BIOMIMICRY RESEARCH INNOVATION CENTER
2016-17 SEMINAR SERIES

Gareth McKinley
Department of Chemical Engineering, MIT

Friday, October 7, 2016; 2:15 pm
Goodyear Polymer Center; Room 229

"Fog, Feathers and Fluid Friction Reduction using Omniphobic Surfaces: Biomimetic Inspiration and Engineering Realization"

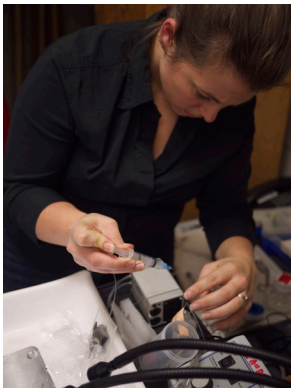
Gareth H. McKinley is the School of Engineering Professor of Teaching Innovation within the Department of Mechanical Engineering at MIT. He received his BA (1985) and M.Eng (1986) degrees from the University of Cambridge and his Ph.D (1991) from the Chemical Engineering department at MIT. He taught in the Division of Engineering and Applied Science at Harvard from 1991-1997 and was an NSF Presidential Faculty Fellow from 1995-1997. He won the Annual Award of the British Society of Rheology in 1995 and the Frenkiel Award (with J. P. Rothstein) from the APS Division of Fluid Dynamics in 2001.

Ulrike G.K. Wegst
Associate Professor of Engineering
Thayer School of Engineering at Dartmouth

Friday, December 2, 2016; 2:15 pm
Goodyear Polymer Center; Room 229

"Biological Materials, Biomaterials and Biomimetics"

Ulrike Wegst studied physics at the University of Göttingen in Germany and received her Ph.D. in Engineering from the University of Cambridge in 1997 for analysis of the mechanical performance of natural materials. She worked on the CES Eco-Selector software before moving to the Institut National Polytechnique de Grenoble in France in 2000 and to the Max Planck Institute for Metals Research in Stuttgart, Germany in 2001. She has been a Faculty Guest Scientist at the Lawrence Berkeley National Laboratory and the Anne Stevens Assistant Professor at Drexel University. Dr. Wegst joined the faculty at Dartmouth in January 2012. Her research interests include the mechanical performance of natural materials, biomaterials and tissue engineering, self-assembly, biotemplated materials, biomimetics, novel materials for nuclear fuel applications, multifunctional hybrid materials, materials selection and eco-design, eco-audits, materials in musical instruments and sports equipment, and science education through interdisciplinary projects linking music, arts and sport.



Brooke Flammang
New Jersey Institute of Technology
Department of Biological Sciences

Friday, February 17, 2017; 2:15 pm
Goodyear Polymer Center; Room 229

"Morphological and functional diversity of fish fins"

After completing her PhD studying the biomechanics of fish swimming at Harvard University in 2010, Dr. Brooke Flammang continued at Harvard as a postdoctoral research fellow for an Office of Naval Research funded project to develop a fully autonomous underwater vehicle modeled after the bluegill sunfish. Currently she is an Assistant Professor at the New Jersey Institute of Technology, where, among other projects, she is working to develop new adhesive technologies modified after fish suction mechanisms.

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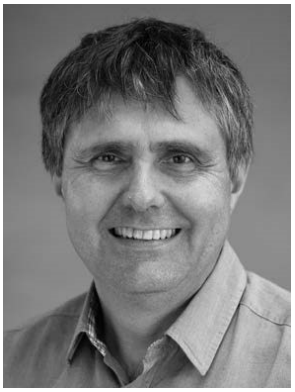
Julian F.V. Vincent
University of Oxford
Department of Zoology, UK

Friday, March 10, 2017; 2:15 pm
Goodyear Polymer Center; Room 229

"An Ontology of Biomimetics"

Julian F.V. Vincent is a zoologist. In 1968 he joined the Department of Zoology at the University of Reading, UK, developing expertise in materials and later in biomimetics. He co-founded the world's first Centre for Biomimetics in 1991 at Reading. In 2000 he was appointed Professor in the Department of Mechanical Engineering in Bath, where he created the Centre for Biomimetic and Natural Technologies. He retired in 2008. He was part time lecturer at the Royal College of Art & Design and Imperial College London until 2010. He has extensive experience in biomimetics and has researched and consulted in many interdisciplinary contexts, such as mechanical engineering, materials science, architecture, design, creativity, biology, materials, food physics, food texture. He is, and has been, a member of numerous scientific and advisory boards. He is the Founding President of the International Society of Bionic Engineering; Senior Research Associate in Zoology, University of Oxford, UK; Honorary Professor of Biomimetics at the University of Rhein-Waal, Germany.



Peter Fratzl
Director Max Planck Institute of Colloids and Interfaces
Department of Biomaterials

Friday, April 14, 2017; 2:15 pm
Goodyear Polymer Center; Room 229

"Water as a fuel - the materials basis for passive plant movements"

Peter Fratzl is director at the Max Planck Institute of Colloids and Interfaces in Potsdam, Germany, and honorary professor of physics at Humboldt University, Berlin, and at Potsdam University. He received an engineering degree from the Ecole Polytechnique in Paris, France (1980), and a doctorate in Physics from the University of Vienna, Austria (1983). Before moving to Potsdam in 2003, he has been holding professor positions in materials physics at the Universities of Vienna and Leoben in Austria and been director of the Erich Schmid Institute of materials science of the Austrian Academy of Sciences. Peter Fratzl's lab studies the relation between (hierarchical) structure and mechanical behaviour of biological materials, such as mineralized tissues, extracellular matrix, protein-based materials or plant cell walls, as well as bioinspired composite materials. This is complemented by medically oriented research on osteoporosis and bone regeneration. Peter Fratzl has published more than 350 papers in journals and books, mostly on interdisciplinary materials science topics. He received several international awards for his work including the Max Planck Research Award 2008 from the Humboldt Foundation (together with Robert Langer, MIT) and the Leibniz Award 2010 of the German Science Foundation. In 2010, he was awarded an honorary doctorate from the University of Montpellier, France. Since 2007 he is foreign member of the Austrian Academy of Sciences and since 2012 Fellow of the Materials Research Society (MRS).

For further information, please contact **Madhavi Warrick** at **mwarric@uakron.edu**.