



MEETING AGENDA

- **Beauty Pizza**
 - *Ned Michael, Owner*
 - *Mona Nakhla, Owner*
 - *Nechact Michael, Owner*
- **Flex Work Time Pilot**
 - *Ronnie Mae Weiss, Senior Program Manager*
 - *Anna Robinson, Special Projects Manager*
- **Design Skills subcommittee (new)**
 - *Gina Franzetta, Center for Materials Science & Engineering*
- **Updates from subcommittees**
 - ***Working Green***
 - *Rebecca Fowler, Co-chair*
 - *Meagan Riley, Co-chair*
 - ***Civility & Respect***
 - *Gayle Sherman, Co-Chair*
- **Closing Remarks**
 - *Julie Lindley and Barbara Keller*



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Job Flexibility at MIT

A Presentation to WGSSI

March 9, 2017

Anna Robinson and Ronnie Mae Weiss

MIT Work-Life Center

Contents

1. Data on Use of Job Flexibility at MIT

- Quality of Life Survey Data
- What We've Heard from the MIT Community

2. Job Flexibility at MIT

- Job Flexibility Guidelines Update
- Revised Personnel Policy on Job Flexibility
- Team-Based Job Flexibility Pilots

3. Other MIT Policies

4. Appendices

Recommendations on Job Flexibility Based on 2012 QoL Survey

MIT Council on Family and Work Recommendations (2014)

Take steps to increase access to flexibility across MIT -- the Council and HR should partner to update the 2004 Job Flexibility Guidelines, and possibly expand flex training.

- 80% of MIT employees report having a supervisor who is “open to flexibility” and these employees have a 15 percentage-point higher ability to integrate work and family needs...”
- “...controlling for demographics and workload, staff members who reported having a supervisor/chair/dean who is open to flexible work arrangements are considerably more likely to report satisfaction with such integration, as well as overall satisfaction, compared to their colleagues who reported that their supervisors were not open to such schedules.”
- “Among main-campus staff, and especially among Lincoln Lab employees, those with supervisors who are open to flexible work arrangements have statistically-significantly lower rates of having an intention to leave MIT”
- “[There is] substantial heterogeneity in the ability to integrate work and personal/family life [and] openness to flexibility...across different Areas and Schools at the Institute...in particular, among admin/support staff...”

Improved Data on Job Flexibility (2016 QoL Survey)

Below are the new key questions to improve data on flexibility at MIT.

NEW: Do you alter your work hours from your standard work schedule in any of the following ways?

Regularly work an alternative schedule, one or more days per week	21% all staff	22% campus staff
Vary work hours occasionally	50%	50%
Have a compressed work week all year long	4%	5%
Work a compressed work schedule during the summer	5%	6%
ANY OF THE ABOVE	56% all staff	55% campus staff

NEW: Do you work off-site during regularly scheduled work hours?

Yes	30% all staff	32% campus staff
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(Of those who work off-site, 83% work from home, 29% from another location, and 45% regular business travel)

NOTE: Variability in flex use persists across DLC's

- **Regular Flex Hours:**
 - Lowest: 14%
 - Highest: 31%
- **Regular Remote Work**
 - Lowest: 23%
 - Highest: 49%

Note: In addition to the above, we have data that has not yet been analyzed on barriers to flex access at MIT.

Recent Developments

- **New Policy on Job Flexibility, Including Telecommuting**
 - Policy 3.1.1 was recently updated; the new policy now addresses remote work in addition to alternative hours, but remains the ultimate decision of one's manager.
- **Updated the Job Flexibility Guidelines**
 - A Joint Task Group from Central HR and the Council on Family and Work has updated the 2004 job flexibility guidelines. Changes include:
 - Website format for increased visibility, ease-of-use, and ongoing updates.
 - Position the guidelines as a resource to support the success of flexible work arrangements, outline the potential benefits and challenges, and identify best practices and address common questions.
 - Highlight the increase in remote work, and the availability of new technologies to support its success.
 - Provide information on team practices as well as individual agreements.
 - Include three new employee and manager “learning bundles” to build skills related to flexibility (developed in partnership with Scott Rolph and IS&T).

Current Initiatives

- Build Internal Capacity to Support Job Flexibility Initiatives Across DLCs
 - Last year, successful Job Flexibility Pilots at the Sloan School of Management were facilitated by an external consultant from WFD, Inc., using a licensed team-based process. The results of these pilots are detailed on the following slides.
 - Given that success, MIT has hired the consultant to train a group of “flex facilitators” that will include HR staff with appropriate OD competencies.
 - The training will involve WFD oversight of flex facilitators working with 3 job flexibility pilots over the course of six months. Data will be gathered and analyzed.
 - MIT has acquired the license from WFD Consulting to use the training materials and implementation process for broad replication across MIT.
 - We have already begun implementing pilots in 3 departments and a team of 4 facilitators are being trained in this team-based flexibility process.

Data from the Sloan Executive Education Pilot Results

A pilot program at Sloan School of Management made telecommuting and flexible schedules available to all Executive Education staff within guidelines developed and adopted by all group members (~ 30 staff). Success emerged using a unique team approach, facilitated by a consultant from WFD, Inc.

Results were tracked and included:

- 90% said support for family and personal life improved
- 85% agreed that stress was reduced
- 80% said that employee morale and engagement improved
- 62% felt they were more trusted and respected
- 93% believed that collaboration and teamwork were the same or better than before

Source: Sloan Flex Work HRAC Presentation

Implementing Pilots in MIT DLCs

- MIT DLC Job Flexibility Pilot Process
 1. Train-the-trainer facilitators conduct “Voice of the Customer” (VoC) interviews to hear from all team members individually
 2. Teams participate in facilitated 2-3 hour session to gather input to develop the team’s *Team FlexWork* guiding principles. (clarify the objectives of the process based on information from VoC interviews; discuss how work is currently done, team strengths and opportunities; Identify characteristics of desired work environment; identify current use of formal and occasional flexibility; highlight key drivers of inefficiencies, low value work and work-life conflicts)
 3. Teams participate in half-day facilitated session to review *Team FlexWork* guiding principles, review MIT’s Flexibility Policy, Guidelines and Flexibility Request Process and develop an action plan designed to change behavior and clarify accountability for a New Way of Working; identify and agree on metrics for measuring success.
 4. Facilitators will then meet monthly with teams to review progress, and provide training, tips, and tools, and consult on any issues that arise.
 5. Evaluation survey will be administered, and results will be reported.

What We've Heard from the MIT Community

- Requests from DLC's
 - Some DLC's, due to space constraints or other reasons, are requesting help implementing broad access to flexibility for their teams.
- Feedback from Employees
 - It can seem arbitrary as to why some get flexibility and others do not.
 - It is not always fair or perceived as fair in how flex-time/flex place is implemented in different departments and for different job functions.
 - There is confusion about how and why some requests are granted, and others are not.
- Concerns and Challenges
 - Some managers don't feel comfortable or may be lacking the skills to manage job flexibility.
 - Some supervisors encourage use of flex arrangements, and others don't.
 - Some employees assume that individuals with flex time are not working.
 - Concerns about non-exempt staff working from home, based on FLSA, supervision, and measurement.

Other MIT Policies

- MIT's New Sick Leave Policy
 - An employee may use up to 40 hours of their accumulated sick leave every year to care for a sick family member, such as a child, spouse, parent, parent of spouse, or other member of the household, and for their medical or dental examination and care. The 40 hours of "sick family time" may be used to care for a newborn following a Paid Parental Leave
- Bereavement Leave
 - MIT's bereavement leave policy is designed to provide employees with paid time away from work to grieve and to handle matters related to a death in their family. All full-time and part-time employees, including Administrative Staff, Support Staff and Sponsored Research Staff, are eligible for bereavement leave. In the event of a death in an employee's family, after discussion with his or her supervisor, the employee may be granted up to five days of paid leave for bereavement.
- Know what you are entitled to as an MIT employee. If those benefits and resources are not being made available to you, you should contact your HRO.

Questions?

APPENDIX

MIT Employee Commuting Times

The commuter survey at MIT is administered every two years. The following data on commuting times comes from the 2006 and the 2014 surveys. Typical commuting times have increased since the MIT Flex Guidelines were published, as shown below. *(Data shown is for the home commute.)*

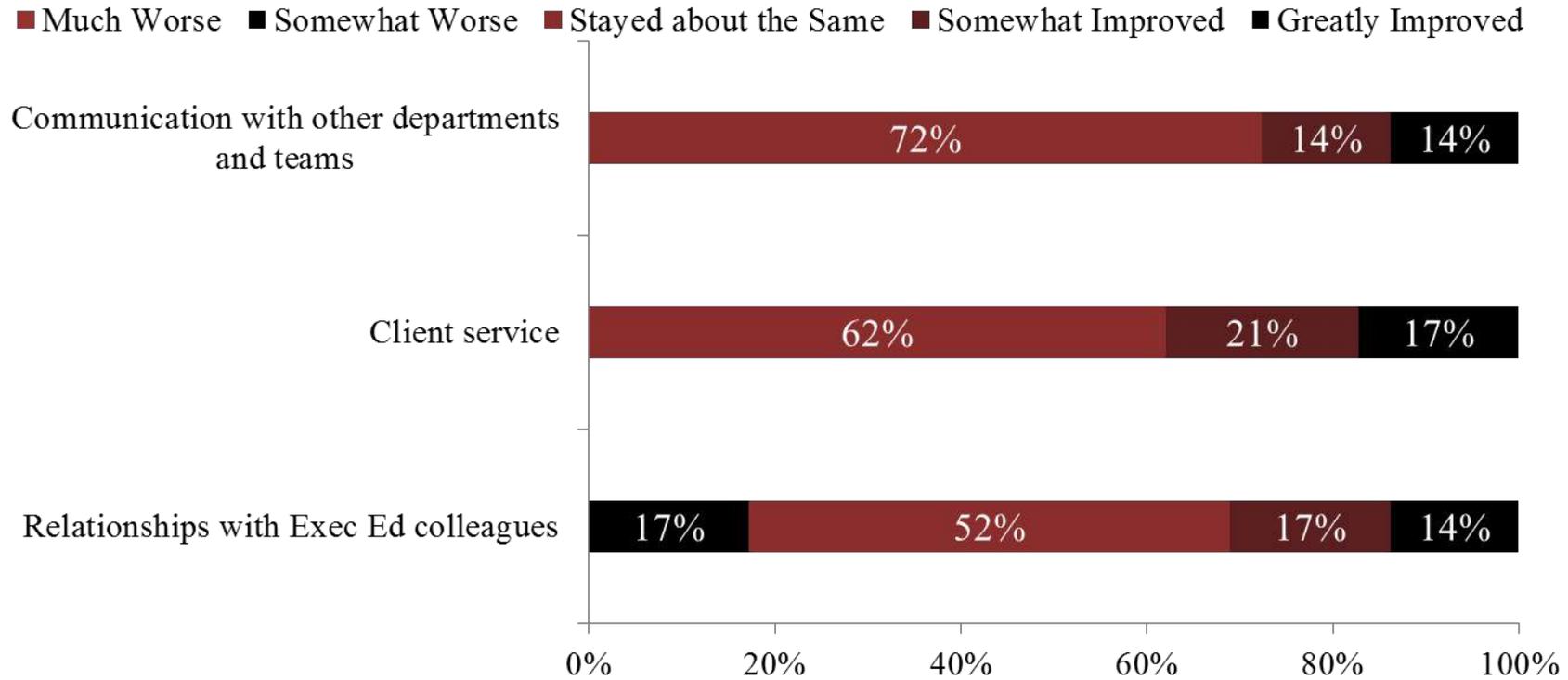
Commute on a “Normal Day”	2006	2014	Change
30 minutes or less	56%	36%	36% decrease in short commuters
Between 31 and 60 minutes	32%	45%	41% increase in moderate commuters
Between 61 and 90 minutes	9%	15%	66% increase in long commuters
Over 90 minutes	3%	4%	33% change in very long commuters

There is even greater impact for commuters on “Bad/Slow Days”, as shown below. We expect that traffic problems will further impact “bad commute” times during the Kendall Square construction.

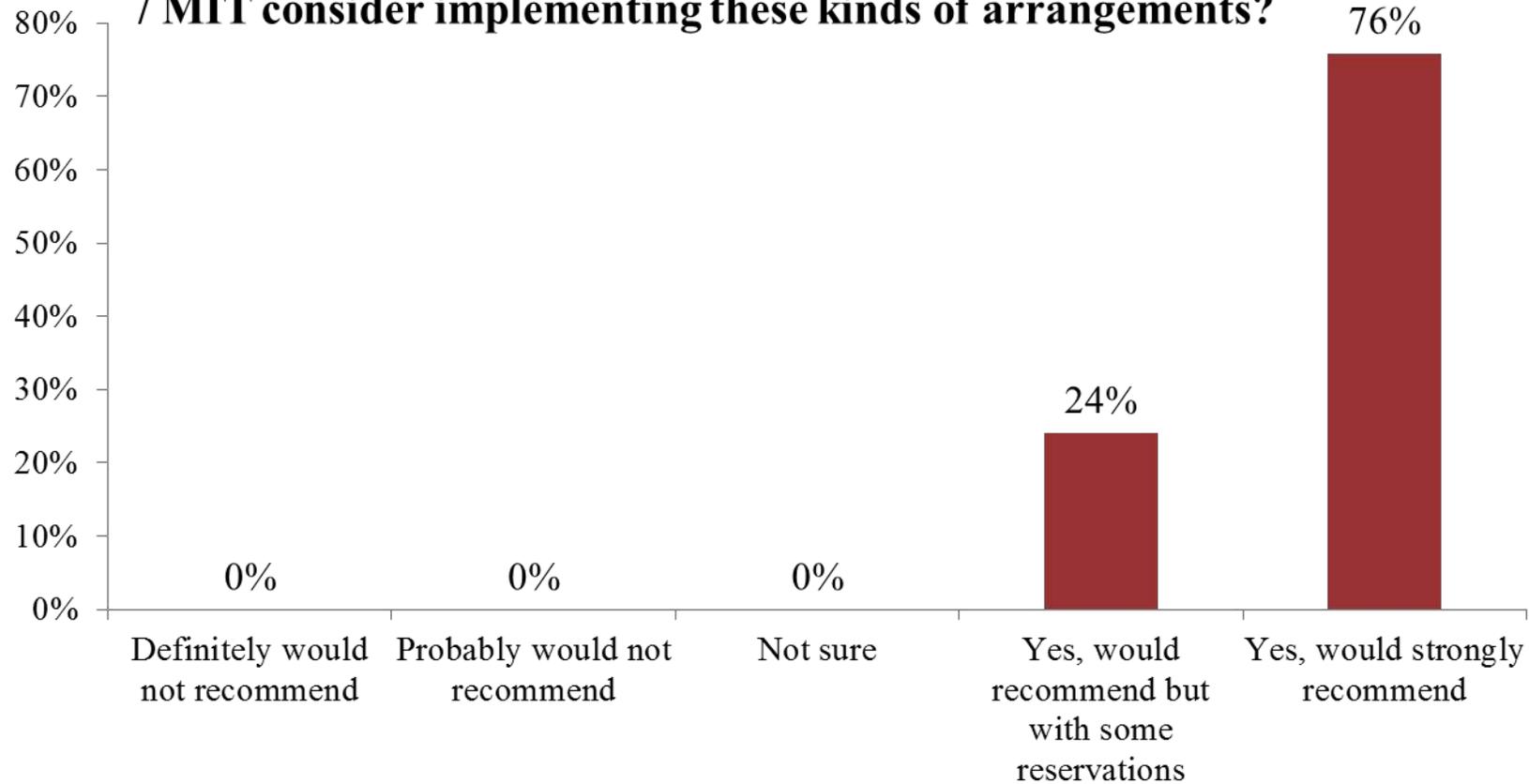
Commute on a “Bad/Slow Day”	2006	2014	Change
30 minutes or less	35%	14%	60% decrease
Between 31 and 60 minutes	39%	38%	Little change
Between 61 and 90 minutes	16%	26%	62% increase
Over 90 minutes	10%	18%	80% increase

Sloan Pilot Impact on client service and communication

Impacts of the Exec Ed Flex Team Work Pilot



Based on your own experience of the flexible working pilot in Exec Ed, would you recommend other departments in the Sloan School / MIT consider implementing these kinds of arrangements?



Linking Flexibility to MIT Goals

Research indicates that, when implemented appropriately, job flexibility can support critical organizational goals beyond the promotion of employee well-being. Flexibility has been, or can be, linked to the following key MIT goals and objectives:

- **Cost Reduction: Recommendations of the Institute-wide Planning Task Force (2009)**
 - In response to the global financial crisis, an Institute-wide taskforce was charged with improving operations and preserving financial stability by identifying opportunities for efficiency and cost reduction. The IS&T Working Group findings cited “office space demand reduction/location independent work culture” as *critically important*, and estimated the potential cost savings at \$4.4 million (\$2.7 million from a reduction in office space, and \$1.7 million productivity savings) (from the MIT report, Theme 5 “Modern Workforce Policies and Practices.”)
 - In a letter to the MIT Community on March 2010, the Provost, Chancellor, and EVPT endorsed “supporting location-independent work to improve productivity and produce space savings” as a means of “promoting and investing for the future” of MIT.
- **Sustainability: Mission of the new MIT Office of Sustainability (2013)**
 - “Ensure that MIT’s planned renewal and growth demonstrate the interdependence between economic vitality, ecological health, and human well-being...Operationally, we will work towards reimagining how MIT campus moves people to, from, and around campus.”
 - Work-Life observes that winter storms, flu outbreaks, ever-longer commutes, and traffic problems related to MIT/Kendall Square development have increased interest in, and questions about, telecommuting. (See *Appendix, slide 22 for data on increasing commute times from MIT Commuter survey.*)
 - MIT’s Kendall Square initiative includes construction of 4 buildings with over 1 million sq. ft. of office, retail and research space, plus two residential buildings with 740 apartment units, and three acres of new and repurposed open space; construction could begin as early as 2016 and last for six to ten years. In addition, Alexandria Real Estate plans to build 2.6 million sq. ft. of office, labs, and housing, and the city of Cambridge is considering a skyscraper to replace the Department of Transportation’s Volpe Center (located on 14 acres).

Linking Flexibility to MIT Goals (cont.)

- **Competitiveness, Employee Recruitment and Engagement: Council findings, Peers**
 - QoL survey results document the link between flex access, recruitment, retention, and engagement
 - We note that Harvard University will make university-wide implementation of telecommuting and flex work arrangements a priority next year, motivated by concerns around traffic problems created by Harvard construction.
- **Diversity and Inclusion: HR mission, ICEO recommendations**
 - HR's mission is to “advance a vibrant and diverse work community where individuals and groups thrive and contribute to MIT's excellence.”
 - The 2014 ICEO report, “Advancing a Caring and Respectful Community” includes the following recommendations:
 - “Instruct DLC heads and administrative officers to be open to employees' requests for flexible work arrangements, and provide them with examples of successful arrangements so they are aware of the mutual benefits.”
 - “During the hiring/onboarding process, inform every employee of the options for flexible work arrangements, both on a regular basis and in the event of major life events.”
- **Global MIT: Goals of the International Coordinating Committee (2012)**
 - MIT currently has major international programs in Singapore and Spain
 - “If we are to remain a leader in education and research in a globalizing world... We must engage actively in the world's most exciting research fields, wherever they may be found. It is increasingly clear that to accomplish all of this will require a more clearly articulated international strategy.” - *President Reif*

Research Findings

Recruitment and retention of talent

- “About a third of U.S workers consider work-life balance and access to flexibility to be the most important factors in considering a job opportunity.”⁵
- “A significant number of employees from all generations feel so strongly about wanting a flexible work schedule that they would be willing to give up pay and delay promotions in order to get it.”⁶

Positive health effects

- “In a 2013 Gallup poll, employees with a high level of flexibility in their jobs had 44% higher well-being than employees who had very little or no flextime.”⁴
- “Work-life balance is the second best predictors, after economic security, of a worker’s quality of health, frequency of sleep problems and level of stress.”⁵
- “Employees with access to flexible workplace arrangements exhibit significantly better physical and mental health than other employees, Low-income workers experience this positive effect even more strongly than higher earners.”⁵

Employee engagement/commitment

- “Employees in both the virtual office and home office were more likely than those in the traditional office to report that they would be willing to put in the extra effort to help the company succeed.”³
- According to the 2013 State of the American Workplace report, employees who work remotely one day per week are the most engaged.⁴

Employee satisfaction

- “...Employees with the most flexibility and control over their hours... reported more job satisfaction, greater sense of control and less intention to leave than those on other schedules.”²
- “Ninety-one percent of HR professionals believe that implementation of formal FWAs had a positive impact on employee morale (job satisfaction and engagement).”¹

Productivity

- “On average, teleworkers are 15% to 20% more productive than their counterparts in the office.” SHRM Telework experts say employers can manage sight unseen.
- A study conducted at IBM found that “Telecommuters are able to work longer hours (57 vs. 38 per week) before reporting work-life conflict.”⁴

Research Findings (cont.)

Environmental impact

- Research from TelCoa indicates that if the 32 million Americans who have jobs that allow them to work from home did so at least once per week, 74 million gallons of gas would be saved.⁷
- A review of the government's pilot "ecommuter" program that ran from 2001-2004 in five cities across the US found that only 4,500 individuals working from home just 1.8 days per week, translates to a reduction of 25 tons of pollution per year.⁷

Benefits for Non-exempt/hourly employees

- According to the WFD multi-organizational database "commitment is higher and burnout is lower for nonexempt and exempt employees who have access to flexibility. However, the incremental differences are greater for nonexempts, for both men and women."²
- "supporting high levels of engagement and commitment is especially important for nonexempt employees as they are often in client-facing roles where low engagement undermines client services and customer relations."²

Benefits to Managers

- "Managers have favorable views of flexibility, especially when they have experience managing employees who use it."² (based on a study of Deloitte employees)
- "Including line managers in the design of FWAs creates buy-in. Line managers who do not understand their organizations' FWAs policy and program may have a negative impact on how FWAs are administered within the organization."¹

Sources Cited:

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DESIGN SKILLS
SUBCOMMITTEE

design create develop learn



What Is DSS?

The Design Skills Subcommittee is a group who will meet quarterly or on an as needed basis to work on:

- Design projects for WG
- Current design projects that come up in members' departments when these individuals require assistance and/or inspiration

Why this group

- Administrative roles need to stay current within the parameters of MIT's expectations. More of these roles demand design skills as part of their job descriptions.
- Many of us already perform as a designer in some capacity and are isolated from creative contacts, resources, and mentors.
- The science community, which many of us support, is in growing awareness of the need for visual communication.
- It is an unspoken requirement that an admin is tasked to maintain an ambassadorship role in upholding a visual brand of sophistication.

Who Are Our Members?

- Group members who are interested in gaining design experience and adding another skill set to their resume.
- Anyone who wants to improve his or her design skills.
- Anybody who would like to have a network of peers within MIT from whom they may seek feedback.
- Anyone who wishes to explore opportunities to leverage their creativity in their current role.

BEFORE



CENTER FOR MATERIALS SCIENCE AND ENGINEERING



Interdisciplinary Research Groups

I

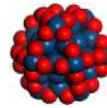
IRG-I: Design of Nanomaterials for Electrochemical Energy Storage and Conversion

Co-leaders: Gerbrand Ceder & Yang Shao-Horn

Senior Investigators: Angela Belcher, Kimberly Hamad-Schifferli, Nicola Marzari, Carl Thompson

Research Goals:

Electrochemical devices such as Li batteries, and fuel cells that operate on hydrogen produced from solar energy, are promising technologies to buffer the supply and demand of energy, particularly for portable power and hybrid propulsion in transportation. This group seeks to advance the basic science of nanomaterials that governs lithium storage capability and electrocatalytic activity, and apply the fundamental understanding to rationally design materials at the nanoscale with enhanced characteristics, and enable the development of cost-effective and efficient electrochemical energy storage and conversion technologies.



II

IRG-II: Mechanomutable Heteronanomaterials

Co-leaders: Robert Cohen & Christine Ortiz

Senior Investigators: Markus Buehler, Mary Boyce, Paula Hammond, Krystyn Van Vleet

Research Goals:

This IRG is developing a new class of "mechanomutable heteronanomaterials," defined as materials possessing spatially localized and controlled nanoscale units of different types of materials that change their mechanical properties reversibly in response to an external stimulus. The long-term intellectual goals of this group are to develop a unique new class of responsive materials and to gain a fundamental understanding of the mechanics and mechanotransduction mechanisms present in this new class of materials.



III

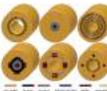
IRG-III: Multimaterial Multifunctional Nano-Structured Fibers

Co-leaders: Yoel Fink & Marin Soljačić

Senior Investigators: Erich Ippen, John Joannopoulos, Steven Johnson

Research Goals:

This group focuses on the development of a truly unique-to-MIT class of fiber materials systems that are composed of conductors, semiconductors (glassy and crystalline) and insulators with 10's of nanometers feature sizes, and on the investigation of the novel phenomena displayed by these unparallelled structures. The goal of this group is to demonstrate the integration of several independent devices placed at prescribed angular and radial positions inside a fiber.



Initiative Projects

I

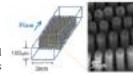
Initiative-I: High Def Nano Materials: New Routes to 3D Hierarchical Nanostructured Materials and Devices

Leaders: Brian Wardle

Senior Investigators: Robert Cohen, Michael Rubner, Mehmet Toner

Research Goals:

This project will explore the use of molecularly assembled polymer and nanoparticle coatings to functionalize ultra-high porosity nanotube arrays arranged in microfluidic devices with a focus on the separation and identification of biological entities.



II

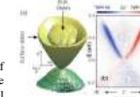
Initiative-II: Quantum Optoelectronics and Spintronics with Topological Insulator Nanoscale Devices

Leaders: Pablo Jarillo-Herrero

Senior Investigators: Nuh Gedik, Jagadeesh Moodera

Research Goals:

This initiative will study the novel quantum properties of a broad class of recently discovered materials, called topological insulators, and explore their exotic spintronic properties to design devices with novel functionalities.



The Center for Materials Science and Engineering is a Materials Research Science and Engineering Center funded by the National Science Foundation

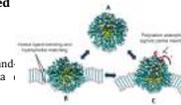
Seed Projects

I

Bioinspired Environment-Responsive Ligand-Coated Nanoparticles

Senior Investigator: Alfredo Alexander-Katz

This research studies theoretically the pathways by which ligand nanoparticles are able to fuse and translocate through a membrane.

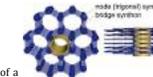


II

Ordered Microporous Electrodes for High-Power Sustainable Li-ion Batteries

Senior Investigator: Mircea Dincă

This research focuses on synthetic pathways towards construction of a new class of ordered microporous electrode materials which should give rise to fast ion transport to significantly improve power density, cyclability, electronic conductivity, and potentially enhanced energy density for a new generation of sustainable Li-ion batteries.



III

Engineering and Patterning Multiscale Nanostructures with Synthetic Biology

Senior Investigator: Timothy Lu

This research seeks to find an innovative and broad platform for engineering biological nanowires that can be patterned at the nanoscale, micro scale, and macro scale by coupling nanowire synthesis with synthetic gene circuits.

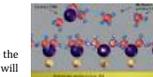


IV

Atomic Layer Deposition for the Design of Novel Catalytic Materials

Senior Investigator: Yuriy Roman

This research studies the synthesis of novel catalysts that will enable the conversion of unconventional feedstock into useful compounds and will favorably impact other energy-related areas, such as hydrogen storage and carbon dioxide capture.



V

Electrical-field Controlled Bio-membranes for Efficient Water Desalination

Senior Investigator: Evelyn Wang

This research focuses on the development of tunable biological membranes which utilize electroporation of supported bilayer lipid molecules to significantly enhance reverse osmosis desalination efficiencies.



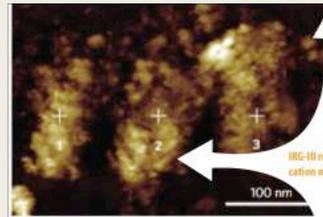
AFTER

The poster features a central logo for CMSE (Center for Materials Science and Engineering) with four quadrants labeled IRG I, IRG II, IRG III, and IRG IV. A large white crosshair is overlaid on the logo. The four quadrants represent different research areas:

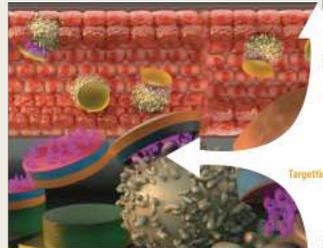
- Top-Left: Simple Engineered Biological Motifs for Complex Hydrogel Function**
Includes a diagram of a hydrogel filter with selective filtration and a transition from biological to engineered structures.
GROUP INVESTIGATORS: Katherine Hilbeck (group co-leader), Bio E; Patrick Doyle (group co-leader), Chemistry; Bradley Olson, Chem E; Helle Hulten-Andersson, DMSE; Jereemah Johnson, Chemistry; Alan Gradstein, Bio E/ECS/Mech E; Paula Hammond, Chem E; Timothy Lu, EEC5, Bio E.
- Top-Right: Nanoionics at the Interface: Charge, Phonon, and Spin Transport**
Includes a 3D visualization of a wavy surface structure.
GROUP INVESTIGATORS: Caroline A. Ross (group co-leader), DMSE; Bilge Yildiz (group co-leader), Nuclear Sci. & Eng.; Geoffrey S. Beach, DMSE; Gang Chen, Mech E; Harry L. Tuller, DMSE; Krystal J. Van Vleet, DMSE.
- Bottom-Left: Harnessing In-Fiber Fluid Instabilities for Scalable and Universal Nanosphere Design, Manufacturing, and Applications**
Includes images of fiber-based structures.
GROUP INVESTIGATORS: Alan Pine (group co-leader), DMSE; Megan Duggan (group co-leader), Physics; Joseph Sweeney, U.S. Naval Research Office; Jeff Koberstein, Physics; Patrick Anderson, DMSE; Thomas Schmitt, EEC5.
- Bottom-Right: Seeds**
Includes a diagram of a seed structure with numbered steps 1-4 and a 'Super seed' label.
GROUP INVESTIGATORS: Chemically Modified Carbon Cathodes of High Capacity LTO, Batteries; Interface Engineering of Silicon Oxide Cores, Shell Structures, for High-Efficiency Water Splitting Photocatalysis; Direct Deposition of Catalysts on Porous Metallic Foams for 3-MW/cm² Electrodeposition; High-Crystal Quality of Electrodeposited Nanowires for High-Efficiency Photovoltaics.

At the bottom, logos for MIT and Massachusetts Institute of Technology are visible.

Hot Articles



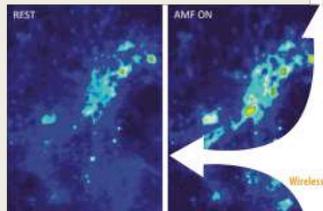
IRG-III researchers demonstrate nanoscale cation motion in memristive systems



Targeting Inflammation with Cellular Backpacks



CMSE Sponsors a Live Global Event: CMSE's Felice Frankel interviews Art Director of Nature magazine, Kelly Krause



Wireless Magnetic brain stimulation

Find the full articles on web.mit.edu/cmsc/Spotlights.

A detailed understanding of the resistive switching mechanisms that operate in redox-based resistive random-access memories (ReRAM) is key to controlling these memristive devices and formulating appropriate design rules. Based on distinct fundamental switching mechanisms, two types of ReRAM have emerged: electrochemical metallization memories, in which the mobile species is thought to be metal cations, and valence change memories, in which the mobile species is thought to be oxygen anions (or positively charged oxygen vacancies). Here we show, using scanning tunneling microscopy and supported by potentiodynamic current-voltage measurements, that in these typical valence change memory materials (TaO_x, HfO_x and TiO₂) the hot metal cations are mobile in filaments of 2 nm thickness. The cations can form metallic filaments and participate in the resistive switching process, illustrating that there is a bridge between the electrochemical metallization mechanism and the valence change mechanism. Resistive operations are, we suggest, driven by oxidation (passivation) and reduction reactions. For the Ta/Ta₂O₅ system, a rutile-type TaO₂ film is believed to mediate switching, and we show that devices can be switched from a valence

By taking advantage of natural body processes, researchers at UC Santa Barbara and MIT have developed a method of targeting inflamed tissues, creating a way to treat both the inflammation and its underlying cause.

Working with the expertise of chemical engineering and materials science researchers at MIT, including professors Robert Cohen and Michael Rubner, the UCSB researchers developed an approach based on "cellular backpacks": flat, disc-shaped polymeric particles that could, in the near future, hold therapeutic agents that can be released at the site of the inflammation. These polymeric discs are coated on one side with a single layer of an antibody that can bind to receptors on the monocyte's surface. Ideally, the cellular backpacks, loaded with drugs, would be injected into the bloodstream, whereupon they would attach to these traveling monocytes and hitchhike to the target region. At the inflamed site, the particles would simultaneously degrade and release their drugs.

The main benefit is that the drug can be delivered in a more effective dose. Where some drug treatments may not be efficient enough with too little, too much and it can be lethal and have potential to produce deleterious effects on other unaffected organs and their functions. Not only can targeted therapy ensure other body systems remain unaffected, but it could allow for higher doses of drug to the site, and decrease treatment time.

On July 21, 2013, CMSE and MIT's edX sponsored a live global webcast where CMSE Research Specialist, Felice Frankel, conducted a one-hour online conversation on cover art and graphics with Kelly Krause, Creative Director of Nature magazine. Advanced promotion was distributed to the 8700 registered students of Frankel's edX online course, "Making Science and Engineering Pictures: A Practical Guide to Presenting Your Work" along with the 1 million members of the edX distribution list. Seats were made available to the MIT community. The conversation concluded with questions received via Twitter.

A new technique could lead to long-lasting localized stimulation of brain tissue without external connections.

Researchers at MIT have developed a method to stimulate brain tissue using external magnetic fields and injected magnetic nanoparticles — a technique allowing direct stimulation of neurons, which could be an effective treatment for a variety of neurological diseases, without the need for implants or external connections.

The research, conducted by Polina Anikeeva, an assistant professor of materials science and engineering, graduate student Ritchie Chen, and three others, has been published in the journal *Science*.



Meeting Agenda

- Beauty Pizza
 - *Ned Michael, Owner*
 - *Mona Nakhla, Owner*
 - *Nechact Michael, Owner*
- Flex Work Time Pilot
 - *Ronnie Mae Weiss, Senior Program Manager*
 - *Anna Robinson, Special Projects Manager*
- Design Skills subcommittee (new)
 - *Gina Franzetta, Center for Materials Science & Engineering*
- Updates from subcommittees
 - ***Working Green***
 - ***Rebecca Fowler, Co-chair***
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 - ***Civility & Respect***
 - ***Gayle Sherman, Co-chair***
- Closing Remarks
 - *Julie Lindley and Barbara Keller*



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Atlas
Service Center

OPENING CELEBRATION

April 4, 2017

**E17 first floor,
40 Ames Street**

3:00pm



4:30pm

The in-person Atlas experience
Access the services you need all in one place

**Join us for refreshments and
see how the Center is unfolding.**