatorial stem cell and pharmacological therapies that effectively mobilize the brain's endogenous repair signals to improve functional outcome after TBI.

Maria-Adelaide Micci

Dr. Micci earned her doctorate degree in biological sciences from the University of Rome “La Sapienza” in 1989 and then joined UTMB as a postdoctoral fellow in the Department of Anatomy & Neuroscience (currently Neuroscience & Cell Biology). In 1990, she went back to Rome, Italy, to work as a clinical monitor for Wellcome Pharmaceutical Company. In 1993, Dr. Micci came back to UTMB to complete her postdoctoral training in the Department of Physiology and Biophysics where later gained the rank of Instructor. She became Assistant Professor moving to the Division of Gastroenterology, in the Department of Internal Medicine, where she showed that transplanted neural stem cells could successfully correct congenital deficits in the enteric nervous system, a critical discovery that received international recognition. Dr. Micci is currently an Assistant Professor in the Department of Anesthesiology where she continues her research effort centered on investigating stem cell therapy for traumatic brain injury.

Biomimicry of the Extracellular Matrix for Bone and Cartilage Tissue Engineering

Silvia Minardi

The main challenge in the approaches of regenerative medicine for osteochondral repair is represented by the need to regenerate two different and adjacent tissues: the cartilage and the underlying trabecular bone. These two tissues are closely connected despite their distinct physical, chemical and biological characteristics and different healing potential. Thus, tailored technological solutions able to fulfil the different histological and physiological features of both the tissue types are necessary. Biomimicry of the extracellular matrix is an emerging field for the design of materials for tissue engineering, which enables to obtain scaffolds mimicking the complexity of the biological structures. Herein, we present a biomimetic collagen-based scaffold, synthesized through biologically inspired process, further functionalized with a nanostructured delivery platform, for the controlled and staged release of bioactive molecules. Three materials have been synthesized: (i) the cartilagineous-like layer (collagen); (ii) the mineralized cartilage-like layer (collagen/hydroxyapatite in the weight ratio 60/40); (iii) the subchondral bone-like layer, composed of hydroxyapatite and collagen in the same weight ratio of the natural bone (70/30). The three materials have been further functionalized with nanoporous silicon particles for the controlled release of specific bioactive molecules, encapsulated in a polymeric shell of PLGA, as a second level of control for the release. Finally, a monolithic scaffold has been generated through layer by layer assembly of the generated materials. Thus, we generated a three layered scaffold, chemically and structurally graded, mimicking the chemical and morphological cues of the osteochondral region. Several sets of PLGA-silicon microspheres can be generated, varying the content of silicon particles, size of the microspheres, thickness of the polymeric coating, in order to finely design complex release kinetics of a cocktail of growth factors and drugs, to concurrently prevent inflammation or infections, and guide concerted biological mechanisms of the regenerative process. This collagen-based scaffold represents a tunable platform, which can be easily modified to become a suitable scaffold for the mimicry of other tissues.

Biography:

Silvia Minardi is currently a PhD student in Chemical Sciences of the University of Bologna. She received her B.Sc. in Molecular Biotechnology in 2008, with a thesis dealing with biomimetic scaffold for bone regeneration, and her M.Sc. in Biotechnology, from the University of Milan-Bicocca in 2011. In February 2011, she won a pre-doctoral fellowship of the National Research Council of Italy, and joined the team of biomimetic and bio-hybrid materials at the Institute of Science and Technology for Ceramics – National Research Council of Italy of Faenza (ISTEC-CNR). Since August 2011, she is a Graduate Research Fellow in the Team of Regenerative Medicine of Prof. Tasciotti, at the Department of Nanomedicine of the Methodist Hospital Research Institute of Houston (TMHRI), participating to a collaboration program between the TMHRI and ISTEC-CNR.

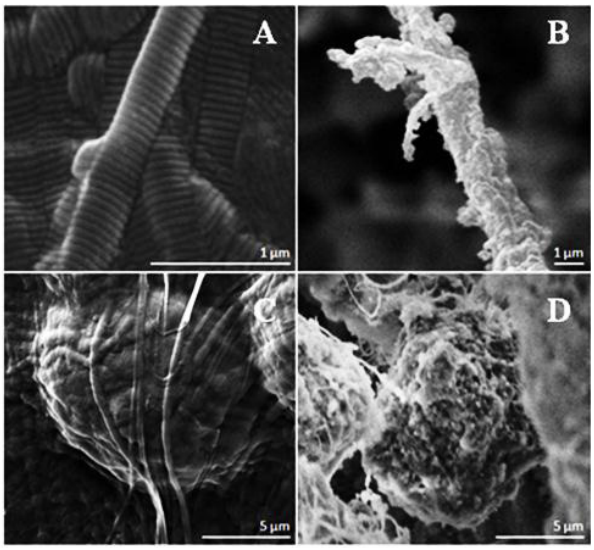


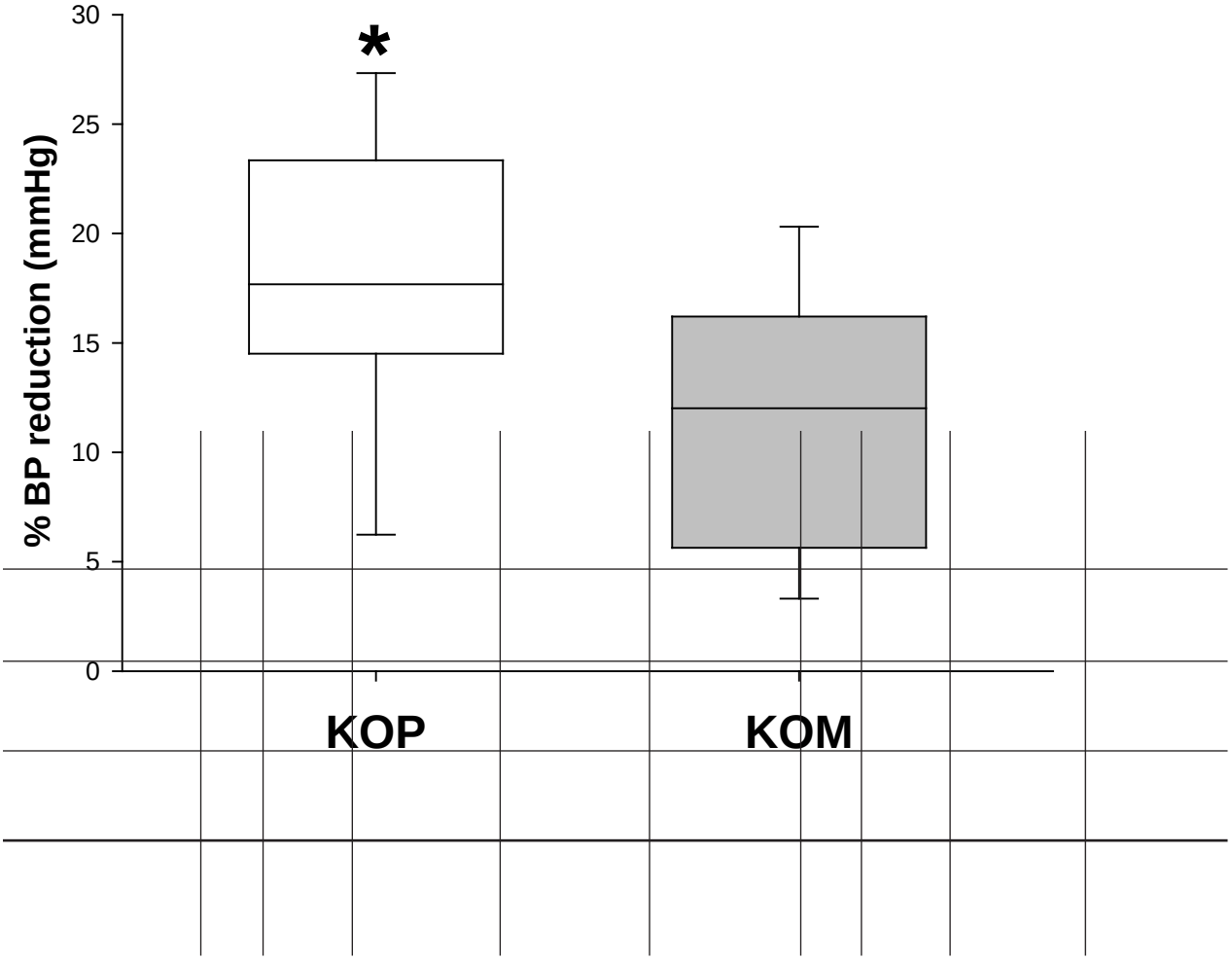
Figure 1. SEM micrograph of type I collagen (A) and mineralized collagen (B) biomaterials obtained through biologically inspired processes. PLGA-pSi microparticles completely integrated into the collagen boundary (C) and the mineralized collagen fibers (D).

Effect of Prenatal Methyl’ Donor Enriched Diet on Fetal Programming of Adult Blood Pressure

Monica Longo

The University of Texas Medical Branch, Dept.of Obstetrics & Gynecology, Galveston, TX

OBJECTIVE: Epigenetic modifications through DNA methylation and histone acetylation are known to affect gene function, and have been implicated in fetal programming of adult diseases. As a methyl donor, folate is known to affect these epigenetic modifications. We hypothesized that prenatal folate supplementation will prevent the altered fetal programming of adult blood pressure in a previously characterized transgenic animal model of utero-placental insufficiency induced by lack of endothelial nitric oxide. STUDY DESIGN: Homozygous NOS3 knockout (KO) and wild type mice (WT) were cross-bred to produce maternally- (KOM, n=8) and paternally-derived (KOP n=10) heterozygous offspring. During pregnancy the dams were allocated either a methyl’ donor enriched diet (MDD, NIH31, 15mg folic acid) or regular chow. The dams were allowed to deliver, and their diet as well as that of the offspring was switched to regular chow. At 14 weeks of age, blood pressure (BP) was measured in the unrestrained offspring by telemetry. BP catheters were inserted through the left carotid artery into the aortic arch and BP was recorded continuously for 7 days. Mean (MBP), systolic (SBP) and diastolic (DBP) BP were averaged over 12 hour periods. One-way ANOVA was used for statistical analysis ($p<0.05$ denotes significance). RESULTS: There was no difference in KOM and KOP pup number between mothers that received MDD or regular diet. Pup weight was similar at 14 weeks of life between the 2 groups. In offspring from the control diet group, BP in the KOM was significantly higher than KOP. Prenatal MDD diet significantly decreased BP in both KOM and KOP offspring. The percent change in diastolic and mean BP was not significantly different between KOM and KOP, but the MDD effect on the systolic BP was significantly more pronounced in the KOP (figure). CONCLUSION: Prenatal administration of diet rich in methyl donor partially reverses the effect of uterine environment on altered programming of adult blood pressure. Epigenetic modifications play a role in the fetal origin of adult diseases.


30
25
20
15
10
5
0
% BP reduction (mmHg)
*
KOP
KOM

Brief biographical sketch summary

I received my MD from the Universita’ degli Studi di Modena, Italy and I came to UTMB in June 1997 to study with Drs.R. E. Garfield and G. R. Saade. A Herzog Foundation Endowment Award supported her pursuit of a PhD in Preventive Medicine & Community Health in the clinical science curriculum, from which she graduated in 2005. I am currently finishing my residency in Obstetrics and Gynecology at UTMB. Epidemiological data have show that several chronic conditions, such as cardiovascular disease, atherosclerosis, diabetes, and obesity, may be caused by abnormal uterine environment during fetal development. Thus my interest for several years has focused on this area of research known at the beginning as the Barker Hypothesis and now known as the Developmental Origins of Health and Diseases. This area caught my attention because I was fascinated by the notion that diseases of adults, such as vascular disease, hypertension, and metabolic syndrome, can be traced back to the fetal and developmental period. My interest then focused on understanding the mechanisms of fetal programming of vascular disease associated with the later onset of cardiovascular, diabetes, or metabolic syndrome in adult life. My PhD thesis and the R01 (R01 HL080558) grant I obtained focus on examining the role of eNOS in the development of hypertension in a murine model of fetal programming. Altought with my residency I found less time for my research I continue to be very active in my laboratory and mentor/support fellow and PhD students to achieve their goal and found their interest.

SLUG CATCHER TWO PHASES FLOW

MODELING AND NUMERICAL SIMULATIONS

A. Monesi1, M. Pinelli2, C. Verga2

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In an Oil & Gas application, the use of pipelines that carry both liquid and gas phases of fuels extracted from on-shore and offshore subsea wells is constantly growing. In these conditions, flow regimes such as slug flow and plug flow regimes can appear. If these flow regimes are established, damage at the downstream devices, such as the treatment systems located at the end of the pipeline can occur. It is therefore necessary to separate the phases before they are treated. The purpose of a slug catcher is to separate the phases at the exit of the pipeline and to send them separately to the respective treatment systems.

In this paper, a series of fluid dynamic simulations using a Computational Fluid Dynamics (CFD) methodology to predict the separation performances of typical finger-type slug catcher geometry are carried out. A typical geometry that resembles real installations is considered. Different computational models were tested to find out the solution that would give more accurate results with the minimum computational effort. For this purpose, comparisons between static models (computationally efficient) and transient models (more accurate) were carried out. The influence of different models of turbulence and the influence of the computational grid on the final results was also evaluated. Guidelines for the correct implementations of these kinds of simulations are reported and the impacts of modeling assumptions on the expected results are discussed.

The main technical contributions of the paper are:

- Evaluating the operation of slug catcher in different flow conditions;
- Testing slug catchers validation by means of numerical simulations;
- Verifying the design choices in order to optimize the slug catcher’s geometry in relation to the conditions of use.

Short biography.

Dr. Marco Buongiorno Nardelli serves as a Professor of Physics at the University of North Texas where he holds a Joint Faculty Appointment with the Computer Science and Mathematics Division at Oak Ridge National Laboratory. At UNT, where he has moved only recently after 16 years at North Carolina State University, he currently leads a vibrant research group consisting of two graduate students and four post-docs under his direct supervision, and he participate actively to several collaborative efforts across Departments and Colleges in which he oversees the work of numerous other students and researchers. The main focus of Prof. Buongiorno Nardelli's group research effort is the design of novel materials for 21st century applications in energy, environment, nano-electronics and devices using highperformance simulations techniques. Over the years, his work has been highlighted both in the professional and popular press, including focus or invited articles on Nature News and Views, Science, Physical Review Letter Focus, Scientific American and a number of materials-oriented web-zines (EE Times, ScienceDaily News, Supercomputing Online, HPCwire, etc.). He has published more than 120 scholarly articles in prestigious international journals (among which: Science, Nature Materials, Nanoletters, Physical Review Letters, Physical Review B) and the impact of his research is measurable by the over 4900 citations received so far by his papers with an overall H-factor of 33. He is a Fellow of the American Physical Society since 2010 and a Fellow of the Institute of Physics since 2011. He has been invited to present the results of his research in more than 80 conferences and workshops and he has taught specialized lectures on the modeling of materials at international schools in the US, Italy, India, Viet Nam and China. He is often invited to organize and chair focus sessions at national and international conferences and he is an active member of various scientific committees, among which the Center for Nanophase Materials Sciences at ORNL and the CARIPLO Foundation in Milan, Italy. He is the director of the project WanT, a major software package for the calculation of electronic transport properties of nanostructures from first principles (http://www.wannier-transport.org). The package has gained great popularity in the scientific community at large and it is now distributed together with Quantum ESPRESSO, one of the leading codes for quantum mechanical simulations of materials.

Research directions. The creation of clean and safe renewable energy is one of the greatest challenges in science and engineering in the 21st century. We have come to expect and rely on clean available energy every day, but there are currently key problems and issues in the science and technology of energy generation, utilization, and impact that need to be resolved. Rapid advances in our ability to synthesize engineered nanostructured materials with specific properties have given us great hopes and expectations and while on one hand have stimulated huge experimental efforts, on the other have greatly pushed the need for the theoretical design and understanding of novel materials and devices. The tailored design of novel materials and devices together with the continuous effort to develop new theoretical techniques to handle materials challenges have been the fundamental leitmotifs of Prof. Buongiorno Nardelli's research activities over the past 20 years. His research is intrinsically interand multi-disciplinary, combining together materials science and engineering, nanoscience, solid state and molecular physics, chemistry, computer science and highperformance computing and it reflects with great clarity

the highly synergistic role that computational materials science needs to play to address and resolve the great challenges of energy and environment.

Alessandro Parodi

Biography - Alessandro Parodi earned his bachelor’s degree in biology from the University of Genoa in 2004. While there, he started his research career as an intern in Clinica Neurologica dell’Universita’ di Genova. In 2007 he obtained his PhD in Alimentary, pharmaceutical and cosmetic sciences (cosmetic field). His research focused on the synergy of LIF and IL-1alpha in triggering inflammatory reaction of the skin after exposure to aromatic molecules won the award “PIETRO CROCE” of EQUIVITA for the best work on alternative methods He worked from 2008 to 2010 in the vascular biology lab under the supervision of Dr Adriana Albini, studying angiogenesis in cancer field. In 2010 he joined to Prof Ferrari Group under the supervision of Dr. Ennio Tasciotti when he was an assistant professor at the University of Texas Health Science Center at Houston. Alessandro stayed with Dr. Tasciotti through his move to The Methodist Hospital Research Institute and his recent activity is focused on understanding how to negotiate biological barriers to improve the delivery of chemotherapeutics.

Summary of the research - The therapeutic efficacy of systemic drug delivery vehicles depends on their ability to evade the immune system, cross the biological barriers of the body and localize at target tissues. Leukocytes possess all of these functions and exert their targeting ability through cellular membrane interactions. Cellular membrane of leukocytes can be easily isolated and applied on the surface of synthetic and loadable particles. These hybrid carriers called LeukoLike Vectors (LLV) are able to: prevent rapid clearance of phagocytic cells of the immune system; communicate with endothelial cells through receptor-ligand interaction; transport and release a payload across an inflamed reconstructed endothelium. Furthermore, LLV retained their functions when injected in vivo, showing enhanced circulation time and improved accumulation in the tumour. This technique is based on one of the most advanced strategies of bio camouflaging to synthesize drug delivery platforms, highly compatible with our body and able to negotiate the major biological barriers that define the intravenous therapeutic approaches.

Software Development and Product Performances

Ing. Paolo Papi
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Abstract

In the last few years there is a growing number of performance related customer issues after a product is released. Here are the key contributing factors related to the way a software product is designed and developed:

We point our attention to performances by measuring them after the main system architecture and components have been implemented: it is too late.

Even what should measured and how doing it is not clear.

Fixing performance issues after the fact is a high cost activity, and the provided solutions are often only partial, as not affordable radical changes in the foundations (architecture and ground technology) would be required to really cure the problems.

To effectively and efficiently tackle the problem we need to adopt a performance-aware approach along the entire software development cycle, allowing us setting correct expectations and evaluating design and development choices, alternatives and execution against performance objectives.

Performance must be designed in advance, to allow for adequate resources planning and change management.

HOW:

o Capturing all available performance requirements and goals documented for the solution.

o Asking the right performance related assessment questions, while the high level system structure is being designed.

o Build predictive model.

o Validating the assessment findings with stakeholders, and feeding back input into the high level design documents for architecture and design adjustments.

WHEN:

o During the planning phase, to be sure that construction plan can take in account all findings.

o The performance evaluation, validation and feeding into the design documents should happen prior to signing project contract.

o Supported by a dedicated deliverable: the Performance design document.

This paper describes how to optimize the software development process to guarantee the highest focus to product performance, in order to resolve most of the customers’ issues and to position the products for long term success.

Biography

Paolo Papi was born in Rome, Italy. After obtaining the degree in Electronic Engineering at “La Sapienza” Rome University and completing the military service as Officer in the Italian Navy, he joined IBM in 1991. He started his career as software developer, to evolve in a few years into technical leadership roles. In 1998 moved from Rome to Austin, TX, assuming managerial responsibilities in different organizations in the IBM Software Group. He is currently managing a team of performance experts involved in many software development projects across the globe, and has the mission to improve product performances. Paolo lives in Austin, TX, is married with Patrizia and has a 6 years old son, Piefrancesco William

Giovanni Pellerito

ITALIAN SCIENTISTS ARE WORLD HERITAGE- SI PARTE

The objective of this initiative is to start a process of rapprochement between the many cultural and scientific Italian scientists around the world and Italian universities.
The hope is to see our scientists implanted a small seed of their talent within the Italian universities. By creating a moment of empathy between minds and Italian universities give to our country that hope to regain a discipline like science, which for centuries has seen Italy as the first country in the world for skills and creativity.
Our country lacks the competitive and the spirit of emulation that is the real fuel for development! Our young people have few “star” to emulate, most of them are in the United States and often they are Italians!
SI PARTE is not aimed to making brains coming back, but it is focused to increase the brain! Italy must raise the bar of competitiveness, and to do that it has to go to school of “Skill”. Unfortunately almost all of professors of ingenuity are abroad!

Here, the main objectives of SI PARTE are to give the younger generation desire and motivation to become and emulate the great fathers of science who live and work abroad!
We have little time, so Are you ready? Well! So Let’s go!

Biosketch (Giovanni Pellerito)

Giovanni Pellerito was born in Palermo, Italy, in 1967, degree in Political Science. He is a manager on Institutional Relations and Communications.

In 1991, he joined the Prime Group - Merrill Lynch and attend to a training at the University of Princeton. He was with Prime for 15 years, as Financial Planner and Branch Manager. Head of Institutional Relations area at Banca Euromobiliare-Group Credito Emiliano- played the role of staff member of the General Manager as Brand Manager.

In 2009 he was appointed Chairman of the TrendEventi Ltd., today GPHolding Communication Ltd, a position he holds to this day.
In 2010 he created BENVENUTA ITALIA, a magazine dedicated to the great Italian excellence all over the world and considered one of the most successful magazine in the field of Italy brand management.

Publisher and Director of TopFinanza an online newspaper on finance
Essays: “New Economy or death of Capitalism”, 1999; “Travel finance cybernetics”, 2000; “Turn South” on behalf of the Minister for Development and Cohesion, 2005.

Dr. Pellerito was a consultant for Institutional Relations and Communications of the Secretary of State to the Prime Minister. Consultant for the communication of the President of the Sicilian Regional Assembly. Consultant for the monitoring and communication of the Minister for Territorial Development and Territorial Cohesion. He is actually Consultant for the communication of the University of Palermo.

He was a Professor of marketing at CERISDI (Centre for Research and Studies Executive), “Economics of Tourism and Sustainable Territorial Development, Master”, University of Catania, Professor ISVOR Fiat within the project “Innovation and tourism”
He was Vice President of the Scientific Committee and Consultant of the strategies and the development plan of the Autonomous Fiera del Mediterraneo.

MEDIABILE 2007 Prize: as the best national institutional online portal.

Council Member Oliver Pennington

Oliver Pennington’s life is one of education, hard work, dedication and achievement. Born and raised in Houston, he loves this city and everything it has to offer. He graduated in 1960 from Rice University. From there he went on to law school at the University of Texas. He graduated in 1963.

During that time he was an Associate Editor of the Texas Law Review. He married in 1968 to Beverly Buzzini and together they raised two children, Oliver Pennington III and Sarah Pennington Tropoli. Oliver currently has 5 grandchildren.

Upon graduation, he took a job at the local firm of Fulbright & Jaworski, LLP. He quickly became a partner and took on that role from 1973 to 2002. Oliver’s practice included municipal finance, municipal law, municipal utility district law (where he attended monthly meetings of boards which dealt with water, sanitary sewage, drainage, security, solid waste services and other similar neighborhood issues), environmental and administrative law.

Oliver is the former Chairman of the Houston Civil Service Commission. He was a member of Board of the Memorial Park Conservancy for five years. He is also a member of the Houston Bar Association. He is a member of the Greater Houston Partnership where he is or has been a member of the Water Laws Committee and the Environmental Committee and the Economic

Development Committee. Oliver was also a member of the Board of Directors of North Houston Association, a trade group advocating public policy and economic development policies favorable to that area.

As a Council Member, one of his top priorities is economic development and the creation of a thriving job market within the city of Houston. He is the past Chairman of the Flooding & Drainage Committee. Currently, the Council Member serves on all six Council committees.

Beyond the Fourier Transform: Signal Symmetry Breaking In the Complex Plane (*)

Luca Perotti, Daniel Bessis, Daniel Vrinceanu

Texas Southern University, Houston, TX 77004

We invert the ordinary point of view in the analysis of noisy data by treating the signal as a perturbation of the noise. The pure noise generating function is represented, in the Complex Plane, by poles and zeros (Froissart doublets) having a universal, invariant by rotation, statistical distribution. The presence of a signal breaks this rotational symmetry. This allows to detect signals deeply embedded in noise that traditional methods cannot reach.

(*) work due to appear on IEEE Signal Processing Letters.

Biographical Sketch

Dr. Luca Perotti

Research Professor, Texas Southern University,

3100 Cleburne Ave, Houston, Texas 77004

Researcher, Center for Nonlinear and Complex Systems,

Universitá degli studi dell’Insubria, Via Valleggio 11, Como 22100, Italy

Professional Preparation

Universitá degli studi di Milano	Physics	Laurea, February 1986.
University of Pittsburgh	Physics	Masters of Science, April 1992.
University of Pittsburgh	Physics	Doctorate of Philosophy , December 1996.
Max Planck Institut Für Quantenoptik	Atomic Phyics	June 1997-September 1999
Clark Atlanta University	Solid State	December 2000-November 2001

Appointments

October 2007-Present: Visiting Associate Professor, Texas Southern, Department of Physics.

1987-present: Researcher, Center for Nonlinear and Complex Systems, Como.

December 2000-November 2001: Postdoctoral Research, Clark Atlanta University.

June 1997-September 1999: Postdoctoral Research, Max Planck Institut Fuer Quantenoptik.

September 1990-May 1995: Research Assistant, Univ. of Pittsburgh, Department of Physics.

1985-1987: Research Assistant, Universitá degli studi di Milano, Department of Physics.

Recent Publications

D. Bessis, L. Perotti, D. Vrinceanu “Noise in the complex plane: open problems”, Numer Algor DOI 10.1007/s11075-012-9640-4 (2012)

B. Beckermann, D. Bessis, L. Perotti, D. Vrinceanu “Computing high precision Matrix Padé approximants”, Numer Algor (2012) 61:189–208

L. C. Perotti “Low frequency quantum stabilization of the Hydrogen atom in a Microwave field:

scarred states and classical stability island overlap”;,J. Phys. B 44 (2011) 245002 (17pp).

L. C. Perotti “Small phase-space structures and their relevance to pulsed quantum evolution:

Stepwise ionization of the excited hydrogen atom in a microwave pulse”; Phys Rev. A 81,

033407 (2010) (16pp).

D. Bessis and L. Perotti “Universal analytic properties of noise: introducing the J-matrix formalism”; J. Phys. A 42 (2009) 365202 (15pp)

Michael V. Pishko, Ph.D., Stewart & Stevenson Professor II

Department of Biomedical Engineering, Texas A&M University

mpishko@tamu.edu, (o) 979-845-3348

Michael Pishko is the Stewart & Stevenson Professor II of Biomedical Engineering and Director of the National Center for Therapeutics Manufacturing at Texas A&M University. He served as the Charles D. Holland ’53 Professor and Department Head of Chemical Engineering at Texas A&M from 2007 to 2011. Prior to joining the faculty at Texas A&M, he held the rank of Distinguished Professor at Penn State University where he was a faculty member from 2001 to 2007. He received his B.S. and M.S. in chemical engineering from the University of Missouri-Columbia and his Ph.D. in chemical engineering from the University of Texas at Austin. He also received postdoctoral training at the Massachusetts Institute of Technology. In addition to his academic experience, Dr. Pishko was involved in the creation of two start-up companies in the area of diagnostic systems. Dr. Pishko has co-authored over 70 peer-reviewed publications and is a co-inventor of 22 issued U.S. patents.

His research interests are in the related areas of biosensors, biomaterials and drug delivery. His work in these areas has primarily focused on the nanofabrication and microfabrication of parenteral targeted drug delivery systems, surfaces possessing immobilized biorecognition molecules, surfaces with improved biocompatibility, and microsensors for medical diagnostics. As director of the National Center for Therapeutics Manufacturing, Dr. Pishko oversees initiatives that provide education and training in topics ranging from quality assurance and quality control, good manufacturing practices, regulatory affairs, facilities management, pharmaceutical manufacturing processes, laboratory instrumentation and bioprocess safety as well as many other current and next-generation technologies applicable to biologics manufacturing.

Select Honors and Awards

Honorary Professor, Swansea University, 2012

American Institute of Chemical Engineers, Bioengineering Plenary Lecture Award, 2008

Distinguished Professor, Pennsylvania State University, 2007

College of Fellows, American Institute for Medical and Biological Engineering, 2007

Mary Jane Kugel Award, Juvenile Diabetes Research Foundation International, 2002

Alfred P. Sloan Research Fellow, 1999 - 2001

NSF CAREER Award, 1999 - 2003

A Degenerate Angiopoietin-Like Protein That Regulates ANGPTL3

Quagliarini F, Wang Y, Kozlitina J, Grishin NV, Hyde R, Boerwinkle E, Valenzuela DM, Murphy AJ, Cohen JC, Hobbs HH.

Department of Molecular Genetics, University of Texas Southwestern Medical Center, Dallas, Texas, USA

Angiopoietin-like proteins (ANGPTLs) play major roles in the trafficking and metabolism of lipids. These proteins contain an N-terminal coiled-coil domain followed by a fibrinogen-like domain. Inactivation of one of these proteins, angiopoietin-like protein-3 (ANGPTL3), is associated with dramatic reductions in plasma levels of LDL-cholesterol (C), HDL-C and triglyceride (TAG). The mechanism by which ANGPTL3 influences lipoprotein levels remains poorly characterized in humans. Prior studies indicate that ANGPTL3 undergoes cleavage, releasing the N-terminal domain, which inhibits lipoprotein (LPL) and endothelial lipase (EL). A database search for proteins related to ANGPTL3 identified ANGPTL8, a protein that contains a region similar to the N-terminal domain of ANGPTL3. A variant of ANGPTL8 gene (rs2278426, R59W) was found to be associated with lower LDL-C and HDL-C levels. ANGPTL8 is expressed in liver and adipose tissue, and circulates in plasma of humans. Expression of ANGPTL8 was reduced by fasting and increased by refeeding in both mice and humans.

To determine the role of ANGPTL8 in lipid metabolism, we examined the functional relationship between ANGPTL8 and ANGPTL3. Recombinant ANGPTL3 was expressed alone or together with ANGPTL8 in livers of mice. Plasma TAG level did not change in mice expressing ANGPTL3 alone, whereas co-expression with ANGPTL8 resulted in hypertriglyceridemia and the appearance of the cleaved, active form of ANGPTL3. ANGPTL8 expression in Angptl3-/- mice failed to promote hypertriglyceridemia. Thus, ANGPTL8 appears to enhance ANGPTL3 activity, and possibly regulates the activity of other ANGPTL family members. Taken together our data showed that ANGPTL8 coordinates trafficking of TAG-derived fatty acids to appropriate organs following a meal, including redirecting fatty acids from the liver to peripheral tissues. The resulting effects on plasma lipoprotein levels make ANGPTL8 a potential target for lipid-lowering therapy, and possibly the treatment of other disorders of fuel homeostasis.

Fabiana Quagliarini, PhD

EDUCATION

Sapienza University of Rome, Rome, Italy

- Ph.D, Biomedical Technologies in Clinical Medicine, 2010
- Msc, magna cum laude, Medical, Cellular and Molecular Biotechnology, 2005
- BS, magna cum laude, Biotechnology, 2003

RESEARCH EXPERIENCE

UT Southwestern Medical Center, Department of Molecular Genetics, Dallas, TX, USA

Postdoctoral fellow with Drs. Helen H. Hobbs and Jonathan C. Cohen, 2010-present

Sapienza University of Rome, Department of Internal Medicine, Atherosclerosis Unit, Rome, Italy.

Graduate Student with Dr. Marcello Arca, 2006-2009

Biological effects of 2,3,7,8-tetrachlorodibenzo-p-dioxin exposure on prostate cancer

Giuseppe Russo1, Giovanna Elvira Granato1, and Antonio Giordano1

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

Prostate cancer (PC) is the most commonly diagnosed cancer in males in the Western world, with a highly variable nature and complex molecular pathology. It is not invariably lethal and is a heterogeneous disease ranging from asymptomatic to a rapidly fatal systemic malignancy. The 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), a persistent environmental contaminant, can produce a wide range of severe adverse effects in experimental animal models. The exposure to TCDD early in development can increase PC susceptibility and the exposure to TCDD in aged rats might cause greater epithelial proliferation, accompanied by morphological alterations manifested as lobe-specific hyperplasia in the prostate. Cultured cells treated with TCDD show altered cell proliferation or apoptosis. Autophagy plays a critical role in cellular homeostasis by eliminating excessive, damaged and/or long-lived proteins and organelles. Defects of autophagy machinery play a role in the pathogenesis of several diseases, including cancer. While increased incidence of PC in men exposed to TCDD is described, the molecular mechanisms of carcinogenesis of this compound have not been fully investigated. The aim of this study is to evaluate the biological effects of TCDD exposure on a panel of prostate cancer cell lines. Our preliminary experiments show that TCDD exposure on prostate cancer cells results in enhanced cell proliferation and activation of autophagy, enhancing the transformed phenotype of prostate cancer cells. Future work is needed to further clarify the oncogenic mechanisms of TCDD in prostate cancer.

Giuseppe Russo, PhD was born in Naples, Italy. Dr. Russo is Research Assistant Professor and Director of the Cancer Systems Biology and eHEALTH Programs. Dr. Russo’s research focuses on understanding the role and the molecular mechanisms of microRNAs in human cells leading to cancer pathogenesis and development, as well as work in Cancer Systems Biology and Bioinformatics. Dr. Russo collaborates with Universities of Genoa, Naples, Rome and Salerno where he serves as member of the Faculty Committee of the PhD program “Systems Biology”.

Giovanna Elvira Granato, DMV, was born in Sarno, Italy. She graduated in Medicine Veterinary from the University of Naples “Federico II”. She is a PhD student in Veterinary Pharmacology, Toxicology and Clinical Sciences (Department of Structures, Function and Biological Technologies-University of Naples “Federico II” Italy) and she is currently working at Sbarro Institute for Cancer Research and Molecular Medicine, Center for Biotechnology, Temple University. Her research focuses on studying the role autophagy machinery in cancer development and progression.

The long non-coding RNA PCA3 regulates PCTS, a new tumor suppressor in human prostate

Ahmad Nasser Salameh

Human prostate cancer has an unpredictable natural history. Although most patients have indolent disease progression, some have aggressive tumors that metastasize to bone and soft tissues resulting in morbidity and mortality. The most specific prostate cancer biomarker identified to date is the long non-coding RNA (lncRNA) prostate cancer antigen 3 (PCA3, also known as PCA3DD3 or DD3PCA3). PCA3 has been extensively investigated over the past decade and has been approved for diagnostic and disease management applications in the European Union and, quite recently, in the United States. However, the biological function of PCA3 in prostate cancer remains unknown. Here we report the identification of a new protein-coding gene, termed PCA3-Controlled Tumor Suppressor (PCTS), which harbors the PCA3 locus as an antisense introniclncRNA. We show that PCA3 controls the expression levels of PCTS and thereby regulates its tumorigenic potential in prostate cancer cells by binding to PCTS pre-mRNA, a phenomenon mediated by the RNA editing enzyme ADAR1. Functional characterization in immunodeficient tumor-bearing mice revealed that PCTS and PCA3 have opposite effects on tumor xenograft growth. These results identify PCTS as a previously unrecognized tumor suppressor gene in human prostate cancer. Our data were confirmed in clinically-annotated human tumor RNA samples and tissue microarrays from prostate cancer patients to provide confidence on the medical relevance of the experimental findings. This newly-discovered mechanism of biallelic trans-dominant negative inactivation of PCTS by PCA3 underscores the unique regulatory interplay of a genetic unit and a potential target for therapeutic intervention in human prostate cancer.

Biography

Dr. Ahmad (Nasser) Salameh, PhD, cittadino Italiano/ nato a Betlemme

------ B.A. & M.A. in Biology & Molecular Biology, University of Leicester (UK) and University of Padua (Italy).

My research thesis focused upon elucidating of the circadian rhythm mechanisms in Drosophila Melanogaster, generation one of the first transgenic lineages in vivo RNA interference in Drosophila Melanogaster .

------ Ph.D., Biotechnology, University of Siena, Italy

My research thesis focused on the cytoplasmic and nuclear characterization response of Vascular Endothelial Growth Factor Receptor activation investigating signal transduction pathways in tumorigenesis, angiogenesis and lymphangiogenesis

------- Research Scientist at MD Anderson Cancer Center,

Additional to several other “team-science” projects, my main research focused on the characterization of a new tumor suppressor gene that resulted down-regulated through a novel “dosage regulation mechanism” by the long non coding RNA PCA3 in human prostate cancer

-------Since June 2012 Scientist in Dr. Kolonin’s lab, Brown Foundation Institute of Molecular Medicine UTHealth Main projet : “Prohibitin / annexin 2 interaction in white adipose

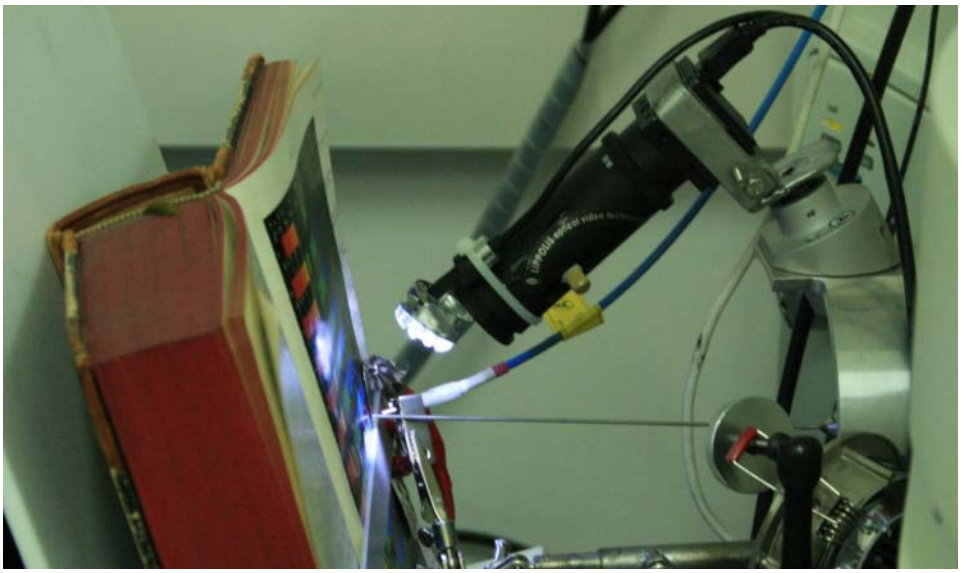
In situ identification of organic components of ink used in books from the 1900s by atmospheric pressure matrix assisted laser desorption ionization mass spectrometry

Domenico Santisi

This paper describes the use of atmospheric pressure/matrix assisted laser desorption ionization-mass spectrometry (AP/MALDI-MS) as a spatially resolved analytical technique for the study of organic components of inks used to print colored parts of ancient books. The possibility to operate at atmospheric pressure makes MALDI-MS a new in situ micro-destructive diagnostic tool suitable for analyzing samples in air, simplifying the investigation of the organic components of artistic and archaeological objects.

In this work, several organic dyes and pigments were identified in situ by analyzing different colored areas of books printed in the years 1911 and 1920. The detected coloring materials, which were available since the 1890s, were often identified as a mixture, confirming the typical procedures used in the lithographic printing processes.

Analytical methodologies used for the study of ancient and precious objects have to satisfy specific requirements in terms of micro-destructiveness or non-destructiveness of the sample to be analyzed. In this context, the use of spatially resolved analytical techniques has provided new opportunities for micro-destructive and, at times, completely non-destructive analyses, thus opening up new diagnostic approaches for the study of samples of artistic and/or archaeological importance. Unfortunately, only few analytical techniques operating with the required spatial resolution are applicable for the investigation of the organic components of artistic and archaeological objects.

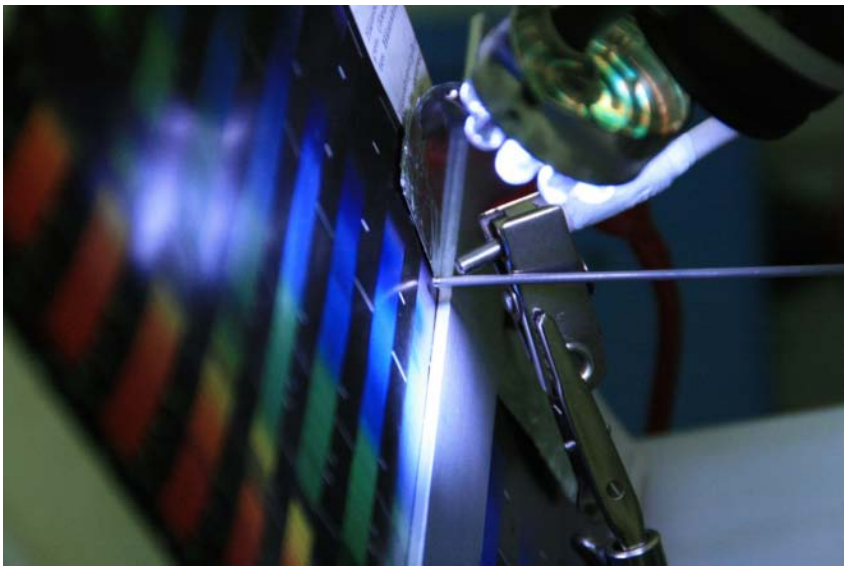


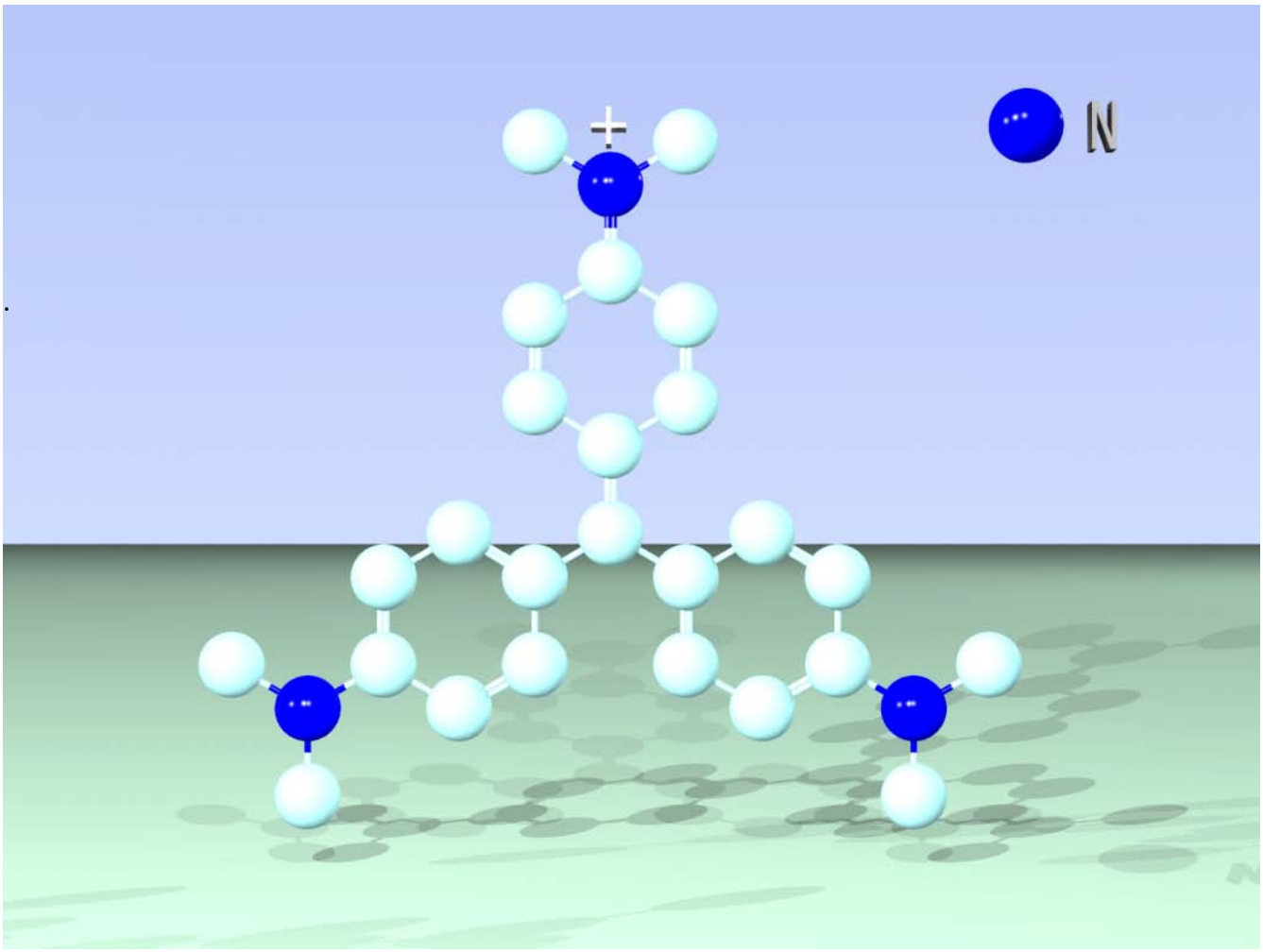
The potential shown for the above mentioned field by MS-based techniques which use direct laser irradiation of the sample surface in order to produce the charged species to be analyzed has already been discussed. The combined use of a specific chemical species (matrix) in order to expand the laser desorption ionization (LDI) applicability has also been presented with specific attention to its applications to the study of materials of interest for art or archaeology. The matrix assists the ionization process induced by the laser desorption (matrix assisted LDI, MALDI) by protecting and assisting the analyte during the desorption and ionization processes. It has already been pointed out that a significant disadvantage of using MALDI-MS for the spatially resolved study of artistic materials is the need of placing the samples under low-medium vacuum conditions.

AP/MALDI-MS combines most of the analytical advantages of vacuum MALDI-MS in the study of complex organic mixtures to the possibility of analyzing samples in air. In order to further demonstrate the advantages offered by the AP/MALDI technique in the spatially resolved analysis of the organic components of ancient objects, we report on the study of organic components of inks used in early XXth century books. The books were analysed “in situ” by operating in air.

The identification of the organic components of inks is a fundamental step in the design of safe conservation interventions, and it can also be useful to demonstrate or deny the authenticity of works of art, depending on the period of synthesis of the identified pigments or dyes.

In this work, the use of a home-modified AP/MALDI system for the investigation of organic dyes and pigments used to print books dated between 1911–1920 is described and the assignment of signals attributed to 4 dyes and 2 organic pigments is reported. The identification of the Crystal Violet dye in the ink used to impress a mark on the first page of the books when they were acquired by the Chemistry library of the Regia Università of Catania further proves the suitability of the AP/MALDI-MS approach for such a study.





A variety of other dyes were identified in situ by analysing different coloured areas of the printed books. In particular, other blue dyes were identified, such as Basic blue 7 and an Acid Blue 1 derivative, red dyes such as Pigment Red 2 and Acid Red 74 and a yellow pigment as Pigment Yellow 120. Most of these colouring materials, which were available since the 1890s, were often identified as a mixture confirming the typical procedures used in the lithographic printing process.

The study was carried out by operating in air and by depositing over a 2–3 mm^2 area of the sample surface an average of 0.2 µg mm^{-2} of the matrix compound. The matrix used for the experiment was a very weak acid. No visible alteration of the sample surface was caused by the matrix deposition and the AP/MALDI analysis.

We believe that this study contributes to demonstrate the validity of the AP/MALDI-MS approach for the in situ spatially resolved micro-destructive analysis of the organic components of ancient objects or works of art.

Biography

Domenico Santisi was born in Reggio Calabria in 1965 and joined the Italian Navy Academy when he was only 18. One of the youngest cadets in his class received distinction in many subjects of the military training. In 1987 attended the US Navy Pilot School in Pensacola FL and Corpus Christi TX becoming Naval Aviator in 1988.

He served the Italian Navy till 1996 flying as Military Pilot from Sigonella 41st wing, commanding ITN Unit Lerici and completing training in the USN Postgraduate School in Monterey CA where received an official award assessing “the respect and admiration of the US Navy and Marine Corps Staff and Student”.

In 1996 joined Alitalia Airline flying more the 10.000 hours on MD80 and B767 reaching many of the world destinations. He left Alitalia in 2008 as Captain.

From 2009 he is in the Board of Directors of Dipietrogroup S.r.l. a company working in the Oil and Gas industries whose successful strategy allowed the creation of a worldwide network and the development of significant research activities receiving the interest of the US Congress Library and the British Museum.

His desire of knowledge brought him to obtain the following academics:

· Master Degree cum laude in Aeronautical Engineer - University of Palermo (Italy);

· Master Degree cum laude in Aerospace Engineer - University of Rome “La Sapienza” (Italy);

· Master Degree in Maritime and Nautical Science - University of Pisa (Italy)

His articles have been published in the following media: Houston Chronicle, Business Week, Forbes, Morgan Stanley World Wise, IFALPA News, Yahoo Finance, Netscape Money & Business.

He has also been:

· Member of the ICAO INTERNATIONAL AIRWAYS VOLCANO WATCH OPERATION GROUP;

· Lecturer at MIT Boston USA for “B767 System and Automation” course;

· Member of commission for satellite constellation for navigation, communication and surveillance in Galileo project;

· Consultant for Master and PH student at MIT;

· Liaison Officer for NATO Nuclear Planning Group for the USA delegation.

Marco Sardiello, Ph.D.

Assistant Professor, Department of Molecular and Human Genetics, Baylor College of Medicine

Education
B.S., University of Bari, 1999
Ph.D., University of Bari, 2003
Postdoc, Telethon Institute of Genetics and Medicine, 2009

Research Interests
Dr. Sardiello’s laboratory uses genetics, cell biology and systems biology approaches to study how the cell regulates its metabolic programs and how dysfunctions in these programs lead to neurological disease. The ultimate goal is to translate knowledge of these regulatory networks into therapeutic approaches for neurodegenerative disorders.

Long-lasting Responses with Lenalidomide as Initial Therapy of Elderly Patients with Chronic Lymphocytic Leukemia (CLL)

Paolo Strati

CLL is the most common leukemia in the Western world. Most of affected patients (pts) are older than 70 years and they are not fit for chemotherapy.

Lenalidomide is a biological agent, assumed by mouth, enhancing the natural response of patients' immune system against tumoral cells.

We conducted a phase II study evaluating the activity of lenalidomide as initial therapy for elderly pts with CLL. This treatment was associated with an overall response rate of 65% and an overall survival of 88% at 2 years. Because response duration is a relevant endpoint, pts with a response lasting 36 months or longer were defined as "long-term responders" (LTRs) and were the focus of our analysis.

Thirty-one of the 60 pts (52%) were LTRs. Best responses among LTRs consisted of 29 complete remissions (CR) and 2 partial remissions. Median time to failure has not been reached for LTRs, after a median follow up of 47 (37-53) months. Twenty-two LTRs are still on therapy and nine have discontinued lenalidomide. Reasons for treatment discontinuation were: toxicity in 6 pts, infectious complications in 1 pt, second malignancy in 1 pt and change of institution in 1 pt. We observed a recovery in hemoglobin and platelets and an increase in the percentage of circulating T cells and plasma levels of immunoglobulins. When compared to short-term responders, LTRs had lower baseline beta-2-microglobulin and they were less likely to have a deletion 11q. Furthermore, baseline plasma levels of IL6, IL8, IFNγ and MIP1α were significantly lower in the LTRs.

In conclusion, lenalidomide is a safe and effective treatment for elderly patients affected by CLL. It induces hematological and immunological response. Some biomarkers could allow the early detection of sensitive patients.

Paolo Strati was born in Reggio Calabria in 1984. In 2002 he was prized by the President of Italian Republic with the title of Alfiere del Lavoro, as one of the best ten Italian students. In 2008 he graduated in Medicine at University San Raffaele of Milan with summa laude. He enrolled in the same hospital in an Internal Medicine Specialty and in February 2012 he was selected to attend a 2-year Leukemia Fellowship in MD Anderson Cancer Center. He is author of the chapter of Hematology of the most important Italian book of Urgency Medicine and of some scientific papers. His research on leukemia has been awarded by the Society of Hematologic Oncology and the American Society of Hematology.

Victoria Surliuga

Italian Cinema: Federico Fellini and Giulietta Masina

This paper discusses Giulietta Masina's cinematic achievement, as seen, on the one hand, through the roles she played under Federico Fellini's direction and, on the other hand, in the non-Fellini movies in which she appeared. Without Masina there would be no Fellini. Thus, my objective is to address the real status and overall importance of Masina within the cultural history of Italian cinema, shifting the focus from Fellini to the actress who made a decisive contribution to his art and to cinema as a whole.

Masina is mostly known as Fellini's wife and the main actress in several of his movies. However, she was a renowned and established actress prior to her work with Fellini as well. Her acting career shaped the Italian comedies of the 50's and established Masina as one of the Divas of Italian Cinema.

Fellini valued Masina's contribution to his films to the point of declaring that she was not only the main actress in a number of his films but also their inspiration, central theme and true soul. However, as significant as it is by itself, this professional connection between Fellini and Masina is also a limit to the understanding of Masina's contribution to Italian cinema and her real influence in the making of the Fellini films in which she acted. Consequently, I will deconstruct the general perception of Masina's achievement and clarify her decisive contribution to Fellini and Italian cinema.

Masina's biography is intertwined with an analysis of her strongest movies, directed by Fellini. Here I consider Masina as a single meta-character with different incarnations: Variety Lights, The Road, Nights of Cabiria, Juliet of the Spirits, and Ginger and Fred. By examining various "masks" of the Masina character (not Masina the woman or wife), I intend to show how they merge into one meta-character which grows from one film to another.

While Masina brings her own personality and life experience to the parts she is playing (she was familiar with Stanislavski's Method Acting, 1940-1950), it is even more poignant to argue that each part becomes Masina, both as the actress playing the part and the woman living the experience. From childhood and adolescence to coming of age and maturity, what we have in these films is one of the most complex and effective female portraits in the history of modern cinema, always performed with mastery by Masina.

Victoria Surliuga is Associate Professor of Italian at Texas Tech University. Her publications include a book-length translation of Giampiero Neri's poetry Natural Theater. Selected Poems 1976-2009 (2010) and Uno sguardo sulla realtà. L'opera poetica di Giampiero Neri (2005). She has also written on poetry and painting in Giambattista Marino, on Federico Fellini's Casanova and the poetry of Andrea Zanzotto, and on the poetry of Franco Loi and Giancarlo Majorino: Nell'epoca del gremito. Conversazioni con Giancarlo Majorino (2008). She has translated three volumes of poetry from French into Italian, and has authored four volumes of her own poetry.

The 'Patient' City

The Practices of Photographer Gabriele Basilico

Alexandra Tommasini

Ricercatrice italiana residente all'estero

Courtauld Institute of Art

alexandra.tommasini@courtauld.ac.uk

Gabriele Basilico, Milano, 1997

> I'm interested in reading the city as a breathing organism, endowed with an autonomous life. I'm interested in reading the parts of its body the way a scientist or doctor does when performing a physical examination to understand the nature and state of the health of a human being [...] I see the city in just this way, like a great patient, lying upon its territory, like the giant Gulliver.
>
> -Gabriele Basilico, Gabriele Basilico: Silicon Valley 07 (Milan: Skira, 2007)

My doctoral research project, The 'Patient' City, is the first full-length scholarly investigation on photographer Gabriele Basilico's practices. A one-man 'contact zone' between architecture and photography, Basilico has been rigorously documenting the contemporary urban condition for over thirty years. His gaze is not limited to one specific architectural type, nor is it constrained by one history or limited to one location. Instead, it alights on all encounters between the human and built environments.

Although Basilico is arguably one of Italy's most nationally and internationally recognized living photographers, his work has not yet been given the critical attention deserved within the Anglo-American academic community. My research seeks to fill this scholarly void. It opens up a discursive space in which to evaluate Basilico's work with relation to its socio-historical context, the development of contemporary Italian photography, selected traditions in Italian visual culture, and the work of his international contemporaries. By analyzing Basilico's photographic language, it looks closely at his visual metaphors of sound and silence, fullness and emptiness, and remembering and forgetting. Also central to the study is an investigation of Basilico's photobook and commissioning practices, which are evaluated through the lens of cultural memory theory.

My research lays the groundwork for future comparative assessment of Basilico’s work and contributes to the growing English-language literature on Italian contemporary photography.

Biography: I am currently completing my PhD at the Courtauld Institute of Art in London. In addition to my doctoral project on Basilico, I also conduct research on contemporary Italian landscape photography, Italian photobooks, and monuments and memory. I have presented my research at various conferences, seminars, and most recently at the exhibition talk for La Nostra Terra, Italian Photography from 1970s to Today at Stills: Scotland’s Centre for Photography. Presently, I am Archivist at the Bridget Riley Art Foundation and have worked in several art institutions including the Peggy Guggenheim Collection, J. Paul Getty Museum, and UCLA Hammer Museum.

As a member of Ph: The Photography Research Network, I am co-editor of www.Either/And.org, a collaborative project with the National Media Museum (UK). I co-authored the Peggy Guggenheim Collection web resource Exhibition History (2009) and am a member of the Association for the Study of Modern Italy (ASMI), College Art Association (CAA), and Association of Art Historians (AAH).

My research has been supported by various grants including multiple Borse di studio per italiani residenti all’estero and the Steven and Elena Heinz Scholarship. Before starting my PhD, I worked in the financial information sector for Thomson Reuters. I hold a BA from UCLA and MA from the University of Exeter.

Stem Cell and Regenerative Medicine Applications in Neurological Injury at UTHealth

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Despite dramatic advancements in medical and surgical care, effective clinical therapies for neurological injury are limited. The past decade's rapid advancement in stem cell biology and neurology has generated a growing body of literature supporting the use of various progenitor cell types to treat acute neurological injuries. In this context, the goals of the Program of Regenerative Medicine at UTHealth includes the development of innovative human adult and fetal cell-based therapies to improve neurological conditions, such as anoxic brain injury at birth, cerebral palsy, traumatic brain injury and stroke, all of which are still unmet medical needs that have not been able to be satisfied by conventional healthcare therapies. For example, we have developed a xeno-free method to isolate, expand and cryopreserve clinical-grade human amniotic fluid-derived mesenchymal stromal cells (hAFMSCs) in compliance with current Good Manufacturing Practices and we are investigating their potential use to treat neurological injury associated with prenatally diagnosed congenital heart disease of infants. This fetal tissue engineering approach is currently being tested in a pre-clinical model with the ultimate goal of using the 15-20 week window between amniotic fluid harvest and birth, to isolate and expand hAFMSCs to treat the affected infant on a predetermined date just prior to, or after birth.

Furthermore, a large body of data indicates that both umbilical cord and bone marrow cells are attractive and highly promising sources of cell therapies for patients with brain injuries. We have recently completed the first acute, autologous cell therapy treatment Phase I study for traumatic brain injury (TBI) in children. We are preparing for the Phase II trial aimed at verifying whether bone marrow-derived cells preserve injured brain tissue after traumatic injury in children, and if so, whether such preservation is associated with improvement in functional and cognitive outcomes. We are also currently conducting an open-label, Phase I dose-escalation study to evaluate the safety of acute, intravenous, autologous bone marrow-derived mononuclear cells to treat severe TBI in adults.

In early 2013 we will start enrolling patients in a randomized, blinded, placebo-controlled, crossover Phase II study designed to compare the effects of autologous bone marrow-derived versus autologous umbilical cord blood-derived mononuclear cells on pediatric patients with cerebral palsy, a group of brain pathologies that result from in utero or perinatal injury to the developing brain, often through stroke, hypoxic insult or hemorrhage and which produce chronic motor disability in children.

This presentation will discuss ongoing research endeavors relevant to reparative therapies for severe neurological injury that represent a major focus of the Judith R. Hoffberger Cellular Therapeutics Laboratory and the Evelyn H. Griffin Stem Cell Therapeutics Research Laboratory within the Program of Regenerative Medicine at UTHealth.

Fabio Triolo

Fabio Triolo, D.d.R., M.Phil., Ph.D. is an expert in clinical cell therapy manufacturing, has a broad background in aseptic methods of harvesting, purification, processing, culture, storage and characterization of human cells, and extensive experience in compliance with current Good Manufacturing Practices (cGMP). He graduated summa cum laude in Biological Sciences from the University of Palermo, Italy, where he also completed a Research Doctorate (D.d.R.) in Chemical Sciences in 1999 and obtained the Italian Biological Board License in 2001. From 1996 to 2001 he was a Fulbright Fellow at Mount Sinai School of Medicine of New York University, where he was conferred a Master of Philosophy (M.Phil.) and a Doctor of Philosophy (Ph.D.) in Biomedical Sciences in 2000 and 2002, respectively.

In 2003, Dr. Triolo joined the Mediterranean Institute for Transplantation and Advanced Specialized Therapies (ISMETT) of the University of Pittsburgh Medical Center, in Palermo, Italy where he served as Director of the Experimental Cell Therapy and Cell Transplantation Laboratory until 2011. During his tenure, he established and directed ISMETT’s Office of Research, Health and Biomedical Sciences and designed a state-of-the-art Human Cell Processing cGMP Facility, which was awarded over 6 million euros by the Italian Ministry of Innovation and Technologies in 2005. In 2006 he made the facility operational and was the first person in the Region of Sicily to ever be authorized by the Italian Drug Agency and the Italian Ministry of Education, University and Research, to act as Qualified Person (according to European directive 2001/83/EC) of cGMP facilities authorized to produce cell therapy products.

In 2007, he founded ISMETT’s Regenerative Medicine and Cell Therapy Unit, which he co-directed throughout 2010. Within the unit, he led the human fetal precursor cell isolation and bioreactor group. He also served as Adjunct Assistant Professor of Surgery (2005-2008) and as Affiliate Faculty Member of the McGowan Institute for Regenerative Medicine (2009-2011) of the University of Pittsburgh.

In 2008, he became a member of the National Reference Pole for the Coordination of Biological Resource Centers and Biobanks, nominated by the National Committee for Biosafety, Biotechnology and Life Sciences of the Italian Presidency of the Council of Ministers. He actively participated to the drafting and review of several national guidelines, including the Italian Presidency of the Council of Ministers guidelines for biological banks for infectious diseases, the Italian Presidency of the Council of Ministers guidelines for biobanks and biological resource centers for storage of human samples for research purposes, the Italian Ministry of Health guidelines for procurement, processing, storage and distribution of cells and tissues for clinical use, and the National Transplant Center guidelines for procurement, processing, preservation, storage and distribution of pancreatic islets and hepatocytes. He also served on the task force for Advanced Therapy Medicinal Products (somatic cell therapy, gene therapy and tissue engineering products) of the European Advanced Translational Research InfraStructure in Medicine (EATRIS), aimed at creating a distributed pan-European infrastructure consisting of a network of well-renowned biomedical translation research centers across Europe. Dr. Triolo is a strong advocate of the importance of regulatory requirements and actively contributes to their implementation. For example, he was the first to publish specific risk analysis approaches and procedures applicable to cell therapy manufacturing and to provide a specific model for guidance of cell transplantation centers and cell processing facilities, especially if approaching risk management for the first time.

In 2011, he joined the University of Texas Health Science Center at Houston (UTHealth) as Assistant Professor in the Department of Pediatric Surgery, Assistant Professor of Clinical and Translational Sciences and Director of the Human Cell Processing cGMP Facilities in the Program of Regenerative Medicine. At UTHealth, he made operational the Evelyn H. Griffin Stem Cell Therapeutics Research Laboratory, an FDA-registered cGMP Facility, and the Judith R. Hoffberger Cellular Therapeutics Translational Laboratory, both of which he directs. He leads the translation, scale-up and validation of promising new therapeutic technologies developed by scientists at a preclinical level, into clinical-grade processes that can be used to manufacture cell-based and/or tissue engineered products for clinical applications. His most recent research interests are focused on the development of innovative therapeutic fetal tissue engineering approaches and cell-based therapies aimed at neurological injury.

Computational fluid dynamics of healthy and diseased liver

Massimiliano Tuveri, Cristiana Rastellini, Luca Cicalese

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The liver has a unique and peculiar blood flow distribution compared to other organs. Liver is in fact perfused with mixed artero-venous blood. Venous blood perfuse the liver trough the portal vein and arterial blood trough the hepatic artery while its outflow occurs trough the hepatic veins. Furthermore, the liver has a peculiar intra-parenchymal division of its vasculature forming two lobes. Among the liver an even more complex division occurs with 8 independently perfused segments.

This is particularly important in liver surgery since some pathology of the liver, such as cancer, requires the resection of a portion of liver parenchyma to remove the tumor. This can be accomplished removing a lobe or a segment or a number of segments of the liver and allowing the remaining portion of the liver to remain perfused and continue to be functional and eventually to increase in size in a process called liver regeneration. However most of the primary liver cancers such as hepatocellular carcinoma occur in a cirrhotic liver. In these conditions the minimum amount of liver parenchyma sufficient to sustain the patients after resection is difficult to predict and there are patients having acute liver failure after only a small portion of the liver has been resected while other can tolerate a resection of 50% or more of the liver. In cirrhotic patients the liver has an increased amount of fibrosis and consequently is less compliant to vascular changes. The intra-parencymal resistance is increased by the process and there is an increased pressure of the blood in the portal system and its collaterals. Furthermore, these patients have hyperkinetic circulatory state with high cardiac output, low peripheral resistance, and important alterations within the splanchnic vascular bed, including increased portal blood flow and development of collateral portosystemic pathways.

Similarly to liver resection we face similar situations in adult-to-adult living donor liver transplantation (AALDLT) For AALDLT the major concern is donor safety. The size of the graft obtained has to be sufficient for the recipient while the remaining parenchyma in the donor has to be sufficient to guarantee his/her safety. Many institutes perform AALDLT using a right liver graft with or without the middle hepatic vein (MHV) trunk. It remains controversial whether the MHV tributaries should be reconstructed when a right liver graft without the MHV trunk is used. Usually, the indication for venous reconstruction is decided on the basis of the calculation of the graft volume/recipient standard liver volume ratio, assuming that the veno-occlusive region does not function. However, this procedure might be complicated by severe congestion of the right paramedian sector, leading to tissue atrophy or necrosis.

At this time there are no tools to evaluate such differences and to predict how safely a liver resection can be performed in these patients. In the current clinical practice patients with evidence of portal hypertension are considered to be at a prohibitive risk of resection and often succumb with no alternative therapy.

A key factor in the prevention of this fearable complication appears to be the investigation of the entity and behavior of the shear stress in the portal vein and hepatic sinusoids. There is in fact a direct correlation between the variation and gradient of the shear stress and the modification of the microcirculation and endothelial secretion of vasoactive substances. For these reasons the development of a patient-specific computational liver model could become a valuable tool for predicting hemodynamic changes in all these conditions and could offer an invaluable tool to liver and transplant surgeons to assess the choice for the proper operation to perform and to assess correctly the post operative risk for the patient

Biosketch (Massimiliano Tuveri)

Massimiliano Tuveri is Assistant Professor of Surgery and Clinical and Research Fellow in Multiorgan Transplantation at Texas Transplant Center, University of Texas Medical Branch, Galveston, TX. He earned his medical degree with summa cum laude and distinction from the University of Cagliari, and completed his General Surgery Residency and Vascular Surgery Residency at the University of Cagliari. He obtained his surgical training at the Department of Surgery of the University of Cagliari and at Sant’Elena Hospital, Cagliari, where he worked for 15 years. Prior to joining UTMB, he worked as Researcher at CRS4 in Cagliari, headed by Prof. Carlo Rubbia, section of Biomedical Engineering for 9 years. He was Visiting Professor at the Department of Numerical Analysis of the University of Milan and EPFL of Lausanne, Switzerland, for 6 years. His clinical and research interests focus on computational fluid dynamics applied to major arteries and liver transplantation, liver cancer (hepatocellular carcinoma), pancreatic islet transplantation. He has published more than 43 peer-review articles for scientific journals, contributed to 2 book chapters, and he is author of more than 80 oral presentations in International and National Meetings. Dr. Tuveri is a member of the Societa’ Italiana di Chirurgia, and of the Associazione Chirurghi Ospedalieri Italiani.

Biostatistical Methods for the Analysis of Genomic Data

Marina Vannucci, Francesco Stingo, Marco Sardiello

Biostatistics concerns the application of statistical methods to a wide range of biological data. The science of biostatistics encompasses the design of biological experiments, the collection, summarization, and analysis of experimental data and the interpretation of, and inference from, the results. Specifically we will illustrate a set of Bayesian statistical models for the analysis of high dimensional data, and specifically genomic data. We will focus in particular on recent approaches that we have developed and briefly describe novel applications. These methods integrate different sources of biological information into the analysis of the experimental data. We will illustrate how Biostatistical methods for genomic data can provide useful tools for a better understanding of complex diseases, such as the Batten disease, a lysosomal storage disorder caused by the loss of a lysosomal protein and characterized by accumulation of undegraded molecules in the cell. By means of genomic analyses, we have identified the transcription factor EB (TFEB) as a master regulator of lysosomal function. Cells overexpressing TFEB have a larger number of lysosomes and enhanced degradative capabilities against lysosomal substrates. Our results show that TFEB-mediated lysosomal enhancement may be used to slow, halt or reverse the accumulation of undegraded molecules in affected tissues and provide a framework for future studies focused on TFEB pharmacologic activation to treat Batten disease.

Dr. Vannucci is currently a Professor in the Department of Statistics at Rice University, Houston, TX. She is also an adjunct faculty member of the UT M.D. Anderson Cancer Center, TX, and the Rice Director of the Interinstitutional Graduate Program in Biostatistics. Dr. Vannucci received the Laurea (B.S.) degree in Mathematics in 1992 and the Ph.D. degree in Statistics in 1996, both from the University of Florence, Italy. Prior to joining Rice in 2007, Dr. Vannucci was Research Fellow at the University of Kent at Canterbury, UK, during 1996-1998. In 1998 she joined the Department of Statistics at Texas A&M University, TX, as Assistant Professor, became Associate Professor in 2003 and Full Professor in 2005. Dr. Vannucci was visiting scholar at Stanford University, CA, during Summer and Fall of 2001, and at Columbia University, NY, during Fall of 2004. Dr. Vannucci was the recipient of an NSF CAREER award in 2001 and won the Mitchell prize from the International Society for Bayesian Analysis in 2003. She is an elected Fellow of the American Statistical Association (ASA), since 2006, and of the Institute of Mathematical Statistics (IMS), since 2009, and an elected Member of the International Statistical Institute (ISI), since 2007. Dr. Vannucci has published over 85 research papers and has delivered more than 120 invited presentations. She is the co-editor of the books “Bayesian Inference for Gene Expression and Proteomics” and “Advances in Statistical Bioinformatics: Models and Integrative Inference for High-Throughput Data” (forthcoming). She has supervised 13 Ph.D. students and 6 postdoctoral fellows, since 1998.

Dr Stingo is currently Assistant Professor in the Department of Biostatistics at the University of Texas MD Anderson Cancer Center, Houston, Tx. Dr. Stingo recived the B.S. in Statistics and Computer Science in 2003 and the M.S. in Statistics and Computer Science in 2006, both from the University of Perugia, Italy. Dr Stingo received his PhD degree in Statistics in 2010, from the University of Florence. Prior to joining MD Anderson in 2011, Dr Stingo was Postdoctoral Fellow at Rice University, Houston, Tx. The core of Dr Stingo’s research is to develop novel methods for Bayesian variable selection and Graphical Models for the analysis of high dimensional data. Dr Stingo’s research is often motivated by biological and clinical applications.

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