# Elastic Tissues and Extracellular Regulation of Growth Factor Signaling

July 29 - 30, 2017

#### **Chairs**

Giselle C. Yeo and Marie Billaud

#### **University of New England**

11 Hills Beach Road Biddeford, ME, US

#### **Conference Description**

The Gordon Research Seminar on Elastin, Elastic Fibers and Microfibrils is a unique forum for graduate students, post-docs, and other scientists with comparable levels of experience and education to present and exchange new data and cutting edge ideas.

This meeting brings together young scientists at the forefront of elastic fiber-related research to exchange ideas with peers and established scientific leaders. Topics to be covered encompass the latest advances in elastic fiber and microfibril-related research, including the biology of elastic tissues, molecular characterization of elastogenic components, matrix regulation of cell signaling, advances in analytical tools for elastic systems, mechanisms of elastic fiber diseases, and translational applications for tissue repair and regeneration. There is a strong focus on scientific discussion, networking, mentorship, and career development.

### Related Meeting



This GRS will be held in conjunction with the "Elastin, Elastic Fibers and Microfibrils" Gordon Research Conference (GRC). Those interested in attending both meetings must submit an application for the GRC in addition to an application for the GRS. Refer to the <u>associated GRC program page</u> for more information.

### **Conference Program**

Saturday		
2:00 pm - 5:00 pm	Arrival and Check-in	
3:30 pm - 3:45 pm	Introductory Comments by GRC Site Staff / Welcome from the GRS Chair	
3:45 pm - 4:30 pm	Keynote Session: Historical and Current Perspectives on Elastic Fiber Function: From Structure to Signaling Discussion Leaders: Ewa Mularczyk (University of Manchester, United Kingdom) and Rongmo Zhang (McGill University, Canada)	
3:45 pm - 4:15 pm	<b>Francesco Ramirez</b> (Icahn School of Medicine at Mount Sinai, USA) "Historical and Current Perspectives on Elastic Fiber Function: From Structure to Signaling"	
4:15 pm - 4:30 pm	Discussion	
4:30 pm - 6:00 pm	Poster Session	
6:00 pm - 7:00 pm	Dinner	
7:30 pm - 9:30 pm	Structure, Composition and Interactions of Elastic Fiber Components Discussion Leaders: Willeke Daamen (Radboud University Nijmegen Medical Centre, The Netherlands) and Alexander Eckersley (University of Manchester, United Kingdom)	
7:30 pm - 7:45 pm	Jhonsen Djajamuliadi (University of Hawaii at Manoa, USA) "Investigations of the Unique Role of Alanines in the 'Elastin Puzzle' by Solid-State NMR Spectroscopy and MD Simulations"	
7:45 pm - 7:50 pm	Discussion	
7:50 pm - 8:05 pm	<b>Pearl Lee</b> (The University of Sydney, Australia) "A Cell Adhesive Peptide from Tropoelastin Promotes Sequential Cell Attachment and Spreading via Distinct Receptors"	
8:05 pm - 8:10 pm	Discussion	

9:15 am - 9:20 am	"Therapeutic Potential of Osteoclast Inhibitory Fibrillin-1 Fragments"  Discussion
9:00 am - 9:15 am	Muthu lakshmi Muthu (McGill University, Canada)
9:00 am - 11:00 am	Biology of Elastic Fibers and Microfibrils: Implications in Diseases and Therapeutic Potential Discussion Leaders: Andriy Cherkas (Lviv National Medical University, Ukraine) and Hana Hakami (McGill University, Canada)
7:30 am - 8:30 am	Breakfast
Sunday	
9:25 pm - 9:30 pm	Discussion
9:10 pm - 9:25 pm	<b>Chelsea Stowell</b> (University of Pittsburgh, USA) "Pilot Evaluation of an <i>In Situ</i> Tissue Engineered Vascular Graft in the Ovine Arterial Circulation"
9:05 pm - 9:10 pm	Discussion
8:50 pm - 9:05 pm	Julia Lopez-Guimet (University of Barcelona, Spain) "Novel Morphological Approaches to Analyse Elastic Laminae Damage in Murine Marfan Syndrome Aortae"
8:45 pm - 8:50 pm	Discussion
8:30 pm - 8:45 pm	<b>Mukti Singh</b> (University of Manchester, United Kingdom) "Structure and Interactions of Elastic Fiber Proteins ADAMTS-L2 and ADAMTS-L4"
8:25 pm - 8:30 pm	Discussion
8:10 pm - 8:25 pm	Jingjie Yeo (Massachusetts Institute of Technology, USA) "Molecular Origins of the Concentration-Dependent Thermal Response in Silk-Elastin-Like Protein Hydrogels: Integrating Experiments and Multiscale Computational Modeling"

1:30 pm - 2:30 pm	Mentorship Component: I Got My PhD - Now What?  Discussion Leaders: Heena Kumra (McGill University, Canada) and  Michael Lockhart (University of Manchester, United Kingdom)		
12:30 pm - 1:30 pm	Lunch		
11:00 am - 12:30 pm	<b>Poster Session</b> Coffee will be served in the poster area from 11:00 am - 11:30 am		
10:55 am - 11:00 am	Discussion		
10:40 am - 10:55 am	<b>Kai Li Tan</b> (Baylor College of Medicine, USA) "Ari-1 and Parkin Affect Nuclear Organization, and ARIH1 Variants Are Associated with Aortic Aneurysm"		
10:35 am - 10:40 am	Discussion		
10:20 am - 10:35 am	Aneesh Ramaswamy (University of Pittsburgh, USA) "Improved Aortic Elastogenesis Driven by Adipose-Derived Mesenchymal Stem Cell Secreted Factors"		
10:15 am - 10:20 am	Discussion		
10:00 am - 10:15 am	Katrin Hildebrandt (University of Cologne, Germany) "Microenvironmental Regulation of Muscle Homeostasis by Supramolecular Collagen VI and Fibrillin-2 Networks"		
9:55 am - 10:00 am	Discussion		
9:40 am - 9:55 am	Miguel A. Ortega (University of Alcala, Spain) "Chronic Venous Insufficiency in Pregnancy: Its Relation to Remodeling of Placental Villi"		
9:35 am - 9:40 am	Discussion		
9:20 am - 9:35 am	Shataakshi Dahal (Lerner Research Institute, Cleveland Clinic, USA)  "Demonstrating Superior Elastin Regenerative Properties of BM-MSC-Derived Smooth Muscle Cells in a 3D Collagenous Milieu"		

1:30 pm - 2:30 pm	Panel Discussion I Got my PhD - Now What?		
	• Julie Phillippi (University of Pittsburgh, USA)		
	Katja Schenke-Layland (Fraunhofer Institute for Interfacial		
	Engineering and Biotechnology IGB, Germany)		
	• Silvia Smaldone (Regeneron Pharmaceuticals, Inc., USA)		
	<ul> <li>Anthony Weiss (The University of Sydney, Australia)</li> </ul>		
2:30 pm - 3:00 pm	Evaluation Period		
	Fill in GRS Evaluation Forms		
3:00 pm	Seminar Concludes		

## Contributors

Carl Storm International Diversity Fellowship	National Institute of Arthritis and Musculoskeletal and Skin Diseases	Cytoskeleton, Inc.  Small G-proteins, actins, tubulins and kits to measure their activity.
ACS Biomaterials SCIENCE & ENGINEERING	The Company of Biologists	REGENERON
elastagen		