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ASMB Newsletter

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3 open councilor positions

President's Letter


Renato Iozzo

Dear Fellow Matrix Biologists,

Happy New Year!

In the past few months we have been very active in various aspects of the society.

First, with regards to the 2008 meeting in San Diego, we have established a Fundraising Committee composed of myself, Bill Parks, Roy Zent and Jeff Davidson, who did a marvelous job in 2006, and Karen Lyons. So far, the fund raising is going very well. If anyone has a personal contact in a company, I would urge you to contact them directly and copy Jen Holland at jholland@faseb.org with the correspondence. She will provide all the assistance you might require. In addition, we have developed a postcard that every member will receive shortly, both by e-mail and snail mail. In addition, we will send the postcard to the ISMB members. A full brochure with program, registration, and abstract submission will follow shortly and will be sent to our members along with the American Society of Biochemistry and Molecular Biology and the American Society of Investigative Pathology.

The Program Committee, chaired by Bill Parks, has finalized the program and this should be available on-line in the near future. We are happy that Carlo Croce, from Ohio State University, has accepted to be our keynote speaker. His recent work on microRNA and cancer is outstanding and will be of general interest to our fellow matrix biologists because it represents an uncharted territory for us and new perspective for our future research direction. There are still some openings for speakers and I would kindly ask you to submit names and nominations for junior and senior speakers. Please send the nomination to Bill Parks (parksw@u.washington.edu). Also, it's time to start thinking about the Special Interest Group Meeting and thus, I would like to ask you, again, to submit a brief proposal to Don Senger (dsenger@caregroup.harvard.edu) for the SIGs. The San Diego meeting will also involve active participation of the International Society of Matrix Biology (ISMB), which will provide travel awards, the Rupert Timpl Award and the Distinguished ISMB Investigator Award at our meeting.

Secondly, Linda Sandell, with the input from the council, has gathered a list of nominees for 3 opened councilor position as well as the secretary/treasurer seat. You will be receiving your invitation to vote in these elections shortly.

Finally, we are delighted to announce that ASMB together with ISMB will be officially affiliated with the journal *Matrix Biology*, owned by Elsevier. As a part of this affiliation, Elsevier has established a *Matrix Biology* award and the journal will carry news and announcements from both societies. Notably, *Matrix Biology* is received at ~4500 institutions world-wide and obtained more than 100,000 full text article downloads last year! This is a major achievement, I think, insofar as the journal has only 8 issues per year. Congratulations to Bjorn, the Editorial board members and the vast list of reviewers published (they are no longer anonymous) in the January issue of the journal.

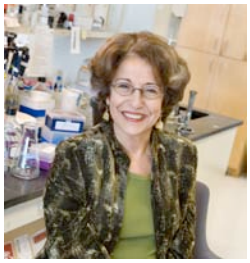
I am pleased to report to you that we have a record number of membership renewals. This is very important because there is a tendency of not renewing the ASMB membership in the year in which there is no meeting. However, there remains a number of members who have not yet renewed their

memberships. Please, RENEW NOW! Everything can be easily done on line by going to www.asmb.net.

Last year, we contracted with FASEB to oversee the administration of ASMB. We welcome the new executive director, Jennifer Holland, who has done a tremendous job since she joined in December of 2007. Please read her introduction and enthusiastic thoughts about ASMB in this newsletter.

As a side note regarding Grants and Study Sections; What can we do as a society for matrix biology? We thank Checco Ramirez for participating at the last NIH open house and providing the following report : "The reform of the NIH peer-review system is about to enter the final stage of implementation after a year-long consensus building, fact finding process that has included Open House Workshops in Bethesda, Regional Consultation meetings in San Francisco, Chicago and New York, and meetings in Washington of the top NIH leadership with Advocacy Groups and Professional Societies (see http://enhancing-peer-review.nih.gov/calendar.html). As indicated in the last *Peer Review Note* (http://cms.csr.nih.gov/NewsandReports) formal recommendations will be made in February 2008; they are likely to include significant changes in the logistics and scientific criteria of the peer-review process, as well as in the length of the applications and the structure of the study sections. Briefly, the emerging consensus is for shorter proposal to be reviewed exclusively on criteria of significance and impact by smaller study sections with prior input of outside experts. As expected, the review process will be mostly if not exclusively, computer-based. Other big changes being considered include the elimination of fixed dates for grant submission, and of A1 and A2 re-submissions. There may also be a cap on the number of grants per investigator and a shortening of the period of award. Irrespective of the changes, our participation in the review process remains the single most critical point in ensuring fair and knowledgeable evaluation of our science. To this end, the CSR has instituted a web site (RecruitReviewers@csr.nih.gov) to be used by Professional Societies to submit names of potential reviewers."

Again, I would urge those of you who share similar concerns and motivations to e-mail me (iozzo@mail.jci.tju.edu) your comments, experiences and possible solutions on how to improve the current situation. Your thoughts will be presented at the NIH-sponsored open houses. Now it's time for action!


Mina Bissell


Bob Mecham

I would also like to take this opportunity to congratulate Mina Bissell for receiving the prestigious FASEB Excellence in Science Award, and Bob Mecham for being chosen as one of the new AAAS Fellows. Both scientists, in my view, have an incredible ability to mentor and support junior researchers in the field.

I was surprised to find a classical JBC paper on Vince Hascall (JBC 282:e35, 2007), because one of the subheadings was "100 years of Biochemistry and Molecular Biology". I thought that Vince did not look that old! The article is so nicely written that I would suggest you read and discover how Vince not only contributed to proteoglycan biochemistry when he was a student at Rockefeller University but also how he discovered a new species of orchids named Platystele acutilingua (in Latin means sharp tongue…).


Vince Hascall

Warmest regards to all,

Renato Iozzo

Meet the new ASMB Executive Director-Jen Holland

I am very excited to be working with your society and on the 2008 meeting to be held in San Diego, CA. From my brief exposure, I can tell ASMB is a wonderful society, focusing on a science that offers broad reaching applications. I truly look forward to working with your wonderful councilors and leaders. As a brief introduction, I used to be a lab monkey myself, working in a military forensic lab doing mtDNA sequencing for identification purposes. After an extended sabbatical to raise a family, I joined FASEB 2 years ago to work in society management. I enjoy using my organizational skills to facilitate society and meeting management while still being connected to my interests in Molecular Biology and other associated sciences. Please feel free to contact me any time at jholland@faseb.org and I look forward to meeting everyone in San Diego in December '08.

Jen Holland

Welcome the new ASMB Newsletter Editor-Ambra Pozzi

Dr. Ambra Pozzi will join Marian Young in editing our ASMB newsletter. Both editors request the members to send items they would like to see included in the newsletter. Pictures, upcoming meetings, hot new papers or notable awards to our members would be welcome. Please forward these items to Marian Young (myoung@dir.nidcr.nih.gov) or Ambra Pozzi (Ambra.pozzi@vanderbilt.edu).

2008 ASMB Annual Dues

Your 2008 Annual Dues are NOW past due – You can renew and pay via the ASMB website at www.asmb.net. As members, you will receive a discount on the meeting and access to reduced fees or no cost for other ASMB activities. For 2008, Regular membership is $90 and $50 for Students/Postdoctoral Fellow. We need your continued support in the ASMB and we encourage you to RENEW NOW!

Bissell Awarded

Dr. Mina Bissell, of Berkeley Lab's Life Sciences Division, is a world-renowned leader in the area of the role of extracellular matrix (ECM) and microenvironment in regulation of tissue-specific function with special emphasis in breast cancer, where she has changed some established paradigms Dr. Bissell is the recipient of the 2007 Annual International Award from The French National Institute for Health and Medical Research (INSERM). This award is given to those in science, medicine or public health who have "motivated and reinforced international exchange and collaboration in terms of innovation and improvement of excellence and the transfer of fundamental research to clinical research and public health." Dr. Bissell was recognized for her "three decades of creativity, focus and tenacity to uncover the essential role of cell and matrix topology in carcinogenesis with recent elucidation of the mechanisms by which tissue geometry can control branching morphogenesis by defining the local microenvironment."

Dr. Bissell also received the 2007 Pezcoller Foundation-AACR International Award for Cancer Research for her pioneering work on the relationship between cancer genetics and the three-dimensional structure of cells and tissues. It was for this same reason that The American Philosophical Society elected Dr. Bissell as a new member. She is one of only six new members chosen this year for the biological sciences section. Founded in 1743 by Benjamin Franklin, the APS is the oldest scholarly society in the United States.

In addition, Dr. Bissell received the 2008 Excellence in Science Award by the Federation of the American Societies for Experimental Biology (FASEB). This award, sponsored by Eli Lilly and Company, recognizes outstanding achievement by women in the biological sciences. Dr. Bissell received the award for creating a "paradigm shift" in her conceptualization of the "dynamic reciprocity" between the cellular microenvironment, the extracellular matrix, and 3-D tissue structure in cell differentiation and cancer.

Investigators Secure Funding for Transitional Mentoring in Osteoarthritis

The University of Delaware is proud to be the recent recipient of an $11 million award from the National Institutes of Health for a multi-investigator program seeking to foster translational research on osteoarthritis, a debilitating disease with its origin in destruction of the extracellular matrix of the joint. A unique aspect of this program is that it includes a mentoring program to foster the development of women biomedical researchers in natural science and engineering at UD. [see http://www.udel.edu/PR/UDaily/2007/jun/nih061507.html] The award, led by Thomas Buchanan, professor and chairperson of the Department of Mechanical Engineering, focuses on building an interdisciplinary scientific infrastructure that will bring together the expertise to address the mechanisms of osteoarthritis, its prevention and treatment by examining the disease from the integrated perspectives of tissue cell biology, cytomechanics, biomechanics, physical therapy and clinical intervention. The program will involve 14 faculty in three of UD's seven colleges, including the departments of biological sciences and physical therapy in the College of Arts and Sciences, mechanical engineering in the College of Engineering, and health, nutrition and exercise sciences in the College of Health Sciences. Researchers from Alfred I. duPont Hospital for Children and the Kessler Medical Rehabilitation Research and Education Corporation will serve as collaborators. Dr. Mary C. Farach-Carson, a former member of the Council of the ASMB, serves as a faculty mentor and as principal investigator of Project 1, which focuses on the structural and functional roles of perlecan in cartilage biology. Dr. Farach-Carson also is the co-editor of a book on osteoarthritis, fourth in the series, Topics in Bone Biology: Bone and Oteoarthritis, published by Springer in November 2007.

Related Meetings Announcements

Workshop: Vascular Biology and Bioengineering II

March 16-19, 2009 Whistler, British Columbia

Organized by Cecilia Giachelli, University of Washington and Michelle Bendeck, University of Toronto. For further information, contact Michelle P. Bendeck, Ph.D., Professor Career Investigator, Heart and Stroke Foundation of Ontario, Department of Laboratory Medicine and Pathobiology, University of Toronto, Medical Sciences Building, Room 6213, 1 King's College Circle, Toronto, ON M5S 1A8 - Tel. 416-946-7133, Fax. 416-978-5959
e-mail: michelle.bendeck@utoronto.ca

The British Society for Matrix Biology Meetings in 2008

In 2008, The British Society for Matrix Biology enters its 28th year, and has two meetings planned. On April 7 and 8 the Society will meet at The University of York. The theme of the meeting is "Where, When and How did my Cartilage go?", with presentations on the cellular and molecular basis of arthritis. The meeting organizer is Dr. Philippa Parsons (philippa.parsons@smith-nephew.com.

On September 8 and 9, 2008 the Society will hold a special meeting at Cardiff University to mark the contributions of Professor Tim Hardingham. The meeting is entitled "Cartilage Metabolism and Cell-based Therapies for Tissue Regeneration" and is organised by Professor Bruce Caterson (Caterson@Cardiff.ac.uk). Further details about the BSMB and our conferences, including speakers, abstract submission and registration can be found at http://www.bsmb.ac.uk - John Couchman, Ph.D., Honorary Secretary, BSMB john.couchman@bric.dk

5th European Meeting on Elastin

July 16-19, 2008 Alcalá de Henares , Spain

The 5th European conference on elastin will be held in Alcalá de Henares, Spain form July 16-19. The meeting will cover all aspects of elastin biology, including microfibrils, proteases, elastin-related diseases, and tissue development. The meeting is being organized by Dr. Julia Buján (mjulia.bujan@uah.es). Further information can be found at: www.elastin2008.fgua.es

54th Annual Meeting of the Orthopaedic Research Society

San Francisco, CA
March 2-5, 2008
http://www.ors.org/web/index.asp

First Annual Extracellular Matrix Satellite Program at 55th Annual Meeting of the Society of Gynecologic Investigation

San Diego, CA
March 26, 2008
www.sgionline.org

2008 Cleveland Clinic Cartilage Innovation Summit

Cleveland, Ohio
May 7-10, 2008
http://www.clevelandclinicmeded.com/live/courses/2008/cart08/default.htm

14th Canadian Connective Tissue Conference

Montreal, Quebec, Canada
June 5-7, 2008
http://cctc2008.mcgill.ca/

2008 Basement Membranes Gordon Research Conference

University of New England in Biddeford, ME
June 22-27, 2008
http://www.grc.org/programs.aspx?year=2008&program=basement

9th International Congress on Cell Biology (ICCB)

Seoul, Korea
Oct 7-10 2008
http://iccb2008.org/

XXIst FECTS Meeting

July 9-13, 2008 Marseille, France

This meeting will address all topics related to matrix biology and will include plenary lectures by invited speakers, short talks selected from submitted abstracts, and poster presentations. The scientific committee is chaired by Philippe Charpiot (philippe.charpiot@pharmacie.univ-mrs.fr) and Sylvie Ricard-Blum (s.ricard-blum@ibcp.fr). Further information can obtained at the meeting web site:
www.fects2008.pharmacie.univ-mrs.fr.

2008 Gordon Conference on Proteoglycans

Proctor Academy
Andover, NH
http://www.grc.org/programs.aspx?year=2008&program=proteoglyc

Chair : Prof. Philippe CHARPIOT - Marseille
Vice-chair : Prof. Sylvie RICARD-BLUM - Lyon

Scientific Committee

Monique AUMAILLEY - Cologne
Jacky BONAVENTURE - Paris
Philippe CHARPIOT - Marseille
Bruno CLEMENT - Rennes
Philippe GALERA - Caen
François-Xavier MAQUART - Reims
Jean-Claude MONBOISSE - Reims
Françoise REDINI - Nantes
Sylvie RICARD-BLUM - Lyon
Valérie SAMOUILLAN - Toulouse
Patricia SIMON-ASSMANN - Strasbourg

Local Organizing Committee

Laboratoire de Biochimie
Faculté de Pharmacie
Université de la Méditerranée - Marseille

Thierry AUGIER
Raymond CALAF
Claire CERINI
Corinne CHAREYRE
Philippe CHARPIOT
Alexandrine FOUCAULT-BERTAUD
Xue Dan KE
Edouard LAMY
Philippe PIOCERELLE

FECTS Contact Persons

Milan ADAM - Czech Republic
Edward BANKOWSKI - Poland
Stephan BAYDANOFF - Bulgaria
Ruth CHIQUET - Switzerland
Jack P. M. CLEUTJENS - The Netherlands
Guido DAVID - Belgium
Jyrki HEINO - Finland
Anders HJERPE - Sweden
Anthony HOLLANDER – UK
Nikos KARAMANOS - Greece
Henning LANGBERG - Denmark
Lazlo MODIS - Hungary
Joseph NEUMULLER - Austria
Yoshifumi NINOMIYA - Japan
Mats PAULSSON - Germany
Ida PUOCI-MINAFRA - Italy
Sylvie RICARD-BLUM - France
Naphtali SAVION - Israel

Registration – Abstract Submission

Early registration and abstracts for poster or oral presentation should be submitted before March 3, 2008 on the congress website
www.fects2008.pharmacie.univ-mrs.fr

General Information

The meeting will begin on Wednesday, July 9, 2008 with registration in the early afternoon. The opening ceremony will start at 18:30 followed by the welcome reception.

The gala dinner will be held on Saturday, July 12.

The meeting will conclude on Sunday, July 13, at 12:30.

Conference Venue

The XXIst Meeting of the Federation of European Connective Tissue Societies will be organized in the Faculté de Pharmacie, Université de la Méditerranée, in Marseille.

Internet connection and other facilities will be available.

Language

The official language of the FECTS meeting is English

Professional Congress Organizer

General Organization - Logistics
Registration - Hotel Reservations

ATOUT science ORGANISATION

ATOUT ORGANISATION SCIENCE
Village d'Entreprises St. Henri, Bât. 24
6, rue Anne Gacon
13016 Marseille - France

For further information visit the congress website
www.fects2008.pharmacie.univ-mrs.fr
or please contact us
e-mail : fects2008@atout-org.com

FEDERATION OF EUROPEAN CONNECTIVE TISSUE SOCIETIES

Call for Abstracts

XXIst Meeting FECTS

Organized by the FRENCH CONNECTIVE TISSUE SOCIETY
www.fects2008.pharmacie.univ-mrs.fr

MARSEILLE, France
Faculté de Pharmacie

JULY 9-13, 2008

FEDERATION OF EUROPEAN CONNECTIVE TISSUE SOCIETIES

Welcome

to the XXIst FECTS Meeting

9-13 July 2008, Marseille

This XXIst FECTS meeting is a major rendez-vous for everyone involved in basic and applied research in extracellular matrix biology, pathology and therapeutics. This international conference adopts a transdisciplinary format to cover the wide and dynamic field of matrix and biomaterials and to highlight the interactions between the key topics in the field.

The meeting will address all topics related to extracellular matrix biology and its involvement in diseases and therapeutics. It will also cover acquired and genetic diseases, cell therapy, stem cells, biomaterials, tissue engineering and regenerative medicine.

Experimental approaches will include biochemistry, biophysics, structural biology, cell biology, genetics, molecular biology, animal models and in silico approaches.

The meeting will comprise plenary lectures by invited speakers, short talks selected from the abstracts submitted by the participants and posters.

We aim to make this meeting a high profile forum of scientific exchange and to create opportunities for fruitful discussions between young and senior scientists and between researchers from academia and industry.

We hope you will enjoy the XXIst Meeting in Marseille

Invited Speakers

- Suneel APTE — Cleveland, USA
- Yann BARRANDON — Lausanne, Suisse
- Antony DAY — Manchester, UK
- Holger GERHARDT — London, UK
- Marie-Madeleine GIRAUD-GUILLE — Paris, France
- Eckhard LAMMERT — Dresden, Germany
- Birgit LEITINGER — London, UK
- Robert MECHAM — St Louis, USA
- Stefan MUNDLOS — Berlin, Germany
- Johanna MYLLYHARJU — Oulu, Finland
- Tomoyuki NAKAMURA — Kyoto, Japan
- Chris OVERALL — Vancouver, Canada
- Mario RASPANTI — Varese, Italy
- Florence RUGGIERO — Lyon, France

Preliminary Schedule

• Wednesday, 9

18:00-19:00 **Registration**
17:30-17:35 Welcome address — Prof. Philippe CHARPIOT, chair
17:35-17:45 Scientific Program — Prof. Sylvie RICARD-BLUM, vice-chair
17:45-18:30 Opening lecture — Prof. Robert P. MECHAM
18:30 **Welcome reception**

• Thursday, 10

9:00-9:40 • Plenary lecture — Holger GERHARDT
9:40-10:20 • Plenary lecture — Eckhard LAMMERT
10:20-11:00 Coffee break
11:00-12:30 • Workshops
Lunch
14:00-14:40 • Plenary lecture — Suneel APTE
14:40-15:20 • Plenary lecture — Florence RUGGIERO
15:20-18:00 Coffee break + Poster Session

• Friday, 11

9:00-9:40 • Plenary lecture — Marie-Madeleine GIRAUD-GUILLE
9:40-10:20 • Plenary lecture — Mario RASPANTI
10:20-11:00 Coffee break + Poster Session
11:00-12:30 • Workshops
Lunch
14:00-14:40 • Plenary lecture — Johanna MYLLYHARJU
14:40-15:20 • Plenary lecture — Stefan MUNDLOS
15:20-16:00 Coffee break
16:00-17:30 • Workshops
18:00 **Meeting of the FECTS contact persons**

• Saturday, 12

9:00-9:40 • Plenary lecture — Yann BARRANDON
9:40-10:20 • Plenary lecture — Rupert TIMPL Award
10:20-11:00 Coffee break
11:00-12:30 • Workshops
Lunch
14:00-14:40 • Plenary lecture — Tomoyuki NAKAMURA
14:40-15:20 • Plenary lecture — Birgit LEITINGER
15:20-18:00 Coffee break + Poster Session
19:00-19:00 **FECTS General Assembly**
Gala Dinner

• Sunday, 13

9:00-9:40 • Plenary lecture — Chris OVERALL
9:40-10:20 • Plenary lecture — Antony DAY
10:20-11:00 Coffee break
11:00-12:30 • Workshops
12:30 End of the meeting

Topics

Extracellular Matrix: from inside the cell to the matrix
Transmembrane collagens, fibropositors, internalization of biologically active fragments.

Cell-matrix interactions and signalling
Interaction network, pericellular matrix, cell-surface proteoglycans (syndecans, glypicans), integrins, discoidin domain receptors, signalling.

Extracellular Matrix: from molecules to extracellular machines
Organization of extracellular macromolecules into supramolecular structural assemblies and functional multimolecular complexes, structure-function relationship, role of biomolecular interactions.

Dynamic aspects of the Extracellular Matrix
Investigation of extracellular matrix, cell and tissue functions using concepts developed by physicists and chemists (liquid crystal assemblies, sol-gel transitions) and their relevance to physio-pathological situations.

Metalloproteinases-Extracellular matrix and cell surface remodelling
MMPs, ADAMs, ADAMTSs, degradomics: new strategies for identifying substrates, processing functions of MMPs, remodelling, shedding.

Extracellular Matrix: source and reservoir of bioactive molecules
Sequestration and release of growth factors/cytokines and of bioactive fragments originating from extracellular matrix, cryptic sites and biological activities.

Development
Extracellular matrix molecules and their functions in development, cell-cell interactions and modulation of growth and morphogenesis of tissues.

Maturation and aging of the Extracellular Matrix
Post-translational modifications of extracellular molecules and enzymes (prolyl and lysyl hydroxylases, lysyl oxidases, transglutaminase), aging photobiology, anti-aging molecules.

Extracellular matrix and fibroproliferative diseases
Molecular and cellular actors of pathological wound healing, scarring, tissue fibrosis, cancer.

Vascular Biology and angiogenesis
Physiological and pathological angiogenesis, patterning of the vascular network.

Extracellular Matrix diseases and therapies
Genetic and acquired diseases of the extracellular matrix; gene therapy trials.

Stem cells
Stem cells, cell therapy, ethics, regenerative medicine.

Systems biology and Extracellular Matrix
Complex systems, docking, extracellular matrix microarrays, bioinformatics, interaction network.

Tissue engineering: from the lab to the patient
Extracellular scaffolds, tissue substitutes, biomaterials, biomechanics, translational medicine.

XXIst FECTS Meeting

Use The ASMB Web Site www.asmb.net

Website Features

- Information about the organization, including bylaws, officers, membership, etc.
- Announcements--items of interest to matrix biologists
- Information about the ASMB National Meeting
- Employment & Funding Opportunities
- ASMB Newsletter archive
- Directory of members
- Links to members' web sites

ASMB business

- When you log onto the "Members Only" page (login using your email address and password. If you have forgotten your password, contact the ASMB office at **asmb@asmb.net**), you will immediately see your dues payment status and a listing of your journal subscriptions.
- You can pay your dues and subscribe to journals by selecting the "Membership Dues" button.
- The "Update" and "Search" buttons allow you to review and update your own contact information as well as search our member database.

To post information about a job opening or job wanted, send detailed information to our Administrative Assistant: **asmb@asmb.net**

Job opportunities and announcements will also be printed in our Society newsletter.

Don't Forget to Renew!

Your participation in our Society is the most important contribution you can make to helping increase awareness of research and opportunities in extracellular matrix biology.

With the help of your membership dues, in 2006 we added professional management of the society and provided 15 students and postdoctoral fellows with travel awards to our national meeting.

In the coming year, your dues will be at work to improve our website. Among the improvements will be posting an audio of the Keynote address and the abstracts from the ASMB meeting in Nashville, offering an expanded job board, and making the website compatible with all browsers. We urge you to pay your dues so we can continue to add programs that benefit matrix biology.

The 2008 Annual Dues can be paid any time via the ASMB website: http://www.asmb.net/

Alternatively, checks can be sent to the administrative office: ASMB, 9650 Rockville Pike, Bethesda, MD 20814.

Advantages of Membership:

- Membership and recognition in an emerging, important scientific discipline.
- A two-year membership rate that is significantly less expensive per year than the one-year rate.
- For two-year renewals, a significant discount on the registration fee for the 2008 ASMB National Meeting in San Diego.
- Participation in meeting planning and abstract review
- A Newsletter containing information about Society activities.

Access to the "Members only" web material where you can search the membership list, the meeting abstracts published in Matrix Biology and other interesting information relating to matrix biology.

Job Position Openings

Shriners Hospitals for Children

Shriners Hospitals for Children (http://www.shrinershq.org/) is accepting applications for the position of Assistant (Science) Corporate Director for Research Program for our headquarters in Tampa, Florida.

We have an extensive program in basic translational and clinical research in congenital orthopedic diseases, spinal cord injury and burns in children at our 22 hospitals and eight Research Centers, with an annual budget of $37 million. The successful applicant will assist the CDRP in the management of the research program, including review of research grant applications, grants administration, biomedical research related regulatory issues, program planning and evaluation, budgetary planning, research facilities development and other research administration related activities. Applicant must possess a Ph.D. in a biomedical scientific area, preferably in one of the SHC's mission areas, with a background in research funding and research administration

For a detailed position description, please go to http://www.shrinershq.org/ and search under Medical Research to view detailed posting. Interested applicants are encouraged to submit their curriculum vitae with the names and contact information of five references by February 13, 2008 to ebayron@shrinenet.org or by fax to (813) 281-7102. This position will be filled on 6/08. EOE/DFWP

Interesting Science

The EDA Splice Isoform of Fibronectin is Critical for Lung Fibrosis in vivo

Research teams led by Eric S. White, MD at the University of Michigan Medical School, Michigan, and Dr. Andrés Muro, Ph.D. at the International Centre for Genetic Engineering and Biotechnology (ICGEB) in Trieste, Italy, have recently identified a critical element in the pathogenesis of pulmonary fibrosis: they have found a novel role for an alternatively spliced form of the ubiquitous glycoprotein fibronectin, termed EDA fibronectin. This isoform is largely expressed in tissues but is almost never observed circulating in plasma. It results from the alternative splicing of a single exon (EDA exon) in the fibronectin pre-mRNA, which is regulated by developmental and temporo-spatial cues. In the American Journal of Respiratory and Critical Care Medicine (Muro et al, Am J Resp Crit Care Med. 2007. Dec 20 [Epub ahead of print]), Dr. Muro's and Dr. White's laboratories have now demonstrated that EDA fibronectin is a critical component in the development of lung fibrosis.

Pulmonary fibrosis is the end result of a number of injuries to the lung, including inflammatory, allergic, and toxic, or it may be idiopathic. Progressive forms of idiopathic pulmonary fibrosis (IPF) are largely untreatable and patients ultimately die from unrelenting extracellular matrix deposition in the lung resulting in progressive respiratory failure. Investigators have long thought that ongoing inflammation was responsible for the progression of scar tissue deposition in the lung, but anti-inflammatory drugs and immunosuppressants are ineffective in the treatment of IPF. Muro and White hypothesized that EDA fibronectin, which had previously been shown to be deposited prior to collagen deposition in the lungs of IPF patients (Kuhn et al. Am Rev Resp Dis. 1989. 140(6):1693-1703) may act to amplify a fibrotic response and that eliminating EDA from the lungs would attenuate pulmonary fibrosis.

Numerous investigators have found elevated levels of EDA fibronectin in the plasma and affected tissues of patients with certain disorders, such as psoriasis (Ting et al. J Invest Dermatol. 2000. 114(4):706-711), rheumatoid arthritis (Shiozawa et al. Rheumatology (Oxford). 2001. 40(7):739-742), and epithelial malignancies. However, the physiologic role of EDA fibronectin began to be elucidated when Muro's team engineered mice that constitutively included ($EDA^{+/+}$) or excluded ($EDA^{-/-}$) the EDA domain in all fibronectins. Loss of regulated splicing of fibronectin resulted in a significant decrease in lifespan (Muro et al. J Cell Biol. 2003. 162(1):149-160) and abnormalities in motor coordination (Chauhan et al, Behav Brain Res, 2005. 161(1): 31-38). Notably, however, mice lacking the EDA domain altogether ($EDA^{-/-}$) were incapable of healing skin wounds appropriately, resulting in skin ulceration and inflammation. This finding, along with prior work by Kuhn and colleagues (Kuhn et al. Am Rev Resp Dis. 1989. 140(6):1693-1703, Kuhn and McDonald, Am J Pathol, 1991. 138(5):1257-1265), led Muro and White to hypothesize that EDA fibronectin might be an important component of a provisional matrix in the lung that is permissive for collagen deposition and tissue fibrosis.

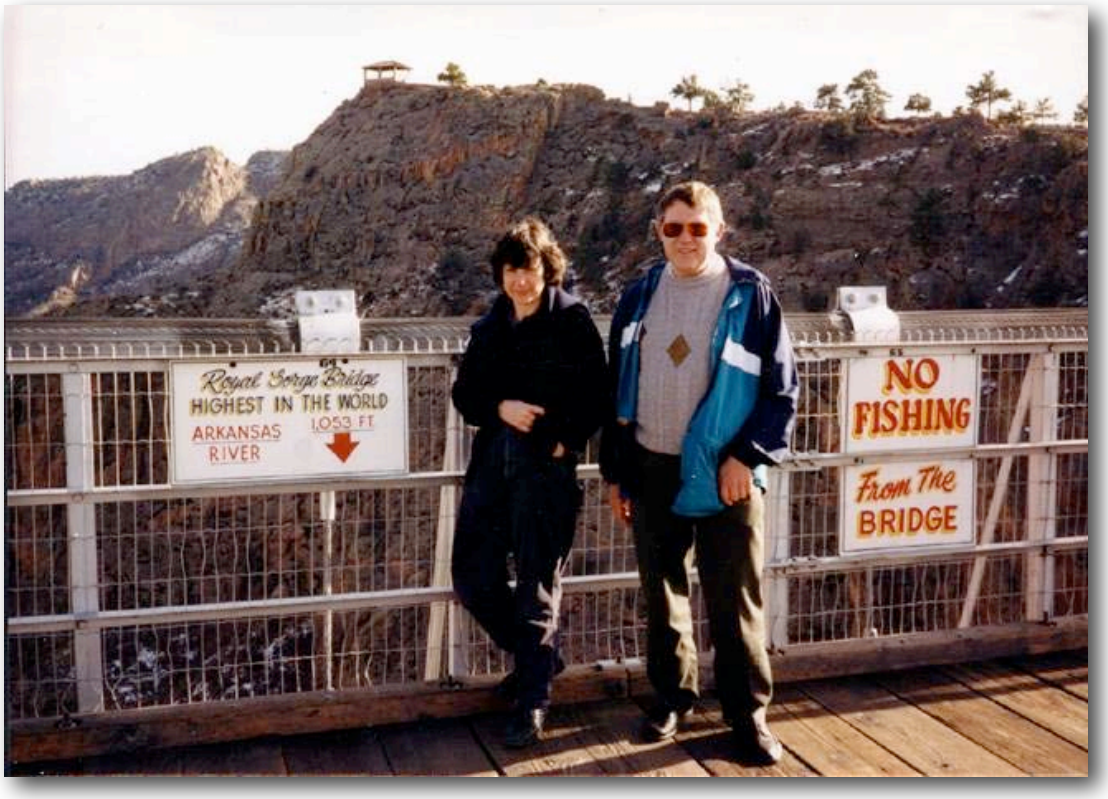
To dissect the role of EDA fibronectin in lung fibrosis, White and Muro examined expression of EDA fibronectin in lungs of patients with IPF, and found a localization of EDA fibronectin to the region of active fibrogenesis, the fibroblastic focus. They then evaluated EDA fibronectin expression in primary lung fibroblasts derived from patients with IPF or from control patients. They found a striking increase in EDA fibronectin production at both RNA and protein levels that correlated with increased expression of a marker of fibroblast activation (α-smooth muscle actin [SMA]) in IPF fibroblasts, whereas control fibroblasts expressed markedly less EDA fibronectin and α-SMA; this evoked the link between EDA fibronectin and α-SMA expression as was previously shown a decade ago by Serini et al (Serini et al, J Cell Biol 1998, 142(3):873-881). However, the direct association between EDA fibronectin and lung myofibroblast differentiation was shown when Muro and White observed that $EDA^{-/-}$ lung fibroblasts could only undergo myofibroblast differentiation when plated on a matrix containing EDA fibronectin, even in the presence of the potent myofibroblast differentiation factor TGF-β. Moreover, they found that, in the absence of EDA fibronectin, TGF-β activation was significantly impaired. Finally, White and Muro demonstrated that experimental pulmonary fibrosis in mice using the well-described intratracheal bleomycin model could be completely prevented in $EDA^{-/-}$ mice, lending evidence to the hypothesis that EDA fibronectin is necessary for the development of pulmonary fibrosis.

These findings provide important new clues to the mechanisms of wound healing and tissue fibrosis. Current hypotheses focus on the critical role of TGF-β in tissue fibrosis; thus, mechanisms to block TGF-β activation or activity may be beneficial in the treatment of the largely untreatable fibrotic disorders. The observation by White and Muro that EDA fibronectin is important in TGF-β activation, coupled with recent published work showing that antibody blockade of integrin α v β 6 (which is another mechanism by which latent TGF-β is activated) can attenuate experimental pulmonary fibrosis (Horan et al, Am J Resp Crit Care Med 2008. 177(1):56-65) supports the crucial role of TGF-β and the extracellular matrix in lung fibrosis. Further, they implicate EDA fibronectin in the pathogenesis of lung fibrosis and suggest that blocking EDA fibronectin signaling might be a potential therapeutic target in fibrotic disorders.

Study of Note by Alan J. Grodzinsky

A study that some folks might find interesting deals with biophysical assessment of the shear properties of aggrecan monomers measured via AFM-based lateral force microscopy (Biophys J. 2007 Feb 15;92(4):1384-98, and Biophys J. 2007 Sep 1;93(5):L23-5). This is a continuation of our collaborative studies with Prof. Christine Ortiz in MIT's Dept of Materials Science and Engineering, focusing on AFM imaging and nanomechanical properties relevant to physiology in vivo. It may be of interest concerning the molecular structure-function of aggrecan, as well as the delineation of techniques potentially useful for many other matrix macromolecules.

Member Activities



Dick Heinegard and Jill Urban, thinking to jump?

In Memoriam

Charles Lapiére

The ASMB has the sadness to inform its members that Charles Lapière, Emeritus Professor of Dermatology at the University of Liège, Belgium and foundator of the Laboratory of Experimental Dermatology and Connective Tissues Biology, passed away on 8th November 2007. Charles Lapière had a truly remarkable career as a researcher, clinician and teacher. He actively participated in the founding of the FECTS and the ISMB and strongly promoted research in Dermatology by its involvement in the foundation of the European Society of Dermatological Research and also served as its Secretary. He was also a founding member and the first President of the European Tissue Repair Society. He received many honours and awards and this past spring, his scientific achievements were honoured with the Doctor honoris causa of the University of Cologne. After his medical studies and a residency in internal medicine, he joined, in the early 60's, the Laboratory of Jerome Gross at Harvard Medical School in Boston. His work there as a young research fellow led to a major discovery, the "animal collagenase" or MMP1. This was a real breakthrough that opened a new field of research, the matrix metalloproteinases, that are now extensively investigated in basic, clinical and industrial laboratories worldwide. Upon his return to Belgium in 1963, he created a clinical and basic research unit interested in bone and skin collagen metabolism and was appointed Professor of Dermatology and Chairman at the University of Liège in 1970. As a dermatologist and a connective tissue scientist, his curiosity was triggered by a disease in a Belgian cattle, called dermatosparaxis. The affected animals suffered from severe skin fragility. Charles Lapière's extraordinary work on this disease led to two major advances in the understanding of collagen metabolism that stimulated further research in many laboratories: the demonstration of the existence of collagen precursors and, in these cattle, the lack of activity of a specific enzyme (aminoprocollagen peptidase) that normally excises the amino-terminal peptide of procollagen. This was the first demonstration of a genetic disease affecting collagen. More than 20 years later, the same disease was identified in humans, Ehlers-Danlos type VII C, which is now known to result from mutations in the gene coding for the procollagen peptidase, ADAMTS-2. A novel aspect of his scientific originality expressed during the 1980s. Charles Lapière was one of the first to show that the extracellular matrix transfer mechanical information to the cells and regulate their behaviour in vitro and in vivo. These observations had a major impact on the development of artificial skin models allowing physiological and pharmacological studies under three-dimensional conditions. His capacity to come up with new ideas extended to several other fields, such as space biology programmes selected by NASA/ESA to investigate the impact of microgravity on the RhoGTPases-dependent cell regulations and the consequences on health. Beyond his own academic achievements, Charles Lapière was also recognized as an enthusiastic mentor stimulating and encouraging the research endeavours of young scientists and clinicians who are now directing research and clinical departments in different countries. His busy and full life also extended beyond his professional activities. He loved nature, animals, hunting, dry-fly fishing, tennis, enjoyed good wines and cooking and devoted most week-ends to his huge kitchen-garden and wonderful collection of orchids. Charles Lapière leaves behind the token of a creative mind and profound intellectual curiosity and the feeling of a warmest and most friendly personality.

Betty Nusgens
University of Liège