

# Welcome to Research Council

May 3, 2021

- To submit questions please use the chat feature which can be found on the control panel at the bottom of your screen.



# Virtual Enterprise Research IS Office Hours

Join the virtual Zoom Meeting to receive 1:1 support and consultation about these resources:

## LabArchives

LabArchives is a web-based application designed for scientists to organize and share laboratory data.

[rc.partners.org/eln](https://rc.partners.org/eln)

## R Resources

R is a free, open-source programming language and software environment for statistical computing and graphics.

[rc.partners.org/rusers](https://rc.partners.org/rusers)

## REDCap

Research Electronic Data Capture is a free, web-based software application for study data.

[rc.partners.org/redcap](https://rc.partners.org/redcap)

## ERISOne

Linux computing cluster with job scheduling system for batch jobs and remote desktops.

[rc.partners.org/ERISOne](https://rc.partners.org/ERISOne)

## ERISXdl

ERISXdl (ERIS Extreme Deep Learning) platform provides efficient, multi-GPU performance designed for Deep Learning applications.

[rc.partners.org/ERISXdl](https://rc.partners.org/ERISXdl)

May 10, 2021  
2-3p.m.  
**Zoom Meeting**

June 14, 2021  
2-3p.m.  
**Zoom Meeting**

**Join the SciC Team  
at 1p.m. for an extra  
hour of support!**



Visit [rc.partners.org/events](https://rc.partners.org/events) for Zoom Meeting information

# ERIS Research Computing Core

The Research Core team provides consulting and technology services to researchers and their project teams at competitive hourly rates. The Core collaborates with researchers to implement efficient technology & data solutions.

## Core Consultation Services

- Research Software Development
  - expert knowledge in MATLAB, Python, R and Ruby
- Google Cloud Platform Projects
- Systems Integration & Administration
  - FISMA expertise

## Hosted Services: Data Storage, Backup & Databases

- Archival, file, cluster-attached, Cloud, desktop backup
- MicrosoftSQL, MySQL, PostgreSQL, Oracle

## Core Web Services

- Website and Web Application Development
- Project Management

Academic Software
BioRender – coming soon!
EndNote 20
FlowJo
GraphPad Prism
MATLAB
Safari Books Online
SAS
Stata





Research Council 5-3-21

# Center for Faculty Development

**Miriam Bredella, MD**

Director Center for Faculty Development

Professor of Radiology, Harvard Medical School

Vice Chair, Faculty Affairs Department of Radiology



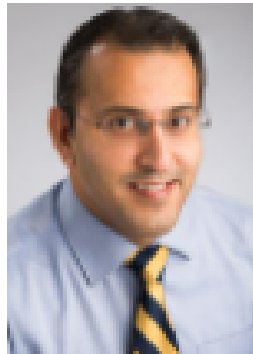
MASSACHUSETTS  
GENERAL HOSPITAL

CENTER FOR FACULTY  
DEVELOPMENT

## 12<sup>th</sup> ANNUAL NANCY J. TARBELL, MD FACULTY DEVELOPMENT LECTURESHIP SERIES WITH VINEET CHOPRA, MD, MSC

Tuesday, May 4 -- 12:00-1:00 pm

*Sponsored by the Center for Faculty Development*



***"Mindful Mentorship: Achieving the Best Relationship with Your Mentee (& Mentor)"***

The Center for Faculty Development invites all faculty to attend this special lecture in commemoration of Faculty Development month. This annual event is named in honor of Nancy J. Tarbell, MD, the founding director of the MGH Center for Faculty Development.

Speaker: **Vineet Chopra, MD, MSc**, Associate Professor of Medicine; Chief, Division of Hospital Medicine, Michigan Medicine and VA Ann Arbor Health System.

[Register and receive link](#)

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### Mentoring Round Table with Departmental Mentor Leaders



# Anne Klibanski Visiting Scholar Award

- Women researchers, clinicians, educators
  - Faculty (Instructor, Assistant and Associate Professor), postdocs
- Visiting Professor at national or international institution
  - organized by CFD
- Mentorship at host institution
- Career coaching
- Career development seminars
- Community building
- Deadline **Monday May 17, 2021**



# ANNE KLIBANSKI VISITING LECTURE SERIES 6 "CANCER HEALTH DISPARITIES: OPPORTUNITIES AND CHALLENGES"

**Monday, May 10 -- 4:00-5:00 pm**

*Sponsored by the Center for Faculty Development*

The Anne Klibanski Visiting Lecture Series was created to support and advance the careers of women. These lectures bring together faculty from institutions that have hosted Anne Klibanski Scholars with MGH scholars, on topics that overlap both research areas.



This lecture will be given by **Erica T. Warner, ScD, MPH**, Assistant Professor of Medicine, MGH/HMS and **Victoria L. Mango, MD, FSBI**, Associate Attending Radiologist, Memorial Sloan Kettering Cancer Center.

[Register and add to my calendar](#)

[Attend webinar via Zoom](#)

## ANNE KLIBANSKI VISITING LECTURE SERIES 7 IMPROVING CANCER IMAGING AND TREATMENT

Tuesday, May 18 -- 12:00-1:00 pm

*Sponsored by the Center for Faculty Development*

The Anne Klibanski Visiting Lecture Series was created to support and advance the careers of women. These lectures bring together faculty from institutions that have hosted Anne Klibanski Scholars with MGH scholars, on topics that overlap both research areas.



This lecture will be given by **Meenal Datta, PhD**, Research Fellow in Radiation Oncology, MGH/HMS and **Simone Dalm, PhD**, Assistant Professor of Radiology & Nuclear Medicine, Erasmus University Medical Center.

[Register and add to my calendar](#)

[Attend webinar via Zoom](#)



## VISIBILITY

Wednesday, May 19 -- 12:00-1:00 pm

Sponsored by the Center for Faculty Development



What Drs. Rochelle Walensky and Anthony Fauci Can Teach You about Visibility.

Whether it's an interview with Steph Curry or Jane Pauley, Drs. Walensky and Fauci quickly knew they needed to share their expertise with the world when COVID hit. Both made themselves available to basketball stars, network anchors, providing a voice of reason and explaining the science, often acknowledging what they didn't know.

In this informative and action-oriented program, you will learn how to build relationships throughout your career so when leadership opportunities present themselves, you will be ready to share your expertise and knowledge.

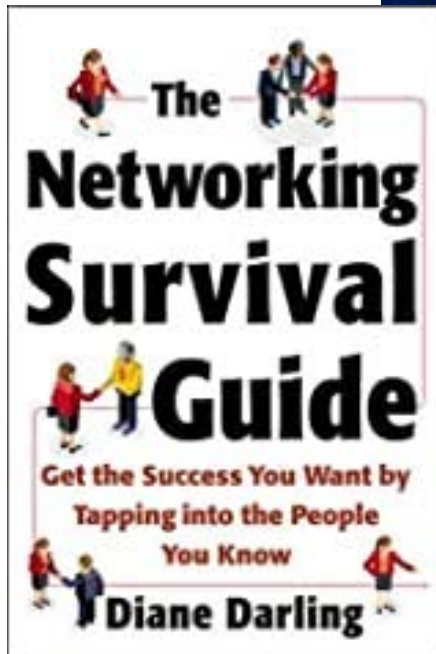
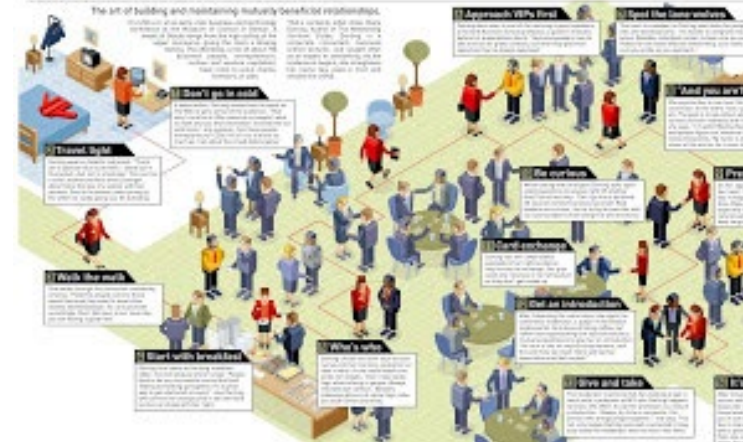
We'll talk about how to stay in touch with people from your past, ways to connect with patients and families, and strategies to be a rock star in your area of expertise.

Facilitator: **Diane Darling, MD**, Published Author and Professional Speaker

[Register and add to my calendar](#)

[Attend via Zoom](#)

### How To Work A Room™



MASSACHUSETTS  
GENERAL HOSPITAL

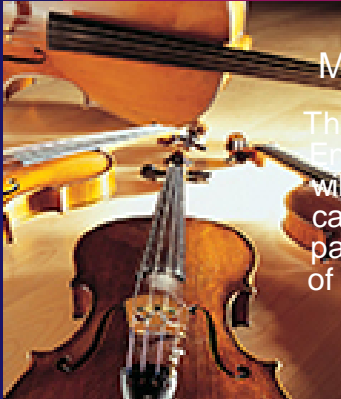
CENTER FOR FACULTY  
DEVELOPMENT

# The Office for Well-Being presents

## Fun Fridays


Fun Fridays offer a refreshing mid-day break from work to indulge in physical, mental, or creative activity.

ALL SESSIONS ARE 12:00 – 1:00 PM




**May 7, 2021**  
Musical Transformations

The String Quartet at New England Conservatory (NEC) will present a program of canonic classical works paired alongside with stories of LGBTQ music and culture





**May 14, 2021**  
Eight Active Ingredients of Tai Chi©

**Barry Friedman** explores the traditional principles of Tai Chi in a relaxed, informal and experiential session.




**May 21, 2021**  
Stretch & Strength Yoga

**Judit Sore, MBA** leads a gentle yoga practice that focuses on moving with ease through the breath to create space in your mind, body, and heart.




**May 28, 2021**  
Doodling

**Deborah Putnoi, MEd** shows simple exercises (doodle breaks') that take a few minutes to de-stress or jumpstart your creative brain (no previous doodling experience necessary)




**June 4, 2021**  
Cooking with Nicolette

**Nicolette Starr Maggiolo, RD, LDN**, will be providing a short, live, cooking lesson followed by questions at the end.



**June 11, 2021**  
Laughter Yoga

**Laura Malloy, LICSW** combines laughter exercises with yogic breathing techniques to relieve stress, release endorphins and boost immune function.





# Fun Friday

## MUSICAL TRANSFORMATIONS: STORIES OF LGBTQ MUSIC AND CULTURE

Friday, May 7 -- 12:00-1:00 pm

*Sponsored by the Office for Well-Being*

Fun Fridays offer a refreshing mid-day break from work to indulge in physical, mental, or creative activity.

The 2021 Community Performances and Partnerships String Quartet at New England Conservatory is excited to present an educational program connecting classical music repertoire to histories of LGBTQ culture across place and time. The quartet will present a program of canonic classical works ranging from Mozart and Schumann to Benjamin Britten, paired alongside with stories of gender variance, queer culture, and LGBTQ narratives in contemporary music performance.



The session will be followed by Q&A and discussion.

[Register and receive link](#)



# Office for Well-Being & MGPO Frigoletto

## LIFESTYLE SESSIONS ON MONDAYS WILL CONTINUE THROUGH THE OFFICE FOR WELL-BEING!!

*Co-sponsored with the MGPO Frigoletto Committee*



**Meditation Mondays with Darshan Mehta, MD, MPH**  
Guided meditation sessions on Mondays with Darshan Mehta, MD, MPH, Interim Director, Office for Well-Being

Every Monday -- 8:00-8:30 am -- [Attend via Zoom](#)

If you would like to receive an Outlook invitation for these sessions, email [owb@partners.org](mailto:owb@partners.org).

**Attend these sessions via Zoom**

# Speed Mentoring Events

- Monthly mentoring sessions are open to faculty across all departments who have questions about any aspect of mentoring or being mentored. Join the conversation to learn not only from the senior mentoring leaders leading the sessions but also from fellow attendees
- **May 12, 1-2 PM** with **Patricia D'Amore, PhD, MBA**, Vice Chair, Basic and Translational Research, Department of Ophthalmology, & **Richard Hodin, MD**, Chief for Academic Affairs, MGH Department of Surgery
- **June 4, 11 Am – 12 PM** with **Karen K. Miller, MD**, Chief of Neuroendocrine Unit, MGH, and Director of Mentoring Initiatives for the MGH Department of Medicine, & **Madhu Misra, MD, MPH**, Chief of Pediatric Endocrinology, MGH

# Writing Initiatives

- Writing a manuscript
- Writing a grant
- Design of a clinical trial
- Writing letters of recommendation
- Writing a draft of the Chief's letter for HMS promotion
- Writing your CV narrative
- Peer writing groups



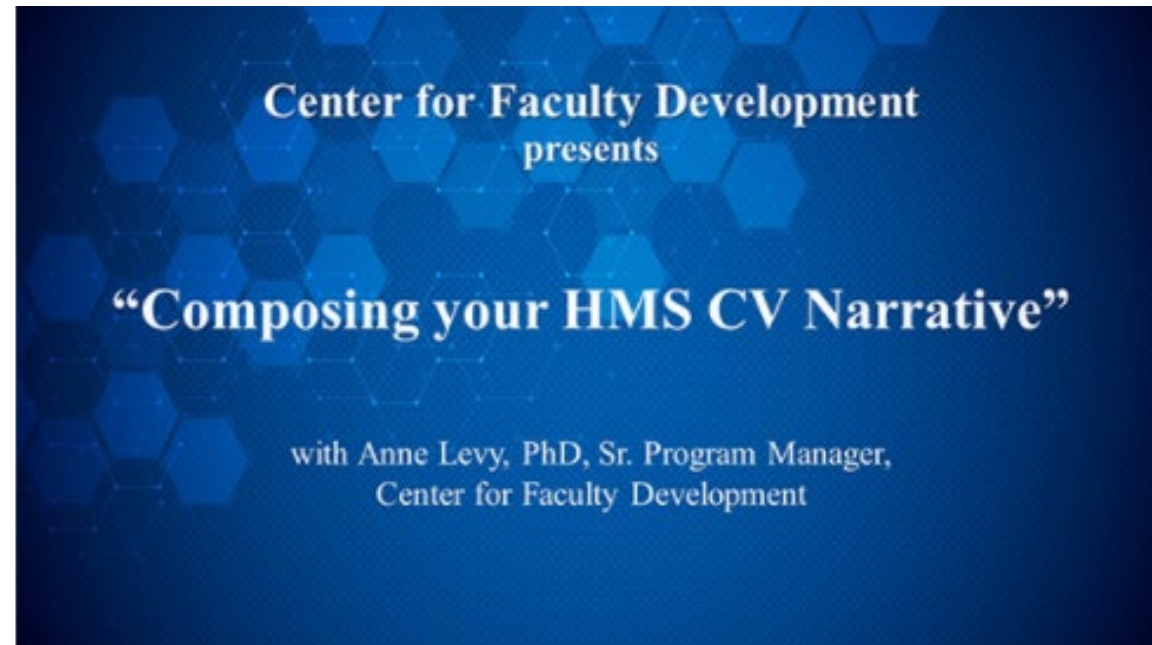


# CV and Promotion Support

## Composing the HMS CV Narrative

Dr. Anne Levy covers how to structure your narrative, what to include, and how best to tell your unique professional story.

[Watch Apr 13 webinar >](#)



**Next session: Wednesday, May 26, 2021 – 5:30-6:00pm**

# TEDxMGH

x = independently  
organized TED event

TEDxMGH presents inspirational stories from the MGH community, including how people have handled challenges through innovation, resilience, vulnerability, and connection.



## Introduction to TEDxMGH

You can also view the video series introduction by **Darshan Mehta, MD**, Interim Director of the Office for Well-Being

[View video here](#)

Interested in giving a TEDxMGH talk? Click below and tell us your story.

[Submit story for TEDxMGH](#)

November release-



## Putting the Most Meaningful Things First

**O'Neill Britton, MD**, Mass General Senior Vice President and Chief Medical Officer, talks about his life and experiences while trying to focus on always putting the most meaningful things first.

[View video here](#)

December release-



## Choosing Happy: A Journey Through Grief & Loss

**Dr. Kerri Palamara McGrath**, Physician, Mother, Wife, and Coach, talks about her journey through grief and loss, and the choices she has made to find her renewed sense of happiness.

[View video here](#)

January release-



## If We Are Willing

**Connie Chang, MD**, Musculoskeletal Diagnostic and Interventional Radiologist, talks about her journey through life and the choices she made along the way.

[Click for video](#)

February release-



## My Journey with Depression

**Shannon E. Scott-Vernaglia, MD**, Physician/Patient, Educator/Learner, Mother/Daughter, talks about her journey through depression, and her choice to talk about it openly.

[Click for video](#)

March release-



## Your Story Matters Even (Especially) Now

**Suzanne Koven, MD, MFA**, *Writer-in-Residence and Primary Care Physician*, talks about finding her voice and why it is so important to share our story – now, more than ever.

[Click for video](#)

April release-



## Where Unicorns Thrive

**Donna Matthews Jarrell, DVM, DACLAM**, *MGH Attending Veterinarian & Lean/Agile Leader*, talks about the importance of being a unicorn—of holding on to her identity—and of recognizing the voice of other unicorns.

[Click for video](#)



# CFD Faculty Development Podcast page



## MGH FACULTY DEVELOPMENT PODCAST



▶ MGH FACULTY DEVELOPMENT PODCAST  
Anne Klibanski Visiting Lecture Series 3 with Drs. Lilia Zöllei an...

30 00:00:00 30

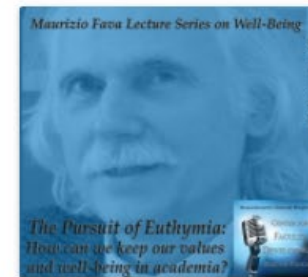
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Did you miss an interesting session that the Massachusetts General Hospital's (MGH) Center for Faculty Development (CFD) offered because you were too busy in the clinic or in the lab? Were you out the day they offered it? This podcast was created because we understand your busy schedules and the CFD aims to serve you in your career development and will help with your work-life balance by providing this easy way to listen to all of the seminars we have offered right here on this podcast. Listen to it at your own convenience in your car, while you exercise, or relaxing on vacation. Just know that you may strengthen your skills at YOUR own pace! Please note that most of these podcasts are geared towards faculty, trainees and graduate students from the Massachusetts General Hospital. Thank you for listening!

<https://directory.libsyn.com/shows/view/id/mgh-faculty-development>



Anne Klibanski Visiting Lecture Series 3 with Drs. Lilia Zöllei and...  
03/11/2021



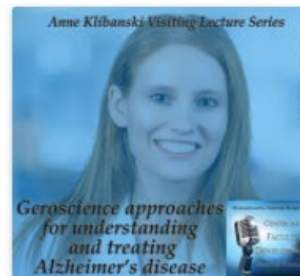
Maurizio Fava Lecture Series on Well-Being with Dr. Giovanni Fava  
03/03/2021



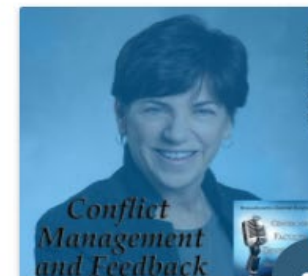
How to Stay on Track with Your PhD  
02/20/2021



Anne Klibanski Visiting Lecture Series 2 with Drs. Kerry Reynolds...  
02/17/2021



Anne Klibanski Visiting Lecture Series 1 with Dr. Mitzi Gonzalez  
02/02/2021



Conflict Management and Feedback  
02/02/2021





# Contacts

## Center for Faculty Development (CFD) at Massachusetts General Hospital

Phone: 617-724-0818

Email: [cfid@partners.org](mailto:cfid@partners.org)

Website: <https://www.massgeneral.org/faculty-development/>

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### Office for Clinical Careers

Phone: 617-724-0818

Email: [clinicalcareers@partners.org](mailto:clinicalcareers@partners.org)

### Office for Well-Being

Phone: 617-724-0818

Email: [cfid@partners.org](mailto:cfid@partners.org)

### Office for Women's Careers

Phone: 617-724-0818

Email: [womens.careers@partners.org](mailto:womens.careers@partners.org)

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### Office for Research Careers

Phone: 617-643-1606

Email: [orc@partners.org](mailto:orc@partners.org)

### Graduate Student Division

Phone: 617-643-1606

Email: [gsd@partners.org](mailto:gsd@partners.org)

### Postdoctoral Division

Phone: 617-643-1606

Email: [pdd@partners.org](mailto:pdd@partners.org)

# Shared Resource Facilities (Cores) as Facilitators of Innovation within the MGB Research Ecosystem

Narayanaswamy Ramesh, PhD  
Research Core Facilities Office  
Research Management  
Partners Healthcare



## And What do they do?

### What are Core Facilities



**A Core is a centralized resource sharing facility available to scientific investigators that offers access to**

- **Instruments,**
- **Technology and**
- **Expertise**



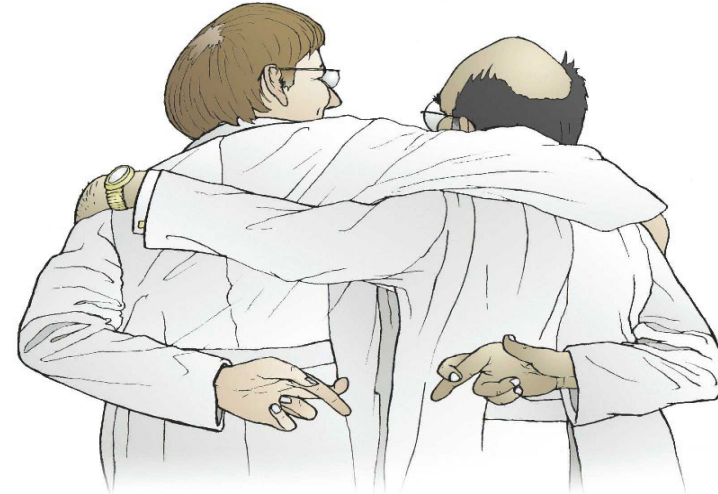
## Advantages of Shared Resources

### What are Core Facilities

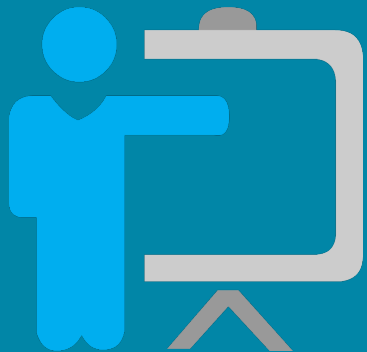


- Reduces capital spending
- Spreads cost across many users, reducing the cost for an individual user
- Therefore, stretches the dollars available for research
- Lessens the worry of instrument maintenance or personnel costs
- More importantly offers ready access to multiple services and expertise

## And what else do they do?



- **Fosters scientific collaborations within and outside institutions.**
- **Can serve as a nucleus to engender novel collaborative interdisciplinary science**
- **In grant applications, serve as a guarantor of technology or access to instrumentation**



## Partners offers a broad range of Core Services

### MGB Research Cores Facilities



<b>Animal Resources</b>	<b>Genomics, Omics and Sequencing</b>
<b>Biorepositories</b>	<b>Histology and Histopathology</b>
<b>Cell Biology/ Immunology/Virology</b>	<b>Informatics and Biostatistics</b>
<b>Biochemistry/Physiology/ Reagents</b>	<b>Medical and Research Imaging</b>
<b>Clinical and Translational Research</b>	<b>Microscopy</b>
<b>Flow cytometry</b>	<b>Other Partners Cores</b>



## Successful Shared Resource Facilities have the following traits\*

1. Offer services used by a broad cross section of investigators
2. Offer cutting edge technology generally not offered by CROs
3. Offer value added services
4. Follow sound management practices

\* Adapted from ABRF workshop on core management





# Shared Resource Facilities (Cores) as Facilitators of Innovation within the MGB Research Ecosystem

**Two Cores Facilities  
will describe their novel services**



## NIH actively encourages facilitating access to Cores

Core facilities are relatively new components of the research ecosystem.

They provide several unique value propositions for researchers

- 1) a cost-effective means for making state-of-the-art instrumentation and services available to researchers
- 2) maximizing the return on capital investment by sharing capacity with external researchers, when possible.

But some Federal policies on cores are an impediment for capital purchases

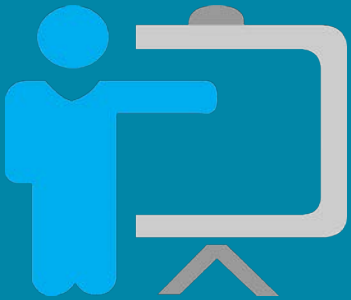


# Cores Capital needs

## Core Capital equipment purchase needs

Without Dept/Institution help or philanthropic funds,

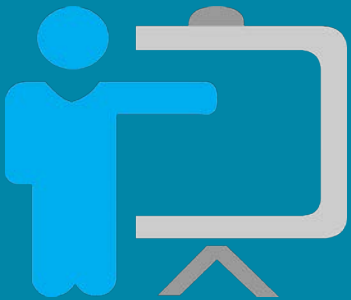
- No funding source to purchase new equipment
- Accumulated Depreciation can be used only to **upgrade**
- As a result, there are no incentive to start new and technologically relevant core facility or services that are capital intensive



# Cores Capital needs

## Solution:

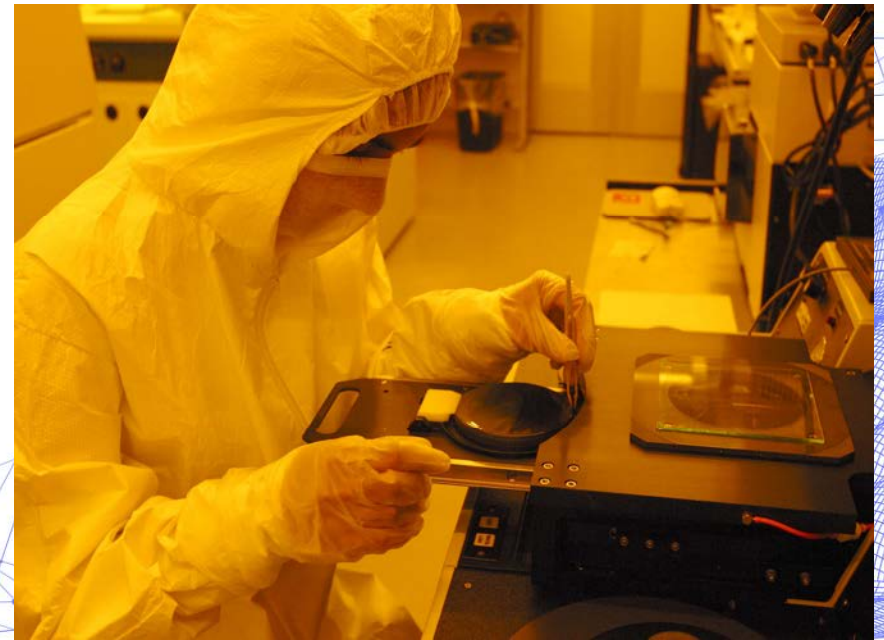
- Set up a Core Support fund to extend a loan to purchase capital equipment
- Depreciation and Core surplus funds may be used to repay loans
- A pool of \$ 2 M can go a long way





# BioMEMS Core @ MGH

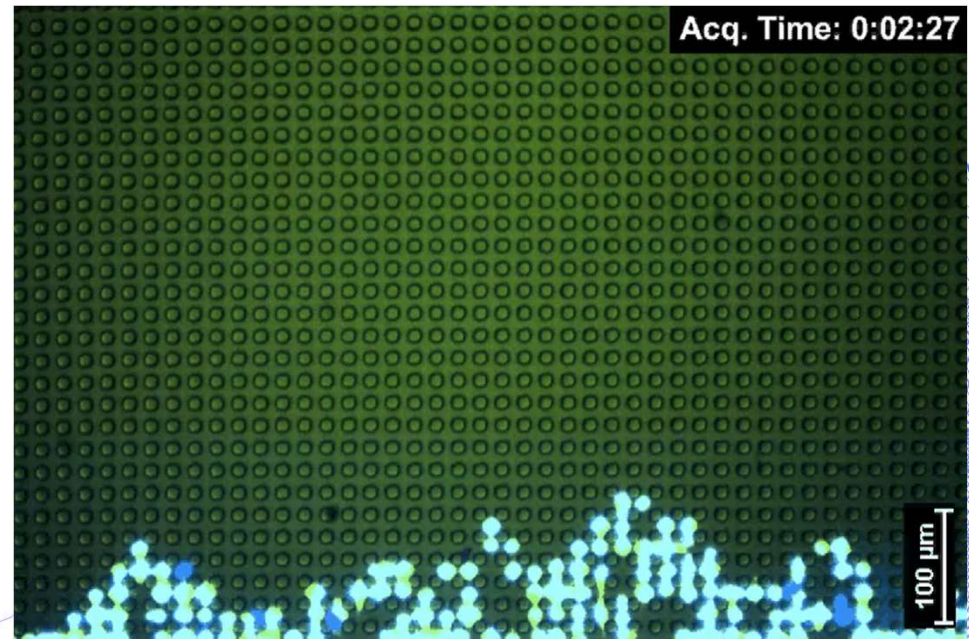
Precision tools for the *ex vivo* testing of cells:  
small scale | large numbers | new functionalities



# BioMEMS Core @ MGH

Precision tools for the *ex vivo* testing of cells:

- **cancer cell invasion,**
- white blood cell motility,
- antimicrobial function,
- swarming,
- separating cells from blood
- neurospheroids and
- other 3D cell structures

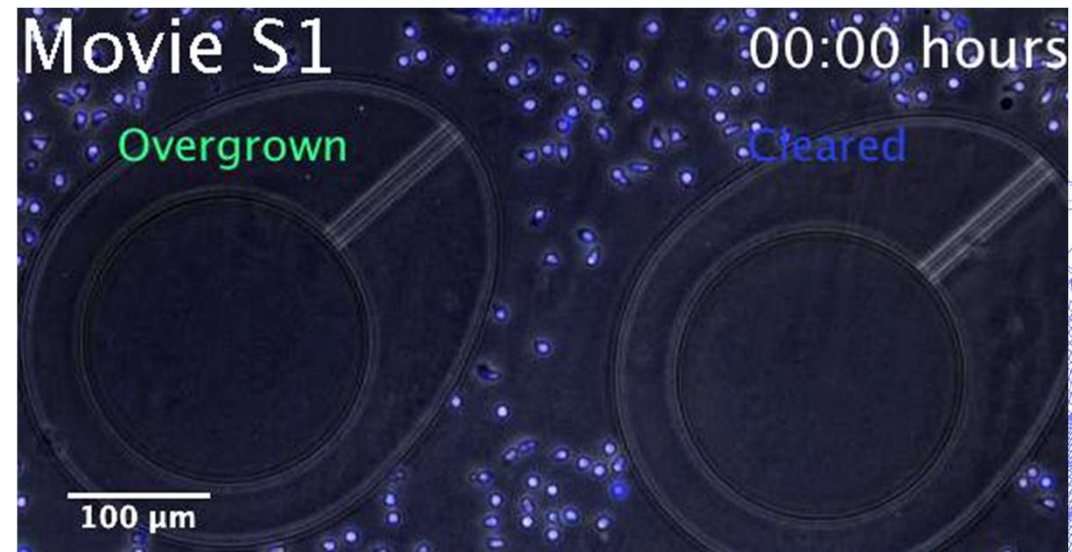




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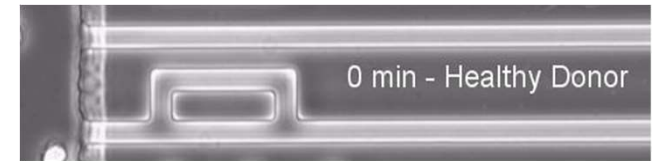
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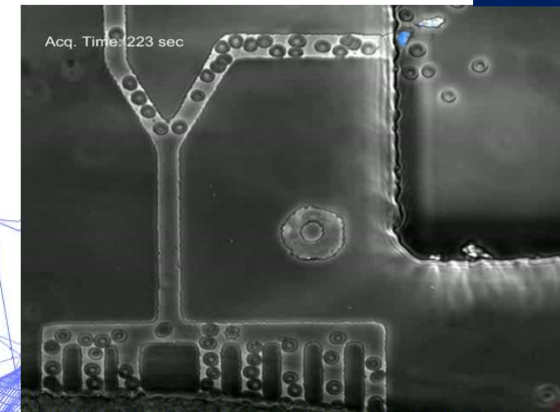
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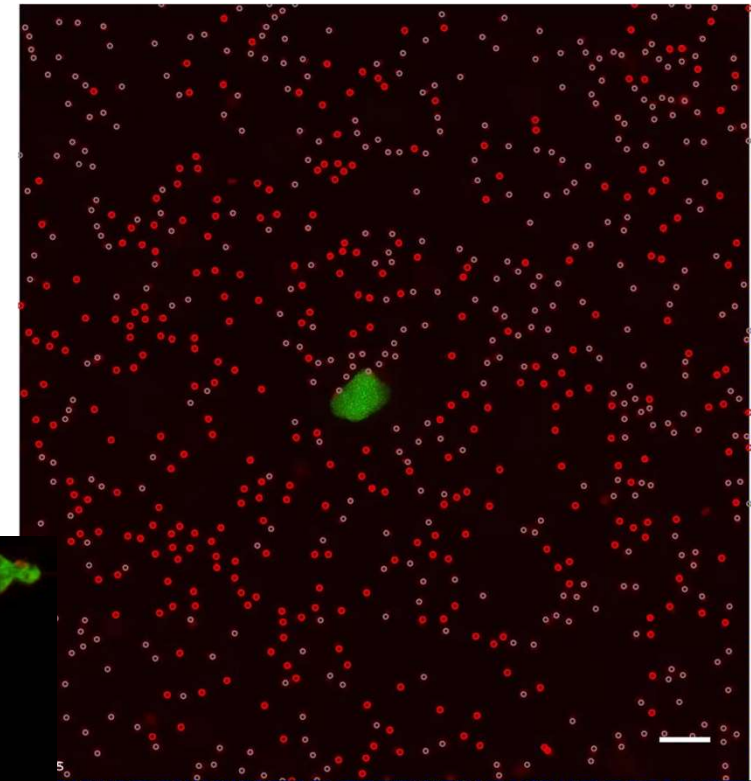
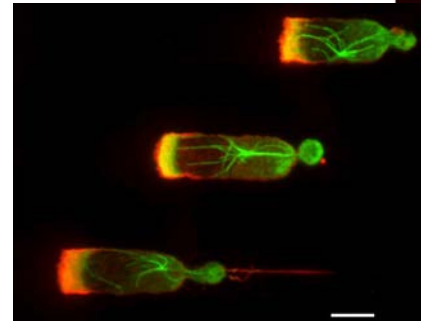




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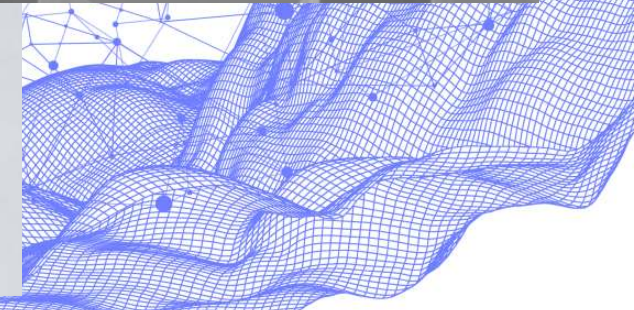
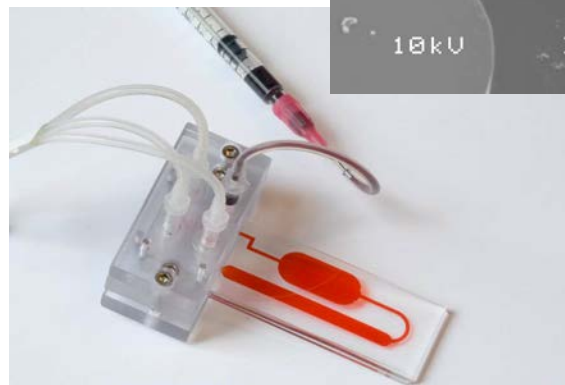
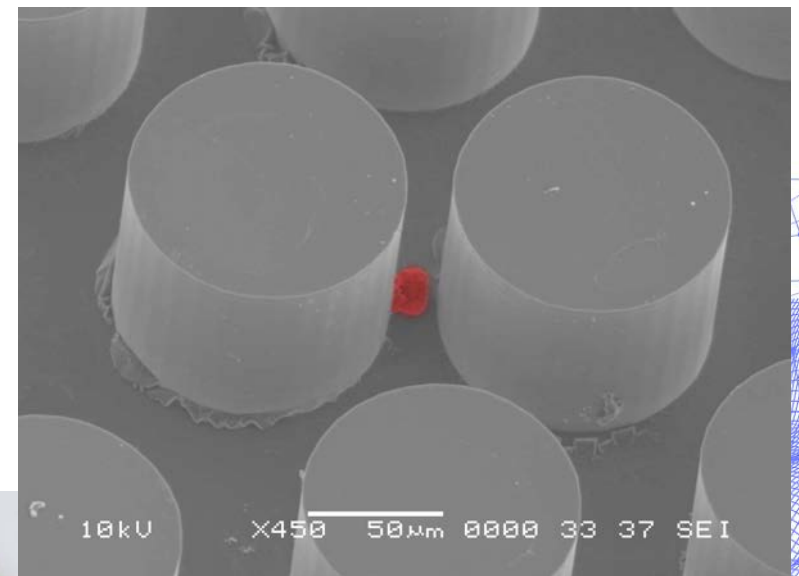
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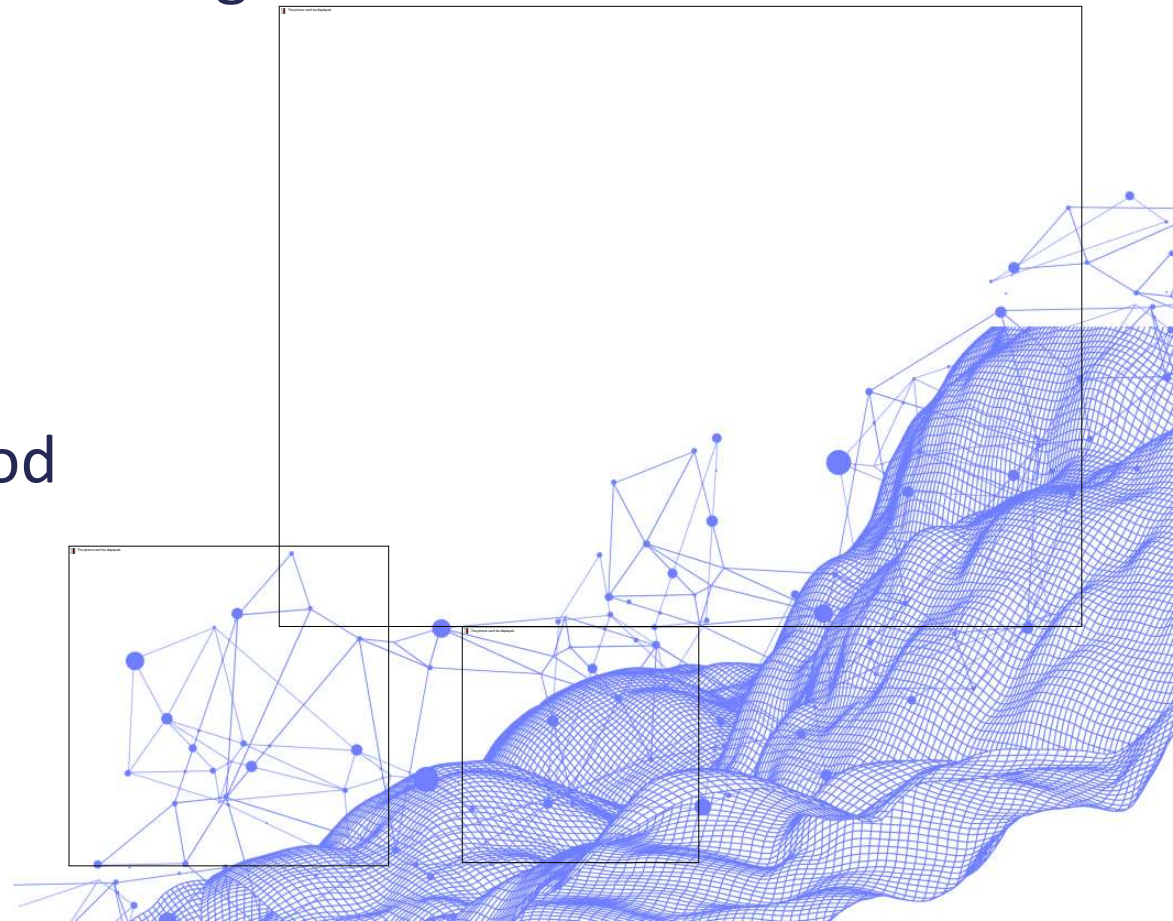
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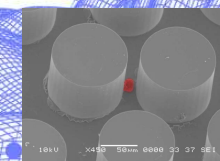
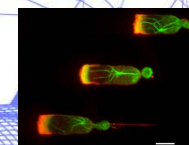
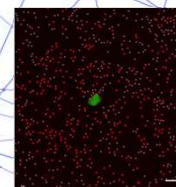
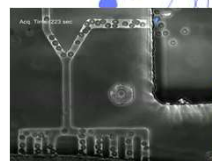
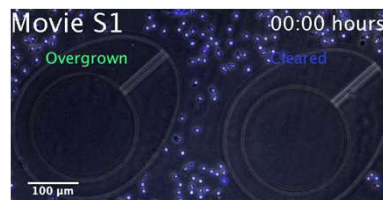
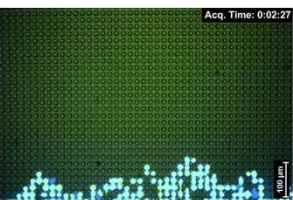
Precision tools for the *ex vivo* testing of cells

Training, self and assisted fab, consulting

Since 2018, more than 50 users

dirimia@mgh.harvard.edu

<https://researchcores.partners.org/biomem/about>



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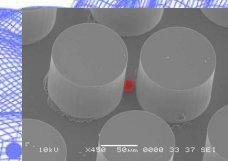
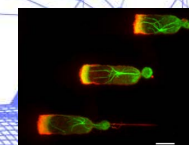
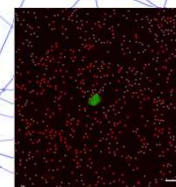
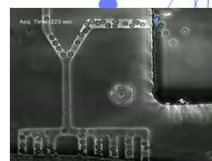
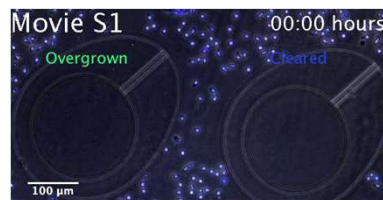
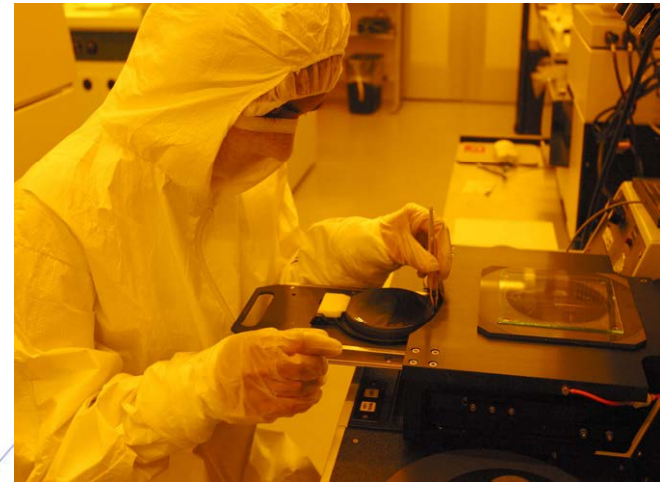
**Dr. Mehmet Toner,**

**Mr. Octavio Hurtado**

**Dr. Felix Ellett**

**Dr. Mehdi Jorfi**

[dirimia@mgh.harvard.edu](mailto:dirimia@mgh.harvard.edu)





ATHINOULA A.

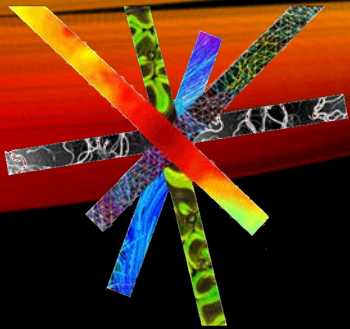
# MARTINOS CENTER

FOR BIOMEDICAL IMAGING

David Vaughn M.S.M.

Executive Director of the Martinos Center



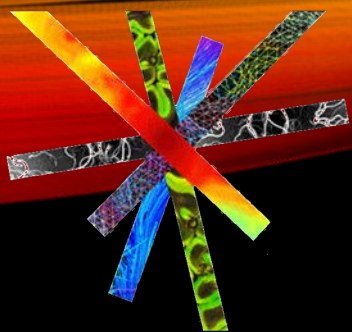


# INTRODUCTION

- The Athinoula A. Martinos Center for Biomedical Imaging at Massachusetts General Hospital is one of the world's premier research centers devoted to the development and application of advanced biomedical imaging technologies



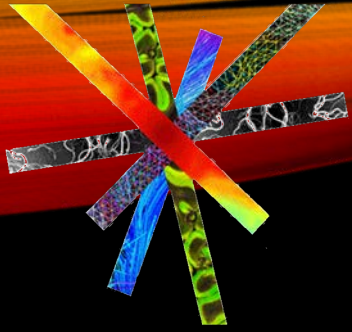




## MISSION

- Revolutionizing imaging for the advancement of science and medicine.  
Inspire, educate and inform.

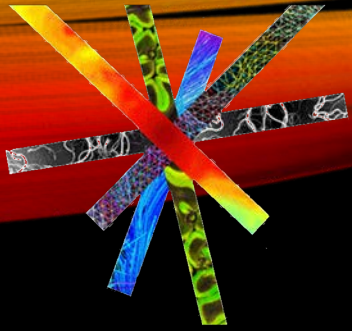




# CORE VALUES

- INNOVATIVE: Cultivate an inspirational environment that fosters bold ideas, new perspectives & transformative exploration that shapes biomedicine.
- FREE: Encourage open collaboration and pursuit of diverse scientific interests in a risk-tolerant environment.
- COLLABORATIVE: Bring together researchers across scientific disciplines, from around the world, and from both academia and industry to advance multidisciplinary biomedical imaging. We value collegiality and global teamwork to achieve science innovations

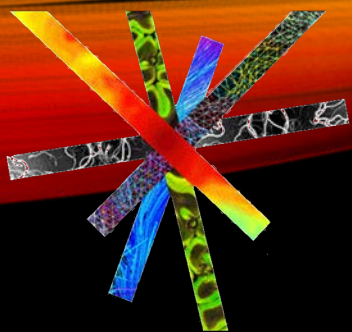




# CORE VALUES

- DIVERSE: Foster a diverse, inclusive community of students, researchers, staff, and faculty members by welcoming colleagues of all backgrounds, choices, definitions, and abilities. We believe that an inclusive environment is important for community-building and innovation.
- PASSIONATE: Be driven, be inspired, be dedicated to science for the better of humankind.
- INTEGRITY: Maintain high moral, ethical, and scientifically-rigorous standards and strive for unwavering excellence in the pursuit and dissemination of knowledge





# MARTINOS PROFILE

• FACULTY	111
• RESEARCH FELLOWS	89
• NON-PROFESSIONAL STAFF	145
• NON-EMPLOYEES	208







# IMAGING INFRASTRUCTURE

- Human Subject Imaging
  - •3T MRI systems (Skyra, Trio, Prisma)
  - •7T MRI systems (prototype, Terra)
  - •Human Connectome Scanner
  - •Prototype BrainPET system (Brain only; simultaneous)
  - •PET/MR system
  - •Magnetoencephalography Pre-clinical Imaging & Instrumentation
  - •4.7T MRI System w/simultaneous PET
  - •9.4T and 15T MRI System
  - •14.1 and 11.7 Spectroscopy
  - •Two-photon microscope and other microscopy
  - •Other Radiopharmacy
  - •Cyclotron • 15+ Tracers Computational Resources
  - •Supercomputer • Data Storage





# EXEMPLARY UNIQUE SYSTEMS

## HUMAN CONNECTOME

Prototype MR System that features a gradient field that is eight times more powerful than a conventional MRI machine. It produces images that are four to eight times more detailed and does so in one-sixth of the time.

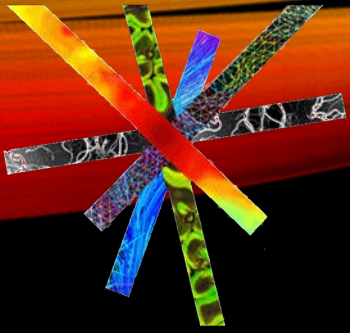
\*inspired stronger gradients for clinical use

## BrainPET

Prototype MR-compatible PET insert, called BrainPET, positioned inside a commercially available 3-Tesla MR Triosystem.

\*inspired simultaneous PET/MR commercial systems

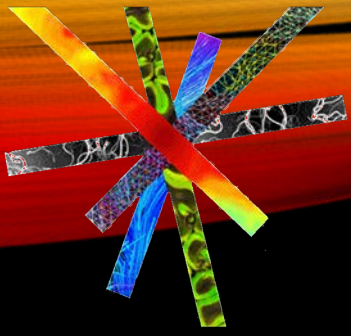




# USER FEE SYSTEM

- The Center charges “users” for using the various imaging equipment. Users include not only Martinos Faculty and MGH faculty but also users from throughout the world at academic, industry and governmental organizations.
- These fees cover the ongoing expenses for operating the facilities including support staff, maintenance and other miscellaneous expenses.  
<https://www.martinos.org/core-services/>
- Keep in mind that it’s not utilized to cover the purchasing of our equipment. Equipment is purchased via institutional funds, philanthropic resources and NIH grants (shared instrument grants).





# TECHNOLOGY DEVELOPMENT

- MR
  - Advanced Coil Designs
    - We design and build numerous one of a kind imaging coils
  - Simultaneous Multi-Slice Imaging
- Chemistry
  - The First In Vivo Imaging Agent for electrical signaling in the heart
  - Noninvasive approach to diagnosing liver fibrosis
- Data Science
  - Freesurfer
    - Software package for the analysis and visualization of structural and functional neuroimaging data from cross-sectional or longitudinal studies
  - Imaging/Pathology Correlation
- Point of Care
  - Optical Imaging
  - Low-Field

