Thursday 28th of February

8.30-9.30 at Faculty Club, Dining Room 2
Introduction to transfert technologies at MIT
Speaker : Irwin Winkler/ Senior Industrial Liaison Program Officer

9.30-10.30 at Faculty Club
Technology Licensing at MIT.
Speaker : Jack Turner, associate Director of Technology Licensing Officer

10.30 at Faculty Club
Fabrication on Flexible Substrates
Prof. Karen Gleason, Alexander and I Mickael Kasser Professsor of Chemical Engineering
http://web.mit.edu/gleason-lab/personnel_kkg.htm

11.30 at Faculty Club
Unwoven Fibers
Prof. Greg Rutlege, Lammot du Pont Professor of Chemical Engineering
http://web.mit.edu/rutledgegroup/

12.30 - 1.30 lunch Buffet

1.30-2.30 at 37-252
Biosuit
Prof. Dava J Newman, Professor of Aeronautics and Astronautics and Engineering Systems
http://web.mit.edu/aeroastro/www/people/dnewman/bio.html

2.30-3.30 at Faculty Club
Nanoengineered Surfaces, interfaces and coatings_ LiquiGlide
Prof. Kripa Varanasi, Doherty Associate Professor of Ocean Utilization
http://varanasi.mit.edu/

3.45-5.00 at Media LAB E14-548
E-textiles and Computational Fashion Design
Speakers : Prof.Leah Buechley, AT&T Career Development Associate of Media Arts and Sciences and her graduate student Jennifer Jacobs

8.00-10.00 Diner-Rencontre sur l'innovation au restaurant Union Oyster House, 41 Union Sreet, Boston, salle "37 Union", avec deux CCEF : Christian Hôte, DIGIMIND, & Gilles Widowski, NETZSCH

Friday 1st or March

8.00**-8.45 At Faculty Club – **Dining Room 3
Rencontre organisée en partenariat avec la Mission pour la Science et la Technologie du Consulat Général de France à Boston :

-Présentation des programmes de soutien au transfert de technologie et de valorisation des innovations des entreprises françaises par Lisa Treglia (programme Fat²e, FAID) et Adrien Destrez (programme NETVA)
-Intervention de Marie Landel Meunier, fondatrice du cabinet Marie Landel & associés, CCEF, sur le « climat des affaires » américain & les relations Universités- Entreprises

9.00-10.30 at Room 36-413 department of Material Science and Engineering, 77 Mass.Ave.
Fibers @MIT
Speaker : Prof. Yoel Fink, Professor of Materials science
http://dmse.mit.edu/faculty/profile/fink

11.00-12.00 at KVA architectures, 10 Farnham Street, Boston 02119, (nearby Hampden str.)
MAtx (www.kvarch.net)
Prof Sheila Kennedy, skennedy@kvarch.net, **t:** 01 617 442 0800

12.30 pm- 1.30 Lunch Buffet at Faculty Club – dining Room 3

2.00-3.00 At MIT Sloan school of Management, 100 Main Str., Conference Room E62-164
Innovation and Technology Transfer Executive Education
Speaker : Elizabeth Cliff, group director, executive programs education ,

3.00-4.00
Debriefing group meeting

More about the Professors

Prof. Karen Gleason, MIT ChE (chemical engineering) & ISN (Institut for Soldier Nanotechnologies)
very familiar with fabrics for military applications (Research Interests : chemical vapor deposition, nuclear magnetic resonance) : The Gleason Lab studies the chemical vapor deposition of polymeric thin films, and their applications in sensors, biotechnology, microelectronics/ organic electronics, microfluidics, MEMS, composites, and membranes. We are currently studying functional polymers, conducting polymers, dielectric polymers, hydrogels, and composite organic/inorganic structures deposited using initiated chemical vapor deposition (iCVD) and/or oxidative chemical vapor deposition (oCVD).

(http://web.mit.edu/isn/newsandevents/gleason-klibanov.html, http://web.mit.edu/isn/people/faculty/gleason.html) and she's an entrepreneur too

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Prof. Kripa Varanasi, Lab for Nanoengineered Surfaces, Interfaces, & Coating
Varanasi has developed a completely new class of highly non-wetting, super-slippery, multi-structured liquid coatings that repel water droplets that impact or condense on the surface, thus preventing moisture from forming on turbine blades. Some of the other areas of his work include coatings that prevent ice build-up on aircrafts or power lines, novel separation membranes, coatings that prevent hydrate plugs in deep sea oil wells for improved flow assurance, enhancing water recovery in desalination, power generation, agriculture, and oil and gas, as well as developing new approaches for scalable manufacturing of these nano-engineered surfaces and coatings.
Varanasi has received several awards in recent years, including the DARPA Young Faculty Award and the NSF CAREER Award. His newest surface coating invention, LiquiGlide, a nontoxic, nonstick, super slippery coating for condiment bottles, has received international attention recently, and was named a best invention of 2012 by Time magazine.
Be sure to view the videos at: http://varanasi.mit.edu/videos/

Prof. Gregory Rutledge, MIT ChemE (Department of Chemical Engineering
Research Interests: Polymer science and engineering, statistical thermodynamics, molecular simulation, nanotechnology. The goal of Their research is a deeper understanding of the properties

and processing of polymeric materials from a fundamentl knowledge of their chemistry and molecular level structure. Areas of research include the development of advanced molecular modeling technologies to provide insight into, and accurate estimation of, a wide spectrum of processing-structure-property relationships in polymers. Concurrrent with model development, we pursue methods to process and characterize polymeric materials in the laboratory, in order to understand and take advantage of the connections between chemical structure, processing history and technologically important material properties. Some current research topics include:
-Development of molecular modeling algorithms for multiscale and inverse problems.
-Molecular modeling of crystallization kinetics
-Molecular modeling of semicrystalline and other nanocomposite materials.
-Electrohydrodynamics and electrostatic fiber formation ("electrospinning").
-Emergent thermal, mechanical and electrical properties of nanofibers.
-Functional nanofiber materials, including wetting and repellency of liquids, fibrous membranes for reactive, catalytic and electrochemical applications, clean energy and clean water.

Prof. Dava Newman, MIT Astro Aero

Humans have evolved in and are optimally developed for the Earth-normal 1 G (9.8 m/s2) environment. Are the mechanics and energetic requirements of human performance across the continuum of gravity from microgravity (0 G) to lunar and Martian gravity levels (1/6 G and 3/8 G, respectively) to hypergravity (>1 G) altered from the 1 G mechanics and energetics? The multidisciplinary research effort combines aerospace bioengineering, human-in-the-loop dynamics and control modeling, biomechanics, human interface technology, life sciences, and systems analysis and design. The research studies are carried out through flight experiments, ground-based simulations, and mathematical and computer modeling. Other research efforts include advanced space suit design and navigation aids for EVA astronauts.

a b s t r a c t Despite the use of several counter measures, significant physiological deconditioning still occurs during long duration space flight. Bone loss–primarily due to the absence of loading in microgravity–is perhaps the greatest challenge to resolve. This paper describes a conceptual Gravity Loading Countermeasure Skin suit (GLCS) that induces loading on the body to mimic stand in gand–when integrated with other counter- measures exercising on Earth. Comfort, mobility and other operation al issues were explored during a pilot study carried out in parabolic flight for prototype suits worn by three subjects. Compared to the 1-or2-stage Russian Pingvin Suits, the elastic mesh of the GLCS can create a loading regime that gradually increases in hundreds of stages from the shoulders to the feet, thereby reproducing the weight-be a ring regime normally imparted by gravity with much higher resolution. Modeling shows that the skin suit requires less than 10mmHg(1.3kPa)of compression for three subjects of varied gender, height and mass. Negligible mobility restriction and excellent comfort properties were found during the parabolic flights, which suggests that crew members should be able to work normally, exercise or sleep while wearing the suit. The suit may also serve as a practical 1g harness for exercise counter measures and vibration applications to improve dynamic loading.

Prof. Leah Buechly, MIT Media Lab

Leah Buechley is an Associate Professor at the MIT Media Lab where she directs the High-Low Tech research group. The High-Low Tech group explores the integration of high and low technology from cultural, material, and practical perspectives, with the goal of engaging diverse groups of people in developing their own technologies. She is a well-known expert in the field of electronic textiles (e-textiles), and her work in this area includes developing the LilyPad Arduino toolkit. Her research was the recipient of a 2011 NSF CAREER award and has been featured in numerous articles in

publications including the New York Times, Boston Globe, Popular Science, and the Taipei Times. She received PhD and MS degrees in computer science from the University of Colorado at Boulder and a BA in physics from Skidmore College.

Sample Projects:
http://web.media.mit.edu/~leah/LilyPad/
http://hlt.media.mit.edu/?p=2705

Prof. Yoel Fink, Fibers@MIT
Fibers are among the earliest forms of human expression, yet surprisingly have remained unchanged from ancient to modern times. Can fibers become highly functional devices? Can they See, Hear, Sense and Communicate? Our research focuses on extending the frontiers of fiber materials from optical transmission to encompass electronic, optoelectronic and even acoustic properties. What makes our fibers unique is the combination of a multiplicity of disparate materials arranged in elaborate geometries with features down to 10 nanometers. Two complementary approaches towards realizing sophisticated functions are utilized: on the single-fiber level, the integration of a multiplicity of functional components into one fiber, and on the multiple-fiber level, the assembly of large-scale fiber arrays and fabrics. Our multimaterial fibers offer unprecedented control over material properties and function on length scales spanning the nanometer to kilometer range.

More info at: http://mit-pbg.mit.edu/Documents/nmat1889paper.pdf

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Prof Sheila Kennedy, architect

received her Bachelor's Degree in history, philosophy and literature from the College of Letters at Wesleyan University. Kennedy studied architecture at the Ecole National Supérieure des Beaux Arts in Paris and received the Masters of Architecture from the Graduate School of Design at Harvard University where she won the SOM National Traveling Fellowship and was graduated with Distinction, the School's highest academic honor.

In 1990, she founded Kennedy & Violich Architecture (KVA MATx) in partnership with Juan Frano Violich. As an Associate Professor at Harvard's GSD, Kennedy was Director of the M Arch II Program from 1991-1995 and is Professor of the Practice of Architecture at MIT.

As a founding Principal of Kennedy & Violich Architecture Ltd. (KVA), Sheila Kennedy has established a new model for an interdisciplinary design practice that explores architecture, digital technology and emerging public needs. Designated as one of Fast Company's Masters of Design, Kennedy is described as an “insightful and original thinker who is designing new ways of working, learning, leading and innovating”. In 2000, Kennedy established MATx, a pioneering materials research unit at KVA which engages applied creative production across the fields of design, electronics, and architecture and material science. MATx works collaboratively with business leaders, manufacturers, cultural institutions and public agencies to create designs building components and architecture that advances the widespread implementation of sustainable digital materials. MATx has developed designs and technology applications for Dupont, Siemens, Osram, Herman Miller, Saint-Gobain, The North Face, the City of Porto in Portugal, the Federal Republic of Germany and the United States Department of Energy. The MATx Portable Light Project, a non-profit global initiative that enables people in the developing world to create and own portable energy harvesting solar textile kits has been recognized with a 2009 US Congressional Award, a 2009 Energy Globe Award and a 2008 Tech Museum Laureate Award for technology that benefits humanity.

Mission pour la science et la technologie du Consulat Général de France à Boston

Lisa Treglia

FAT²E, = faciliter les passerelles de compétences en matières de transfert de technologies + recommandations sur les SATT efficaces /habitués à travailler avec le MIT

FAID (French American Innovation Day) = événement organisé depuis 8 ans = présente travaux et innovations sur des thématiques scientifiques avec des chercheurs français et américains de très haut niveau (un prix Nobel en 2002) et de donner des exemples de transfert de technologie débouchant sur des applications industrielles innovantes.

Adrien Destrez

NETVA & Fondation France MIT = faciliter l'accueil de stagiaires from MIT dans les entreprises françaises ou inversement l'envoi de VIE ou autres au MIT