



Brigham and Women's Hospital
Founding Member, Mass General Brigham



2022 Annual Report

Osher Center for Integrative Medicine

at Harvard Medical School and Brigham and Women's Hospital



HARVARD
MEDICAL SCHOOL



**OSHER CENTER FOR
INTEGRATIVE MEDICINE**
HARVARD MEDICAL SCHOOL AND
BRIGHAM AND WOMEN'S HOSPITAL

A message from our director

This year our Osher Center, jointly based at Harvard Medical School (HMS) and Brigham and Women's Hospital (BWH), celebrated its 20th Anniversary. I am so pleased to share that our center, one of the longest standing academic programs committed to integrative medicine and health worldwide, is thriving and adapting to address society's ever changing needs.

Our longevity and successes, some featured in this 2022 annual report, are due to multiple factors. First and foremost, we acknowledge the remarkable generosity and vision of Mr. and Mrs. Bernard and Barbro Osher and the Osher Foundation. Their early and ongoing support for our center, and now, the fleet of 11 centers that comprise the Osher Collaborative for Integrative Health, has been a core force shaping the arc of complementary and integrative health and 21st century medicine as a whole. Other key factors underlying our longevity and success are the wisdom, hard work, and courage of our center's founding leaders—David Eisenberg, Ted Kaptchuk and Helene Langevin; the support of the leadership of HMS and BWH; our dedicated team of directors, faculty, fellows, clinical providers and staff; and the partnerships and synergies we have forged through our evolving 'center without walls' network.

As I embark on my third year as center director, I reflect on the many challenges facing the health of our society today. Superimposed on the day-to-day practical stresses of our individual lives are the ongoing complexities of the COVID-19 pandemic, geopolitical wars, erosion of long-standing democracies, and environmental degradation. Collectively, these stressors are wreaking havoc on our physical, mental, social, and spiritual wellbeing. In this context, my team and I remain committed to the Osher Center's core mission:

...advancing a model of health that recognizes the interconnections of the body, mind and spirit to enhance resilience and promote health and healing in individuals, communities, and the environments that supports them.

In this year's report, we showcase our fifth signature Integrative Medicine Network Forum that explored the burgeoning global crisis of depression, and how integrative health models and practices offer promising strategies for its prevention and management. We highlight the diverse and probing topics of our monthly Grand Rounds, including group integrative medicine visits for addressing health disparities, salutogenesis and the neurobiology of both spirituality and acupuncture. We share how we are advancing our research by tackling issues such as cardiopulmonary and multiple chronic pain conditions, addictive behaviors and sleep disorders. With the recruitment of our new Director of Nutrition and Supplements Research, Dr. Howard Sesso, we introduce you to leading edge research centered on nutritional supplements for prevention of cardiovascular disease and cancer. Finally, we share updates about our clinical programs to manage distress and burnout in health care providers, researchers, and hospital staff and how our clinical team is growing and evolving to provide care for the whole person—body, mind and spirit.

With sincere wishes to all for health, peace, joy, and creativity in 2023!



Peter M. Wayne, Ph.D.

Bernard Osher Associate Professor of Medicine in the Field of Complementary and Integrative Medical Therapies
Harvard Medical School

Director

Osher Center for Integrative Medicine
Brigham and Women's Hospital and Harvard Medical School



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20th Anniversary Luncheon. From left: Gloria Yeh, Helene Langevin, Darshan Mehta, Barbara Bierer, Sally Andrews, Andrea Hrbek, Jane Moss, Howard Sesso, Julie Buring, Mary Cornille, Catherine Belichick, Bernard Osher, David Eisenberg, Peter Wayne, Mary Bitterman, Peter Lunder, Donald Levy, Aterah Nusrat, Ted Kaptchuk, David Golan, Paul Anderson, Roger Davis, Matthew Kowalski, Paula Lunder

Marking a Milestone: 20 Year Anniversary

As spring blossomed in Boston, MA, the Osher Center for Integrative Medicine at Harvard Medical School and Brigham and Women's Hospital celebrated its 20th



anniversary with a dedicated two-hour Symposium. Current leadership and special guests reflected on the progress made over the past 20 years and shared their vision and plans for our continued, collaborative evolution. The video recording from the symposium and additional 20th anniversary tributes by former directors, David Eisenberg, MD and Helene Langevin, MD and founding core faculty, Professor Ted Kaptchuk, live in perpetuity on our website, oshercenter.org.

Developing and Diversifying our Leadership Team

This past year, we welcomed Howard Sesso, ScD, MPH, from the Division of Preventive Medicine at Brigham and Women's Hospital as the Director of Nutrition and Supplements Research.



Dr. Sesso adds a wealth of experience and expertise in diet and nutrition research to our portfolio. Matthew Kowalski, DC, Associate Clinical Director, was appointed as Instructor of Medicine at Harvard Medical School, representing a rare milestone for the chiropractic profession. We anticipate further leadership transitions in 2023 as Medical Director, Donald Levy, MD, steps down after 20 years at the helm of the Osher Clinical Center.

Research Highlights

In 2022, our research portfolio comprised 36 studies funded by the National Institutes of Health (NIH) and a further 21 funded by foundations or philanthropy. These include the existing portfolios of Drs. Peter Wayne, Gloria Yeh, and Pamela Rist, along with the addition of Dr. Howard Sesso's nutrition and dietary supplement research grants. New studies initiated in 2022 include an NIH funded clinical trial evaluating multi-modal chiropractic care plus Tai Chi for chronic neck pain, and a new NIH funded study evaluating online Tai Chi training coupled with Fitbit step counting to promote physical activity in sedentary cardiac patients.

Bringing a Multi-Disciplinary Lens to the Lived Experience of Depression



Osher Integrative Medicine Network Forum 2022

Our fifth biennial signature Integrative Medicine Network Forum brought together over 30 speakers and attracted 800+ registrants for a unique two-day virtual conference experience. Together we explored integrative approaches to understanding, managing and treating the lived experience of depression. The rich dialogue straddled multiple disciplines from neuroscience to psychedelic therapies, and embraced different cultural and faith-based perspectives and demographically diverse patient case studies. The theme and reach of the conference attracted philanthropic support from the Weil Foundation, the Ubero Foundation for Religious Studies and hospital sponsorship.

"Excellent conference bridging disparate beliefs about illness towards a more integrated understanding."

Forum Attendee

"I really enjoyed this Forum and it increased my confidence in recognizing and managing patients with depression and other mental health concerns."

Forum Attendee



MIT Press Essential Knowledge Series: Placebos



While serving as the Osher Center's Director of Basic and Translational Research, Kathryn T. Hall, PhD, published her first book titled 'Placebos', through the MIT Press Essential Knowledge Series.

In this volume, Dr. Hall, who has studied the placebo effect for years, reviews the history of placebos in medicine, tracing its evolution from fringe acceptance to its use as a control in clinical trials. She examines the power of placebos, showing how their effects can influence clinical trials, clinical encounters and, collectively, our public health.

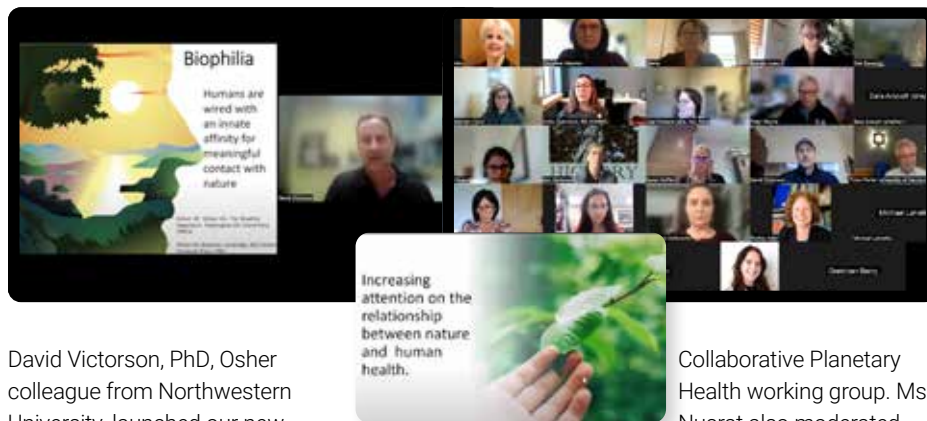


THE SCIENCE OF
TAI CHI & QIGONG
AS WHOLE-PERSON HEALTH
Advancing the integration of mind-body practices in
contemporary healthcare

Symposia Development

In 2022, we began planning a landmark two-day in-person international scientific conference, "The Science of Tai Chi & Qigong as Whole Person Health: Advancing the Integration of Mind-Body Practices in Contemporary Healthcare." This inaugural conference, sponsored by the Osher Center, will be held at Harvard Medical School in Boston, MA in September 2023. Drs. Yeh and Wayne are serving as the conference Co-Chairs. The key aims are to provide an international forum to disseminate research on tai chi/qigong and related mind-body movement practices in the context of whole person health; foster interdisciplinary dialogue and collaboration; address challenges in dissemination and implementation; and shape future research agendas. For more information on the 2023 Tai Chi & Qigong Conference go to: www.osherscienceoftcq.org

New Planetary Health Programming



David Victorson, PhD, Osher colleague from Northwestern University, launched our new programming in integrative medicine and planetary health with a Grand Rounds on the health and healing benefits of nature connection. Since then, our planetary health program director, Aterah Nusrat, MSc, harnessed widespread interest in planetary health across the Osher Collaborative for Integrative Health (OCIH) through a survey and started serving as chair of the subsequently established Osher

Collaborative Planetary Health working group. Ms. Nusrat also moderated the closing panel discussion on social and nature connections in our Network Forum. In addition to introducing planetary health resources to our newsletter subscribers, she and Dr. Wayne developed connections with organizations such as the Planetary Health Alliance at the Harvard T. H. Chan School of Public Health, and delivered presentations at the Nova Institute for Health of People, Places and Planet's annual meeting.

Embedding and Supporting Diversity, Equity and Inclusion

Over recent years we have increased our efforts in reflecting principles of diversity, equity, inclusion and belonging (DEIB) in our programming, faculty and staff members, and by assuming DEIB leadership roles. In 2022, Education Director, Darshan Mehta, MD, MPH, served as Chair for the DEI Task Force for the Academic Consortium for Integrative Medicine and Health (ACIMH) and sat on the Black, Indigenous, and People of Color (BIPOC) Committee for the Academy of Integrative Health and Medicine. In addition, Research Manager, Daniel Litrownik, BA, served as our representative on the Osher Collaborative Anti-Racism Coalition (ARC).

In 2022, partially inspired by our participation in the ARC, Drs. Wayne and Mehta mentored MD candidate Eana Meng and Harvard College senior Karim Ishamel in the research and clinical domains of their 'Small Steps Healing Project' which brings mobile integrative medicine clinics to hard to reach and disadvantaged individuals in Boston. Their project was recognized with a poster award at our recent Network Forum. Dr. Wayne also mentored Brianna Jean-Laurent, a Northeastern University intern in integrative medicine research; her career plan is to become a naturopathic provider and health disparities researcher. Finally, we sought to reflect gender, professional, cultural and demographic diversity in our speakers for our events, including our monthly Grand Rounds and the 2022 Network Forum.



Brianna Jean-Laurent, Osher Center mentee, Northeastern University

Research

Creatively adapting to the challenges posed by COVID-19, core Osher Research faculty and their teams maintained a robust portfolio of studies including 36 funded by the National Institutes of Health (NIH) and an additional 21 funded by foundations or philanthropy. Here we highlight the findings from our research portfolio in 2022, including the new addition of nutrition and dietary supplements.

New Nutrition and Supplements Research Direction

Expansion of Research Portfolio



We have expanded our research portfolio with the onboarding of our new Director of Nutrition and Supplements Research, Dr. Howard Sesso, to create critically needed synergies between our existing research in integrative medicine with nutrition and dietary supplements, epidemiology, randomized clinical trials, and bioinformatics. Nutrition is at the core of healthy living, whether as part of a beneficial dietary pattern or the targeted intake of specific macronutrients, foods, beverages, or micronutrients. In addition, many adults regularly use dietary supplements for purported but unproven health benefits, which require rigorous research studies to determine whether supplements may – or may not – prevent various health outcomes associated with aging. With nutrition at the core of a healthy lifestyle, we look forward to building new research collaborations within the Osher Center and beyond.

Showcasing Key COSMOS Findings

Dr. Sesso has led several research initiatives in nutrition and dietary supplements with major clinical and public health relevance. Highlights include the recently published COcoa Supplement and Multivitamin Outcomes Study (COSMOS) on cardiovascular disease, cancer, and other health outcomes in 21,442 older women and men. Adults taking a cocoa extract supplement had a promising 10% reduction in total cardiovascular events and a significant 27% reduction in cardiovascular disease death. Also in COSMOS, those taking a daily multivitamin, the most commonly used dietary supplement, had no effect on either cancer or cardiovascular disease. These findings for a multivitamin in COSMOS did not replicate an 8% reduction in cancer in another multivitamin trial conducted by Dr. Sesso in 14,641 middle-aged men, the Physicians' Health Study (PHS) II.



More Findings

Dr. Sesso and colleagues have also reported other important research findings this past year. COSMOS also examined the effects of the multivitamin and cocoa extract interventions on changes in telephone-assessed cognition in 2,262 participants in collaboration with Wake Forest. Those taking a daily multivitamin, but not cocoa extract, had significant improvements in cognition score over a 3 year period. In another study from the PHS II trial examining vitamin C and vitamin E supplementation on risk of gout, 500 mg/day of vitamin C – but not vitamin E – significantly reduced the gout by 12% among middle-aged and older men. These findings underscores the importance of future research studies to understand the short- and long-term health effects of dietary supplements, as many adults continue to take them without clear evidence of potential benefits – or risks.

New Areas for Research and Collaboration

There are several areas of research in nutrition and dietary supplements for which we are optimally positioned to leverage the rich, collaborative resources across the Osher Center research community – and beyond. First, teaching kitchens offer an opportunity to educate and empower individuals with tools to appropriately select and cook healthy foods for themselves as well as their families and friends. Second, we will develop highly integrated lifestyle-, mind-, and body-based interventions that leverage the Osher Center's existing research strengths. Third, we will continue to test for the benefits or risks of dietary supplements such as magnesium, cocoa flavanols, and a multivitamin on an expanded set of health outcomes, leveraging both existing and newly initiated randomized clinical trials. Importantly, our expansion to Nutrition and Supplements Research will seek new community-based research initiatives to ensure that our goal to improve nutritional status, through diet and/or supplements, for the prevention of disease can be attained across the entire population including those most vulnerable.

Sesso HD,* Manson JE,* Aragaki AK, Rist PM, Johnson LG, Friedenberg G, Copeland T, Clar A, Mora S, Moorthy MV, Sarkissian A, Carrick WR, Anderson GL, COSMOS Research Group. Effect of cocoa flavanol supplementation for prevention of cardiovascular disease events: the COSMOS randomized clinical trial. *Am J Clin Nutr* 2022.

Sesso HD,* Rist PM,* Aragaki AK, Rautiainen S, Johnson LG, Friedenberg G, Copeland T, Clar A, Mora S, Moorthy MV, Sarkissian A, Wactawski-Wende J, Tinker LF, Carrick WR, Anderson GL, Manson JE, COSMOS Research Group. Multivitamins in the prevention of cancer and cardiovascular disease: the COSMOS randomized clinical trial. *Am J Clin Nutr* 2022.

Baker LD, Manson JE, Rapp SR, Sesso HD, Gaussoin SA, Shumaker SA, Espeland MA. Effects of cocoa extract and a multivitamin on cognitive function: a randomized clinical trial. *Alzheimers Dement*. 2022.

Juraschek SP, Gaziano JM, Glynn RJ, Gornetskaya N, Bubes VY, Buring JE, Shmerling RH, Sesso HD. Effects of vitamin C supplementation on gout risk: results from the Physicians' Health Study II trial. *Am J Clin Nutr* 2022.

Taking Mindful Steps





Recommendations for physical activity and exercise are at the cornerstone for many health conditions including chronic cardiovascular and pulmonary diseases. Implementing and sustaining physical exercise is a universal challenge. Recent studies led by Dr. Gloria Yeh (Director of Clinical Research) are leveraging the promise of newer technologies such as wearables combined with older wisdoms through mind-body therapies to help promote positive behavior change. One study called Mindful Steps is developing and testing a multi-modal intervention that includes a wearable step tracker with individualized step goals and feedback, an educational and interactive website, plus a mindful movement video curriculum and live classes, specifically geared towards patients with chronic heart failure (HF) and chronic obstructive pulmonary disease (COPD). In 2022, Dr. Yeh received a grant from the NIH National Center for Complementary and Integrative Health for another study called Mind2Move that evaluates online Tai Chi classes coupled with a Fitbit to promote physical activity for sedentary patients who have had a prior cardiac event, such as a heart attack.



Litrownik D, Gilliam EA, Wayne PM, Richardson CR, Kadri R, Rist PM, Moy ML, Yeh GY. Development of a novel intervention (Mindful Steps) to promote long-term walking behavior in chronic cardiopulmonary disease: Protocol for a randomized controlled trial. *JMIR Res Protoc*. 2021.

Salmoirago-Blotcher E, Wayne PM, Dunsinger S, Krol J, Breault C, Bock BC, Wu WC, Yeh GY. Tai chi is a promising exercise option for patients with coronary heart disease declining cardiac rehabilitation. *J Am Heart Assoc*. 2017.

Gilliam EA, Kilgore KL, Liu Y, Bernier L, Criscitiello S, Litrownik D, Wayne PM, Moy ML, Yeh GY. Managing the experience of breathlessness with tai chi: a qualitative analysis from a randomized controlled trial in COPD. *Resp Med*. 2021.

Chiropractic Care

Chiropractic is one of the most widely used therapies for treating chronic musculoskeletal pain conditions, yet it has historically remained poorly integrated with medical care. Multiple new studies at the Osher Center have the potential to substantially advance the evidence base to inform chiropractic care's use and integration.

Neck pain is one of the top five chronic pain conditions in terms of prevalence and years lost to disability, yet conservative care options remain poorly understood with few effective treatment options available. One NIH-funded study awarded to the Osher Center in 2022 supports a clinical trial evaluating multimodal chiropractic care for chronic neck pain. This new study compares the benefits



of a multimodal chiropractic program alone, or in combination with Tai Chi, for reducing pain and disability. An innovative feature of this study is that chiropractic care and tai chi are provided through community-based practitioners, increasing the generalizability and future scalability of the findings. The study is being led by Dr. Wayne; Drs. Kowalski and Rist are key study co-investigators and collaborators include researchers from the Palmer College of Chiropractic.

Migraine is one of the top five leading causes of disability worldwide. The Osher Center has completed a pilot study that suggests that chiropractic care may be helpful in reducing the frequency and burden of episodic migraine in women. A follow-up study (pending funding from the NIH) will extend our evaluation of chiropractic for migraines to both men and women, and will include both civilian and military veteran populations. Led by Drs. Wayne and Rist, the study includes a partnership between the Osher Center, Yale University, VA Connecticut, and Palmer College of Chiropractic. A key question underlying this research is how chiropractic care impacts the well-established relationship between migraine headaches and neck pain.

Wayne PM, Bernstein C, Kowalski M, Connor JP, Osypuk K, Long CR, Vining R, Macklin, Rist PM. The Integrative Migraine Pain Alleviation through Chiropractic Therapy (IMPACT) Trial: Study rationale, design and intervention validation. *Contemporary Clinical Trials Communications* 2020.

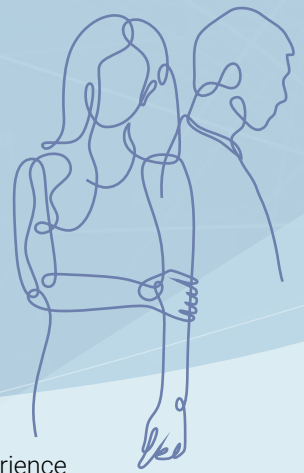
Rist PM, Bernstein C, Kowalski M, Osypuk K, Connor JP, Vining R, Long CR, Macklin EA, Wayne PM. Multimodal chiropractic care for migraine: A pilot randomized controlled trial. *Cephalagia* 2020.

Connor J, Bernstein C, Kilgore K, Rist PM, Osypuk K, Kowalski M, Wayne PM. Perceptions of chiropractic care among women with migraine: A qualitative study. *J Manipulative Physiol Ther*. 2021.



Osher Integrative Medicine Network Forum 2022

The Lived Experience of Depression: An Integrative Approach



Our fifth biennial Integrative Medicine Network Forum focused on “The Lived Experience of Depression: An Integrative Approach.” Despite advances in diagnosis and management, depression remains a global and stigmatized issue. Through this conference we aimed to create a greater understanding of depression through a multi-disciplinary lens. We explored the multi-dimensional nature of the lived experience of depression including the patient voice from different cultural contexts, current and promising integrative treatment approaches, and the role of social, spiritual and nature-based connections.

Format: 2-Day Free Virtual Conference (November 10-11, 2022)

Content: 30+ speakers; 8 panel discussions; 40 posters

**Engagement: Speaker Q&A; local in-person reception;
6 facilitated online networking groups**

**Audience: 860 registrants; 50% local audience;
32 countries represented**

**Education: 12.50 Continuing Medical Education (CME)
credits for MDs and DOs; and 12.50 continuing education
and participation credits to other professions**

“I’ve been practicing holistic medicine for over 20 years, and for many years put on week-long trainings for physicians in mind-body-spirit medicine and nutrition. This was the most interesting and heart felt conference I’ve ever attended. Bravo and thank you.”

Susan B. Lord, MD, Forum Attendee



Institutional Sponsorship: Departments of Psychiatry, Brigham and Women's Hospital and Massachusetts General Hospital

Philanthropic Support: Bernard Osher Foundation, Weil Foundation, Uberoi Foundation for Religious Studies



Day 1

Section Title	Speaker
Welcoming Remarks: Why is this an Integrative Medicine Conference?	Peter Wayne, PhD Maurizio Fava, MD
Keynote: The Global Lived Experience of Depression	Vikram Patel, MBBS, PhD
Session 1: State of Knowledge & Evidence of Treatment: Why One Perspective Alone is Not Enough Brain Structure & Neuroimaging Epi/Genetics of Depression Heart-Brain Connection Cross-Cultural Contexts	MC: Ashwini Nadkarni, MD David Silbersweig, MD Olivia Okereke, MD, MS Gregory Fricchione, MD Margarita Alegria, PhD
Session 2: What Can Our Patients Teach Us? Gardener vs Mechanic Self-Reported Case Self-Reported Case	MC: Donald Levy, MD Donald Levy, MD Shannon Scott-Vernaglia, MD Patient (w. Albert Yeung, MD) Randall Paulsen, MD
Session 3: Traditional Whole Systems Perspectives Ayurveda Tradition Chinese Medicine Tibetan Classical Medicine - The Art of Healing	MC: Eric Jacobson, PhD, MPH Marni Chanoff, MD Rosa Schnyer, L. AC Eric Jacobson, PhD, MPH
Session 4: Current Complementary & Integrative Approaches Role of Diet The Role of Herbs and Supplements in Depression 3rd Wave Psychological Therapies Mindful Movement Reflections on Day 1	MC: Gloria Yeh, MD, MPH Melinda Ring, MD Karen Koffler, MD Zev Schuman-Olivier, MD Peter Wayne, PhD Darshan Mehta, MD, MPH
Local Reception, Martin Conference Center, Harvard Medical School Online Networking Sessions	Kristen Kraemer, PhD Dennis Munoz-Vergara, VMD Helen Huang, MS Aterah Nusrat, MSc

Day 2

Section Title	Speaker
Introduction to Day 2	Peter Wayne, PhD
Keynote: Integrative Medicine at the Crossroads of Clinical Medicine and Public Health	Gregory Fricchione, MD
Session 5: Listening to Our Patients and Communities Mental Health via a Public Health Lens Cross-Cultural Perspectives on Clinical Care in Psychiatry: The South-Asian Lens	MC: Darshan Mehta, MD, MPH Kevin Simon, MD Ashwini Nadkarni, MD Donald Levy, MD
Session 6: What Can Faith Communities Teach Us? Role of Spirituality in the Management of Depression/ Jewish Perspective, Muslim perspective Hindu perspective, Buddhist perspective Jain perspective, Sikh perspective, Christian perspective	MC: Darshan Mehta, MD, MPH David Rosmarin, PhD Rania Awaad, MD Bhriku Singh, PhD Janet Gyatso, PhD Chris Miller, PhD Sat Bir Khalsa, PhD Shakira Sanchez-Collins, MD
Session 7: New & Promising Complementary and Integrative Approaches Psychedelic Assisted Therapy Infrared Light Therapy Interventional Psychiatry Hyperthermia Digital Innovations	MC: Ashwini Nadkarni, MD Franklin King, MD Paolo Cassano, MD, PhD Shan Siddiqi, MD Maren Nyer, PhD Sabine Wilhelm, PhD
Session 8: Connecting to Social and Natural Ecosystems Social Connection Healing Power of Storytelling Nature Therapies	MC: Aterah Nusrat, MSc., DIC Matthew Lee, PhD Annie Brewster, MD David Victorson, PhD
Poster Awards, and Closing Remarks	Peter Wayne, PhD Gloria Yeh, MD, MPH
Online Networking Groups	Sat Bir Khalsa, PhD Steve Cina, DIAH Aterah Nusrat, MSc

Training the Next Generation in Integrative Medicine Research and Leadership

Our NIH-funded post-doctoral research fellowship continues to thrive. It is the longest standing training program in integrative medicine research in the United States. Our six fellows-in-training and recent graduates are tackling leading edge research topics ranging from brain responses to meditation in patients with chronic pain to understanding the scientific basis for acupuncture points. Their work has led to multiple peer reviewed publications and awards. Recent graduates have joined Harvard faculty, and earlier graduates of the Fellowship continue to have an important presence in integrative medicine leadership roles nationally. In addition, we successfully recruited our first naturopathic physician to join our fellowship who will start in July 2023. Meet our current research fellows and recent graduates:

Research Fellows



Heena Manglani, PhD, is a 1st year T32 fellow. She is developing and testing mind-body interventions in individuals with multiple sclerosis and their care partners, targeting whole health behaviors to improve physical, psychological, and cognitive function.

She recently received a grant from the International Neuropalliative Care Society (INPCS) to study predictors of chronic emotional distress in patients with multiple sclerosis and care partners in the first year of diagnosis.



Joseph Rosansky, PhD, is a 1st year T32 fellow. His work focuses on mindfulness-based and integrative approaches to treating addictive behaviors, including reducing alcohol consumption. He is also studying innovative, integrative approaches to population mental wellness.



James Doorley, PhD, is a 2nd year T32 year fellow. His research focuses on mind-body and psychologically-informed physical therapy for chronic pain and developing web-based mind-body interventions for pain to increase access in diverse, underserved populations.



Wren Burton, DC, is a 2nd year chiropractic fellow supported by a generous gift from the NCMIC Foundation. Dr. Burton's research focuses on the relationship between chronic musculoskeletal pain, mobility and fall risk, and the potential use of chiropractic care for fall prevention.



Michael Datko, PhD, is a 3rd year T32 fellow. His work examines the neurophysiology of multi-modal therapies, including vagal nerve stimulation and mindfulness meditation for chronic pain, and is helping to elucidate fundamental processes such as interoceptive awareness.



Jacklyn Foley, PhD, is a 3rd year T32 Fellow. Her research evaluates mindfulness and cardiovascular health among people living with HIV. Her work is supported by a Harvard University Center for AIDS Research (CFAR)

Developmental Award. She was also awarded an Innovative Early Career Pilot Award in Aging and Palliative Care at the Massachusetts General Hospital to study cognitive behavioral therapy-based group interventions to reduce inflammation in older people with HIV.



Eunmee Yang, PhD, MPH, MS, LICAC graduated from the fellowship in 2022 and is now a junior faculty member at the Osher Center. Her research focuses on understanding the biophysical properties of acupoints, using sophisticated measures of blood flow, skin temperature and pressure sensitivity, within the context of inflammatory bowel disease and pain.



Yan Ma, MD, MPH, graduated from the fellowship in 2021 and is now a junior faculty member at the Osher Center. Her research explores the use of non-linear physiological markers of heart and brain wave dynamics to

characterize sleep quality, and how bedtime mind-body practices can improve sleep onset and quality in patients with insomnia.



Dennis Munoz-Vergara, VMD, PhD, MPH, graduated from the fellowship in 2021. He studies the impact of yoga-like stretching in both animal models and humans to understand the effect of mechanical forces on

tissue remodeling, inflammation and its resolution.



Kristen Kraemer, PhD, graduated from the T32 program in 2020 and joined Beth Israel Deaconess Medical Center as a Harvard faculty member. She was awarded a K23 career

development award from the National Institutes of Complementary and Integrative Health (NCCIH) to study components of mind-body exercise for physical activity engagement in metabolic syndrome.

2022 Grant Awards and Abstract Awards

Heena Manglani

- **International Neuropalliative Care Society (INPCS) Seed Funding Award**

The first year of multiple sclerosis: Identifying predictors of chronic emotional distress in patients and care partners

Jacklyn Foley

- **Harvard University Center for AIDS Research (CFAR) Developmental Award**

Mindfulness and cardiovascular health among people living with HIV

- **Chong Jin Park Innovative Early Career Pilot Award in Aging and Palliative Care, Massachusetts General Hospital**

Feasibility and acceptability of a cognitive behavioral therapy-based group intervention to reduce inflammation in older people with HIV

Yan Ma

- **American Academy of Sleep Medicine Focused Projects Grant for Junior Investigators**

Physiological dynamics of the sleep onset process: conventional and novel analyses using SHHS data

- **Sleep and Circadian Science Scholar Award, Sleep Research Society, Advances in Sleep and Circadian Science (ASCS) Meeting, Clearwater, FL**

Brain dynamics during wakefulness before sleep: understanding wake-sleep physiology by complexity-based and conventional spectral measures

Dennis Muñoz-Vergara

- **George Lewith Prize, International Society for Traditional, Complementary, and Integrative Medicine Research (ISCMR), 2022 International Congress on Integrative Medicine and Health, Phoenix, AZ**

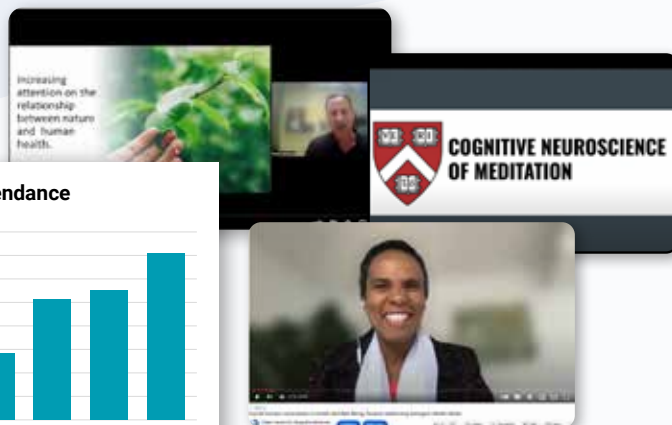
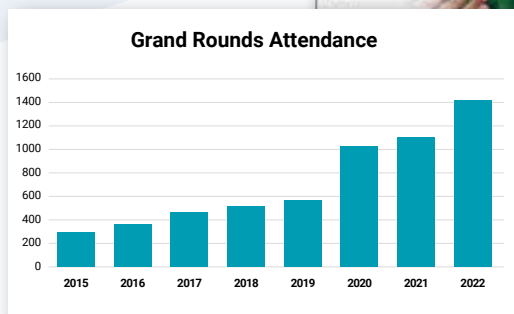
The effects of a single bout of high and moderate-intensity yoga exercise on circulating inflammatory mediators: a pilot feasibility study

Joseph Rosansky

- **Second Prize, Best Poster, Educational Initiatives Category, Osher Integrative Medicine Network Forum, 2022.**

Integrative Medicine Grand Rounds

Our monthly Integrative Medicine Grand Rounds, running since 2015, continue to attract twice the number of attendees from 2019 since we switched to a virtual format in response to the pandemic. In 2022, we hosted leaders from their respective fields including Ben Kliger, David Victorson, Paula Gardiner and David Rakel. Research and clinical case presentations included a diverse range of topics from whole person health with the Veterans Affairs (VA), electroacupuncture driving anti-inflammatory neural pathways, neurospirituality, psychedelics in psychiatry, mindful medical group visits and salutogenesis.



Cogan Lecture Series: Showcasing Salutogenesis



The 2nd installment of the Jack Cogan annual lecture series featured **David Rakel, MD, Professor and Chair of the Department of Family Medicine and Community Health at the University of Wisconsin** and **author of Integrative Medicine**, now in its 5th edition. As our first hybrid event of the year, approximately



Dr. Rakel met with Osher Fellows. From left: Wren Burton, Michael Datko, Dennis Munoz-Vergara, Eunmee Yang, Heena Manglani, James Doorley, Yan Ma

200 attendees joined us for Dr. Rakel's presentation, **"Remembering the Why: Salutogenic Synergy for Optimal Cognitive Function."** Following an enlivening exploration of ways to support



Dr. Rakel with Osher Faculty and Providers. From Left: Gloria Yeh, Peter Wayne, Matthew Kowalski, David Rakel, Arthur Madore, Darshan Mehta

longevity, maintain brain function and restore health, we held a lunch reception for attendees, and Dr. Rakel met with **Osher Integrative Medicine Research Fellows for a roundtable discussion.**

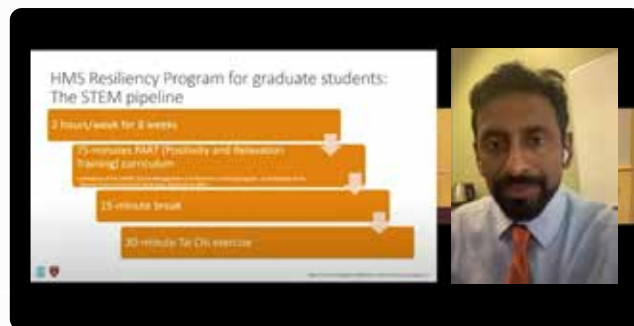
Supporting Resilience in Students and Employees

BRDG: The Harvard Building Resiliency, Depth and Grit in Medicine program, developed by Dr. Darshan Mehta in 2019, continues to be a required resiliency training course for all first-year students at Harvard Medical School and Harvard School of Dental Medicine.

SMART STEM: In 2022, Dr. Mehta continued to run the HMS SMART (**S**tress **M**anagement and **R**esiliency **T**raining program for **STEM (Science, Technology, Engineering and Mathematics)** doctoral and masters students, with the addition of KL2 scholars and post-doctoral candidates pursuing academic research careers.

Virtual Meditations for Hospital Community

Since the pandemic started, Dr. Darshan Mehta continues to lead regular virtual meditation sessions for Mass General Brigham employees. Sessions include guest leaders from the MGB community—fostering diversity and inclusivity for the sessions.



TEDxMGB

Dr. Darshan Mehta continues to lead a TEDx speaker series, which he built in 2020, showcasing inspirational stories from the MGB community, including how people have handled challenges through innovation, resilience, vulnerability, and connection.

Osher Clinical Center Highlights

We are delighted to share updates and notable achievements of the Osher Clinical Center (OCC) in 2022. These include professional and public recognition of our providers, increasing financial stability despite ongoing COVID-19 pandemic challenges, and expanded clinical programming. Increased Mass General Brigham (MGB) grant funding allowed the clinic to offer and expand our popular resiliency programs for MGB employees and their families. We also hired new integrative medicine providers to grow our talented clinical team. Finally, our current financial model of co-locating MGB medical practitioners continues to bolster revenue and provide year-over-year financial stability.

Recognizing our Clinical Leaders

Leading with Compassion: Donald Levy, MD



After 20 years as Medical Director, Dr. Donald Levy will be stepping down in 2023 and ushering in the next generation of clinic leadership. This marks twenty years since Dr. Levy brought together and united the first members of the

OCC team around his vision to relieve suffering. It is this organizing principle that has guided the clinic's mission for the past two decades. A precious friend and a pillar of support to the whole clinical team, Dr. Levy has shaped and led one of the longest standing integrative medicine clinics based in an academic hospital in the US. Fortunately, Dr. Levy will remain an integral member of the OCC team, continuing to care for his patients and mentoring his colleagues.

Harvard Medical School Recognition of Chiropractic Care



In 2022, Matthew Kowalski, DC, Associate Clinical Director at the Osher Clinical Center, was appointed as an Instructor in Medicine at Harvard Medical School. This rare milestone marks another success in interdisciplinary collaboration

between the medical and chiropractic professions. Dr. Kowalski's career has focused on integrating chiropractic treatment and education with the medical professions. As early as 1992, Kowalski was the first to bring chiropractic care into a Massachusetts hospital. With the leadership of the Osher Center at HMS, he continues to move patient care and the chiropractic profession forward through research and educational programs.

The Lavine Family Distinguished Chair in Neurology: Carolyn Bernstein, MD



Carolyn Bernstein, MD, is the first incumbent of the Lavine Family Distinguished Chair in Neurology. This award and gift was established to advance research, education and patient care in the field of integrative headache neurology.

"We want to help Dr. Bernstein build evidence for the holistic approach we know works. Our hope is that her work will unlock answers for the millions who suffer from migraines."

Jonathan Lavine

OCC Practice and Providers Recognized for Quality Care

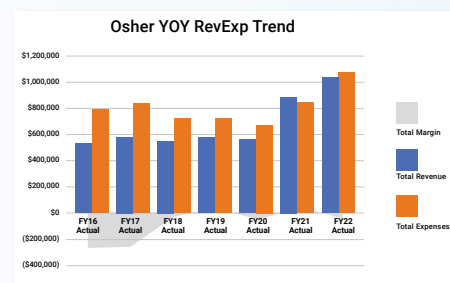
Donald Levy, MD was named in Boston Magazine's "Best Doctors" 2022 for his 15th consecutive year!



Holly Guevremont, OCC Practice Coordinator, was a 2022 awardee of "The Brigham Way." The award recognizes employees who go above and beyond their duties to foster a culture of excellence, respect

and professionalism for patients and colleagues at the Brigham.

OCC 2022 Bill of Financial Health



Diversification of our clinical offerings and classes, combined with space utilization optimization through co-locating medical providers and the addition of integrative health staff continues to strengthen our financial stability.



2022 OCC total patient volume exceeds previous years

"Dr. Levy is an incredible listener and I appreciate the time he took to get to know me and understand my story. I felt seen and heard for the first time in a long time. I appreciate the time he took to look through my records before our call and he had some really great suggestions that were in line with my values. I appreciate his caring approach."

OCC Patient

OCC Services Supporting Communities

Grant Renewed for MGB Employee Wellness & Resiliency Classes

Our clinical team values being able to provide resources to care providers across MGB to fortify their resilience and protect against burnout. In 2021, we received a \$22.5k



cross institutional (MGB Wellness) grant that supported the delivery of Mindfulness-Based Stress Reduction (MBSR), Tai Chi training, and (MBCT) to over 100 employees and their families at no cost. The success of the programs led to a larger renewed grant of \$41k in 2022. This allowed us to continue offering the popular Tai

Chi and MBSR classes and introduce a new 8-week MBCT course for employees seeking a more in-depth program.

Optimizing Provider Availability

- Demand for integrative health practitioner services continued to grow.
- Clinician schedules consistently booked over 95% booked; most at 100%.
- Extra session per month added to craniosacral therapist's schedule due to high patient demand.
- Increased weekly acupuncture sessions offered from six to eight.
- Chiropractic fellow started seeing patients one session per week in October 2022.

Building Our Team

- One additional acupuncturist credentialled and integrated into provider team.
- Chiropractic research fellow credentialled and started seeing patients.
- Started search for second craniosacral therapist and a massage therapist.
- Added two additional acupuncturists to provider team.
- In the process of increasing chiropractic staffing to meet growing demand for chiropractic care.

OCC Engaging the Community



Clinic Classes - In 2022, the OCC delivered between two to three courses of MBSR, MBCT, Tai Chi and 'My Healthy Brain.' Each course included 8 sessions per program.



MGB Employee Wellness Day - The OCC hosted a hybrid employee wellness day for MGB employees. Offerings included participation in Tai Chi, postural corrective exercises and self-administered acupressure to relieve stress and anxiety.

"Caring for your Aging Parents" - OCC Geriatrician, Dr. Julia Loewenthal, presented a well-attended virtual lecture for caregivers on caring for aging parents, sponsored and organized by the Women's Link Committee of the Tri-Town Chamber of Commerce.

"The instructor makes it so interesting and easy to understand. He also makes us reflect on life—Tai Chi's technique is like a life principle—to be balanced, to focus on the present moment, not to be too aggressive so we will not get hurt. He inspires us to take time to exercise and do more self-care. I enjoyed this class so much!!"

OCC Wellness Class Participant

Strengthening and Stewarding the IM Community through Our Center Without Walls

As a 'Center Without Walls,' one of our primary aims is to connect and strengthen the integrative medicine community across Harvard Medical School—and beyond. In 2022, we did this across research, clinical and educational domains with our signature programing: we continued supporting innovative research through our Osher Pilot Research Grants, we launched our new online interactive clinical network map, and we delivered our fifth biennial Network Forum. We also extended connections and visibility through co-sponsorship opportunities, and our consistent online presence.

Pilot Research Grants

Since the Osher Pilot Research Grant program was launched in 2015, we have distributed over \$1.2 million in seed funding to the HMS community. The program supports innovative, cross-disciplinary and collaborative projects in integrative medicine that are consistent with the research domains within our Strategic Plan:

- The Science of Mind-Body Connections
- Clinical Effectiveness of Multimodal and Integrative Interventions
- Systems and Translational Biology in Integrative Medicine
- Placebo and the Science of Human Connections

In 2022, we introduced two new research domains eligible for pilot funding, consistent with our evolving leadership portfolio:

- Lifestyle, Nutrition and Dietary Supplements
- The Science of Human and Nature Connections

2015-2022 OSHER PILOT AWARDS

8 Rounds of annual funding

36 Pilot research projects supported

\$1,236,710 Awarded

SUBSEQUENT OUTCOMES:

25 Scientific Publications

18 Academic Presentations

13 New Studies

\$1.57M Leveraged

Institutional Collaborations supported

Harvard Medical School, Dana-Farber Cancer Institute, Brigham and Women's Hospital, Massachusetts General Hospital, Boston Children's Hospital, McLean Hospital, and others.

Notable Outcomes From Recent Pilot Project Awards



Dhruv Singhal, MD, (2018: BIDMC)

Acupuncture for Breast Cancer related Lymphedema: A pilot study

Publication: Lymphatic

Research and Biology 2022

New Collaborations: BIDMC General Medicine; Cheng-Tsui Center for Integrative Medicine; and Dana-Farber Cancer Institute



Dennis Anderson, PhD (2020: BIDMC)

Measurement and Rehabilitation of Trunk Neuromuscular Control in Older Adults with Fall-Related Wrist Fractures

Grant under review: NIH R21

— "Biofeedback-based Training to Improve Trunk Neuromuscular Control and Lumbar Proprioception in Older Adults"

Grant under review: DoD Chronic Pain Management Research Program - "Quantitative Measures of Back Neuromuscular Structure and Function as Risk Factors for Chronic Low Back Pain in Patients With and Without Lower Limb Amputation"



Ana-Maria Vranceanu, PhD (2021: MGH)

My Healthy Brain: A Novel Mind-Body Program for Promoting Brain Health through Lifestyle Change

Presentation: Society of

Behavioral Medicine Annual Meeting, 2021 (virtual); Baltimore, MD, 2022

Publication: Aging & Mental Health, 2022

New Collaborations: Benson Henry Institute for Mind-Body Medicine; McCance Center for Brain Health; and Center for Aging and Serious Illness

Grant Award: NIA, K23, \$961,383



"The research training, preliminary data, and funding were invaluable for supporting my early career development as a clinical psychologist at Mass General Brigham. It was my first experience co-leading a funded study. It made me feel prepared to submit my K23 and run my first NIH grant as Principal Investigator."

General Brigham. It was my first experience co-leading a funded study. It made me feel prepared to submit my K23 and run my first NIH grant as Principal Investigator."

- Ryan Mace, PhD

2022 Pilot Awards



Roberta Sclocco, PhD

Dept. Physical Medicine & Rehabilitation

Spaulding Rehabilitation Hospital

Body Region-Specific Effects in the Neuromodulation of the Brain-Gut Axis in Functional Dyspepsia



Elyse Park PhD, MPH

Dept. Psychiatry, Massachusetts General Hospital

Developing an Integrative Mind-Body Intervention to Promote Sexual Well-Being of Female GI Cancer Survivors



Maren Nyer, PhD

Dept. Psychiatry, Massachusetts General Hospital

A Pilot Study of Whole Body Hyperthermia for Long COVID or Post-acute Sequelae of COVID-19 (PASC)

Co-sponsorships and Collaborations

Sixth International Scientific Symposium on Tea and Human Health

In April 2022, the Osher Center co-sponsored the Tea Council of the USA's virtual Sixth International Scientific Symposium on Tea and Human Health. Expert researchers from across the globe gathered to discuss the latest research on tea in relation to cognitive function, cancer prevention, cardiometabolic health and more.



Tai Chi and Qigong Presentations in China

"First International Forum on Traditional Sports and Wellness" by Beijing Sports University

之后我们会进一步讨论这个话题 From Wayne

Over the summer, Drs. Yeh and Wayne gave keynote presentations at two international Tai Chi and Qigong science forums, including the First Beijing Sport University Traditional Chinese Sport Health Preservation Forum and the International Taiji Science Forum jointly sponsored by the World Taiji Science Federation, University of Illinois Urbana-Champaign, Hangzhou Normal University, and Inner Mongolia Normal University. In addition to highlighting the state-of-the-science of health applications of Tai Chi and Qigong, these presentations served to build East-West connections, mutual scientific understanding and exchange.

HMS Distinguished Lecture in Mind Body Research and Health

In June of 2021, the Osher Center, the Benson-Henry Institute for Mind Body Medicine (BHI) and the Center for Mindfulness and Compassion (CMC) at the Cambridge Health Alliance (CHA) launched this rotating annual lecture series to showcase excellence and innovation in mind body research and health. The 2022 lecture, hosted by BHI, was delivered by **Rhonda Magee, MA, JD** on **"Mindfulness and Social Resilience: Practices and Principles for Cultivating Just Communities Together."**



Online Presence

We reach our online integrative medicine community through our OsherCenter.org website, monthly e-newsletter, YouTube Channel, and social media postings. We support the connectivity of our community with video resources, research publications, access to clinical providers and news and event updates. In 2022, with greater staff resources, new 'preview' video interviews with our monthly Grand Rounds speakers and our two-day virtual Network Forum, we saw a significant boost to our online engagement metrics for YouTube views, newsletter subscribers and website traffic.

YouTube Channel

2021	2022
1,940 subscribers	2400 subscribers
3,145 views	9,143 views

Osher Center Website

2021	2022
101,646 visits	103,005 visits

Mailing List	2018	2019	2020	2021	2022
Number of Subscribers	2,168	2,309	2,693	2,696	3,269
Average Email Open Rate	25.5%	24.2%	30.3%	30.4%	42.0%
Average Click-through Rate	3.0%	3.2%	3.2%	4.2%	4.2%

New Interactive Clinic Network Map



In 2022, we launched a new Clinical Network Map to highlight the integrative medicine clinics and providers in the Harvard Medical School healthcare network in the Greater Boston region. The map allows integrative medicine clinicians to learn about fellow providers in their region and patients to explore a wide variety of treatments for their integrative care needs. Viewers can search by treatment modality, provider or institution.

Demonstrating Leadership

In 2022, Osher faculty continued to provide visionary leadership to the integrative medicine community through local, national and international presentations and contributions. Faculty remained active in a variety of committees and organizations responsible for steering and shaping the future of integrative medicine globally. In addition, we created and filled a new faculty position to direct nutrition and supplement research.

Faculty Invited Presentations

Faculty gave 52 invited presentations, ranging from local talks to international keynotes. The full list of presentations can be found in the appendices. Some noteworthy presentations include the following:



Peter Wayne

The science of Tai Chi for whole person health: Twenty years of research at Harvard Medical School

Invited lecture

First Beijing Sport University Traditional Chinese Sport Health Preservation Forum, Beijing, China

Tai Chi for fall prevention in older adults: Contributions of 'top-down' affective and cognitive processes

Invited lecture

Neural and Social Basis of Creative Movement, University of Maryland / National Institutes of Health, Baltimore, MD, USA

Group mind-body practices are a good 'prescription' for both patients and planet

Invited panel presenter

NOVA Institute for Health of People, Places and Planet 2022 Annual International Conference: Flourishing Futures

Increasing access to Tai Chi balance training for in frail older adults using a robotic-enhanced "Tele-Tai Chi" platform

Invited lecture

NSF ERC for Connected Health and Aging-in-Place Technology (CHAPTER) Conference, Massachusetts Institute for Technology, Cambridge, MA



Gloria Yeh

Tai Chi in patients with COPD: Results from the LEAP study (Long-Term Exercise After Pulmonary Rehabilitation)

Keynote speaker

World Taiji Science Federation Conference, Beijing, China

Small steps to big change: Mind-Body movement to support positive behavior change

Invited lecture

Sadhgaru Center for a Conscious Planet, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA



Howard Sesso

The primary findings for the cocoa extract intervention of the COSMOS trial

Invited lecture

International Conference of Polyphenols and Health, London, England, UK

Considerations for primary and secondary health outcomes in clinical trials: From design to analysis

Invited lecture

Statistical Challenges and Novel Methodologies for Analyzing Health Outcomes, Joint Statistical Meetings 2022, Washington, DC

Cocoa flavanols and cardiovascular health: From the Kuna Tribe to the COcoa Supplement and Multivitamin Outcomes Study (COSMOS)

Invited lecture

Academy of Nutrition and Dietetics, Cardiovascular Health & Well-being DPG Chicago, IL



Pamela Rist

Migraine – More than just a headache

Invited lecture

George Washington University, Washington DC

Confounding and bias in clinical research

Invited lecture

Montclair State University, Montclair, NJ

Migraines and the complexities of studying migraine as a chronic disease

Invited lecture

University of Arizona, Tucson, AZ



Darshan Mehta

Resilience and well-being

Invited lecture

Department of Medicine, Mercy Hospital St. Louis, MO

Mind body medicine

as a building block in medical education – From student to faculty perspectives

Grand Rounds

Department of Obstetrics and Gynecology, BIDMC, HMS, Boston, MA

The wounded healer

Invited lecture

Association of Academic Surgery Annual Retreat, Boston, MA



Matthew Kowalski

Introduction to chiropractic - Indications, rationale, techniques and outcomes

Invited lecture

Harvard Medical School T32 Integrative Medicine Research Fellowship



Aterah Nusrat

Integrative medicine and planetary health

Invited panel presenter

Osher Collaborative for Integrative Health, Seattle, WA

From mindful behavior to a shift in identity: An individual and collective exploration

Invited panel presenter

NOVA Institute for Health of People, Places and Planet 2022 Annual International Conference: Flourishing Futures

Faculty Regional, National and International Leadership Positions

Peter Wayne

- Membership on multiple NIH grant review panels (NIA and NCCIH)
- Chair, Data and Safety Monitoring Board for the NIH-funded multicenter trial: Spinal Manipulation and Patient Self-Management for Preventing Acute to Chronic Back Pain (PACBACK)
- Member, Advisory Board, Assessing Pain, Patient Reported Outcomes and Complementary Health (APPROACH): The CIH for Pain National Demonstration Project, Veterans Administration
- Fellow and Faculty Member, Mind & Life Research Institute
- Advisory Board Member, Cochrane Complementary Medicine, Center for Integrative Medicine, University of Maryland School of Medicine
- Executive Editor, Journal of Integrative and Complementary Medicine; Editorial Board Member, Global Advances in Integrative Medicine and Health
- Board Member, Society for Acupuncture Research
- Member, Advisory Board, OptumLabs Neck Pain Study, University of California, Davis, Center for Healthcare Policy and Research
- Member, International Advisory Board, Research Centre for Chinese Medicine Innovation, Hong Kong Polytechnic University

Gloria Yeh

- Member, National Institutes of Health, National Advisory Council for Complementary and Integrative Health, NCCIH
- National Institutes of Health, RECOVER- Researching COVID to Enhance Recovery - Clinical Trials Steering Committee, RECOVER Consortium, Member
- Co-Chair, Executive Organizing Committee, Academic Consortium for Integrative Medicine and Health, 2022 International Congress on Integrative Medicine and Health, Phoenix, Arizona
- Advisory Board Member, Cochrane Complementary Medicine, Center for Integrative Medicine, University of Maryland School of Medicine
- Editor-in-Chief, Global Advances in Integrative Medicine and Health
- Co-Chair, Executive Organizing and Oversight Committee, International Conference, The Science of Tai Chi and Qigong as Whole Person Health, Boston, MA

Howard Sesso

- Representative (Physicians' Health Study and Women's Health Study), National Cancer Institute Cohort Consortium NCI, NIH
- Co-Chair, Functional Foods, Bioactives and Human Health Study Group, Real Colegio Complutense at Harvard University
- Member, Mentoring for Professionals Program, American Heart Association
- Clinical Epidemiology Admissions Review Committee (SM and PhD applicants), Department of Epidemiology, Harvard T.H. Chan School of Public Health
- Associate Director, Division of Preventive Medicine, Brigham and Women's Hospital
- Member, NIH Study Section, Single-Site Clinical Trials and Pilot Studies Review Committee, NHLBI / NIH
- Editor-in-Chief, Contemporary Clinical Trials Communications

Darshan Mehta

- Chair, Diversity, Equity and Inclusion (DEI) Task Force for the Academic Consortium for Integrative Medicine and Health (ACIMH)
- Director, Office for Well-Being, Center for Faculty Development at MGH
- Site Director (MGH), Practice of Medicine Curriculum, Harvard Medical School
- Workplace Well-Being Collaborative, Massachusetts General Hospital
- Black, Indigenous, and People of Color (BIPOC) Committee, Academy of Integrative Health and Medicine
- Resilience, Well-Being, and Prevention Think Tank, Department of Psychiatry, Massachusetts General Hospital

Matthew Kowalski

- Member, Inter-Institutional Chiropractic Research Network
- Advisory Committee Member, NCMIC Foundation, Inc. Clive, IA

Atarah Nusrat

- Chair, Osher Collaborative Planetary Health Working Group

New Leadership Transitions



Howard D. Sesso ScD, MPH

This year Dr. Howard Sesso joined the Osher research faculty as our new Director of Nutrition and Supplements Research. Dr. Sesso's research focuses on the role of vitamin and mineral supplements, along with nutritional biomarkers, on the prevention of chronic disease. He is Associate Director of

the Division of Preventive Medicine at BWH and is Director of Nutrition Research and Co-Director of Hypertension Research. He is also an expert in the design, methodology, and conduct of epidemiologic studies and randomized clinical trials. Dr. Sesso is Co-Principal Investigator of the COcoa Supplement and Multivitamin Outcomes Study (COSMOS), a randomized, 2x2 factorial trial testing cocoa flavanol and multivitamin supplements in the prevention of cardiovascular disease and cancer in over 21,000 older women and men with 4 years of treatment and follow-up. Dr. Sesso has published more than 280 papers to date and teaches courses on clinical trials and epidemiology at the Harvard T.H. Chan School of Public Health and Harvard Medical School and enjoys mentoring students and junior faculty.

Donald B. Levy, MD



After 20 years of service, Dr. Donald Levy, Assistant Clinical Professor of Medicine at Harvard Medical School, will be stepping down as the Medical Director of the Osher Clinical Center for Integrative Therapies at Brigham and Women's Hospital.

Dr. Levy graduated from the New York Medical College in 1981, completed his residency at Mt. Auburn Hospital

in 1984 and became Chief Medical Resident in 1985. He served as the Medical Director of the The Marino Center for Integrative Health in Cambridge, MA from 1998-1999 and was Physician-in-Charge of Integrative Medical Education from 1996-2007. The Osher Clinical Center, for which he was director, opened in 2007.

Throughout his career Dr. Levy developed and delivered Harvard Medical School's Patient-Doctor relationship courses; Introduction to Clinical Medicine; CME courses; Teaching Residents to Teach; and workshops on evaluation and feedback. Dr. Levy has received numerous awards for excellence in teaching and in 2022 was recognized as one of Boston's Top Doctors for the 15th consecutive year.

Dr. Levy is recognized for his professional interests in the rational use of dietary herbs and supplements, the power of an effective patient-doctor relationship and the integration of the scientific advances in modern medicine with the rediscovery and implementation of age-old therapies and the principles of healing.






















Dr. Levy will remain an integral member of the Osher Clinical team, continuing to care for his patients and mentoring his colleagues.



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SUMMARY OF ACTIVE RESEARCH STUDIES

ACTIVE PROJECTS						
Study/Project Title (Funding Source)	Summary Description	PI/ Key Osher Investigators/Affiliates	Research Domain			
NIH Funded						
Acute yogic stretching and inflammation NCCIH T32 AT000051, Huffington Foundation (2020-2023)	This RCT evaluates two intensities of acute stretching (60 min) vs. a waitlist control on panels of inflammatory markers (including resolvins) in healthy adults.	Dennis Munoz-Vergara (PI) Peter Wayne (Mentor) Gloria Yeh (Mentor) Pamela Rist (Co-I)				
A mobile Tai Chi platform for fall prevention in older adults NIH / NIA 1 R42 AG059491-01 (2018-2023)	This STTR grant supports development of a smart-phone based platform for delivering, monitoring adherence and safety, and assessing quality of performance of a Tai Chi program for improving balance in older adults.	Peter Wayne (MPI)				
A mobile Tai Chi platform for fall prevention in older adults NIH / NIA R42AG059491 Supplement (2021-2023)	This supplement extends work on a mobile tai chi training program to include outcomes related to cognitive decline and dementia.	Peter Wayne (MPI)				
Biophysical properties of acupoints NCCIH T32 AT000051, Osher Pilot (2021-2023)	Using a neuroinflammation viscera-somatic model in IBD patients, this study evaluates local blood flow (laser speckle photometry), thermography, and pressure sensitivity at verum and sham acupoints relevant to GI health in IBD patient and healthy controls.	Eunmee Yang (PI) Peter Wayne (Mentor) Weidong Lu (Mentor) Pamela Rist (co-I)				
Boosting mind-body mechanisms and outcomes for chronic pain NIH / NCCIH P01AT009965 (2018-2024)	This is an investigation of the neural and physiological effects of an intervention combining mindfulness training and transcutaneous vagus nerve stimulation among episodic migraine patients. The outcomes involve using ultra high-field functional MRI, positron emission tomography, and high frequency heart rate variability to assess how the intervention affects central autonomic nervous system hypersensitivity, emotion/pain regulation processes, and neuroinflammation.	Michael Datko (Co-I)				
Caring for caregivers with mind-body exercise NIH / NCCIH 5R34AT010081-02 (2018-2021, NCE 2022)	This grant supports a pilot randomized trial evaluating both in-person and web-based delivery of a mind-body intervention for reducing psychological distress and improving function and quality of life in cancer caregivers.	Peter Wayne (MPI)				
Combined chiropractic care and Tai Chi for chronic non-specific neck pain NIH / NCCIH R34AT011368-01A1 (2022-2025)	Chronic neck pain ranks in the top five causes for years lived with disability. To inform the feasibility and design of a future definitive trial, the goal of this application is to perform a pilot study of chiropractic care and Tai Chi mind-body exercise for adults with chronic non-specific neck pain	Peter Wayne (PI) Pamela Rist (Co-I) Matthew Kowalski (Co-I)				
COSMOS Eye: Cataract and AMD in a trial of multivitamin and cocoa extract NIH / NEI R01 EY025623 (2016-2022)	This is an ancillary study of the Cocoa Supplement and Multivitamin Outcomes Study (COSMOS) and will look at the benefits and risks of cocoa extract and multivitamins for cataracts and AMD.	Howard Sesso (Co-I)				
Decoding mechanisms underlying metabolic dysregulation in obesity and digestive cancer risk NIH / NCI U01 CA272452 (2022-2027)	This proposal will investigate the associations of the novel inflam-motypes with incident colorectal and liver cancer risks in men and women by examining metabolic disturbances-related systemic inflam-motypes. We hypothesize these can be identified among healthy older adults with varying degrees of visceral adiposity and insulin resistance, and that these inflam-motypes may promote the cascading development of digestive cancers (colorectal, liver) through both unique and shared causal pathways.	Howard Sesso (Co-I)				



Science of Mind Body Connections



Placebo and the Science of Human Connection

















Systems and Translational Biology of Integrative Medicine


























Clinical Effectiveness of Multimodal and Integrative Interventions













SUMMARY OF ACTIVE RESEARCH STUDIES

ACTIVE PROJECTS						
Study/Project Title (Funding Source)	Summary Description	PI/ Key Osher Investigators/Affiliates	Research Domain			
NIH Funded						
Decreasing sedative requirements for peripheral vascular interventions using preoperative guided meditation. Agency for Healthcare Research and Quality (2022-2-2024)	This early career post-doctoral development award supports the development and piloting of a novel preoperative guided meditation program to decrease sedative requirements in patients undergoing vascular surgery intervention.	Png (PI), Gloria Yeh (co-mentor)				
Effect of cocoa supplementation on falls, fracture, and physical performance NIH / NIAMS R01 AG071611 (2021-2025)	We will evaluate the effect of the cocoa flavanol and multivitamin interventions from the COSMOS trial in 21,442 women aged ≥65 years and men aged ≥60 years on the risk of falls and fracture that will be adjudicated with medical records, as well as physical performance. In addition, we will examine the effect of the COSMOS interventions on 2-year changes in physical performance measures collected in-person in a subset of 603 participants who completed clinic assessments at baseline and 2 years follow-up.	Howard Sesso (Co-I)				
Effect of randomized cocoa supplementation on inflammaging and epigenetic aging NIH / NHLBI R01 HL157665-01 (2021-2025)	We will evaluate the effect of the cocoa flavanol and multivitamin interventions from the COSMOS trial on longitudinal changes in biological aging, including epigenetics and inflammation, and the subsequent risk of cardiovascular disease in 600 participants.	Howard Sesso (Co-PI)				
Effects of Tai Chi on multisite pain and falls in older adult NIH / NIA R56AG062737-01A1 (2019-2023)	This bridge funding grant supports collection of preliminary data to investigate the effects of Tai Chi on pain symptoms and fall rates in older adults with multisite pain.	Peter Wayne (Consultant) Gloria Yeh (Consultant)				
Effects of vitamin D and omega-3 on cerebrovascular disease NIH / NHLBI / K01 HL128791-01A1 (2016-2022)	This proposal will examine the impact of vitamin D and omega-3 fatty acids supplements on stroke outcomes in initially healthy populations. Additionally, it will examine whether a wide variety of cardiovascular disease risk factors, including vitamin D and omega-3 fatty acid supplements, are associated with overall cerebrovascular disease burden in the brain of participants with ischemic stroke.	Pamela Rist (PI)				
Genetic susceptibility and biomarkers of platinum-related toxicities NIH / NC R01 CA157823-07A1 (2020-2025)	In a clinical cohort of >2,000 testicular cancer survivors (TCS) cured with cisplatin-based chemotherapy, we will characterize (a) the longitudinal trajectory of platinum toxicities, (b) the impact of toxicities on health-related quality of life and patient functioning, and (c) the role of genetic variation to identify high-risk subgroups.	Howard Sesso (PI - Subcontract)				
Health effects of substituting sugar-sweetened beverages with non-caloric beverages in adults with overweight and obesity NIH / NIDDK R01 DK125803 (2020-2024)	We will conduct the SUBstituting with Preferred OPTIONS (SUB-POP) trial, a parallel-arm trial to test the effects of substituting sugar-sweetened beverages (SSBs) with non-caloric options on body weight and markers of type 2 diabetes and cardiometabolic health in 540 adults.	Howard Sesso (Co-I)				
Integrative Analysis of Lung Cancer Etiology and Risk (INTEGRAL) – Biomarkers of Lung Cancer Risk (LC3-II) NIH / NCI U19 CA203654 (2019-2023)	This proposal investigates the role of proteomics and the risk of lung cancer using the Lung Cancer Cohort Consortium in a case-cohort study, and includes samples and data from the Physicians’ Health Study and Women’s Health Study.	Howard Sesso (PI - Subcontract)				
MBCT via teleconference in cardiac patients with depression NCCIH K23 AT009715 (2019-2023)	This study includes development, refinement, and feasibility testing in a pilot RCT of a MBCT group videoconference intervention in post-acute coronary syndrome depression. It explores impacts on depression, inflammation, and emotional regulation.	Christina Luberto (PI), Gloria Yeh (mentor)				

SUMMARY OF ACTIVE RESEARCH STUDIES

ACTIVE PROJECTS						
Study/Project Title (Funding Source)	Summary Description	PI/ Key Osher Investigators/Affiliates	Research Domain			
NIH Funded						
Mentoring and patient-oriented research in mind-body exercise NIH / NCCIH K24 AT009465-01 (2017-2023)	This mid-career investigator/mentoring award provides support for patient-oriented research (multimodal behavioral mind-body approaches, cardiopulmonary conditions, promoting positive behavior change) and mentoring of trainees in the field of integrative medicine.	Gloria Yeh (PI)				
Mentoring and research in mind-body and integrative therapies NCCIH / NIH K24 AT009282 (2016-2022, NCE 2023)	This career development award provides protected time for mentoring of junior investigators committed to IM research, developing new research skills, and expanding my portfolio of research as a foundation for leading future innovative and high impact studies informing the use of IM therapies and models.	Peter Wayne (PI)				
Mindful steps in COPD and HF NCCIH R34 AT009354 (2019-2022, NCE 2023)	This study develops, refines and tests feasibility in an RCT of a multimodal internet-mediated mind- body, health education, and wearable device intervention to promote walking, motivation, self-efficacy in COPD and heart failure	Gloria Yeh (PI) Peter Wayne (Consultant)				
Mindfulness training, insomnia, and EEG complexity NCCIH T32 AT005436 (2019-2022)	This pilot RCT examines acute and longitudinal effects of pre-sleep mindfulness meditation via mobile app on pre-sleep wakefulness and sleep brain dynamics assessed with conventional and non-linear EEG complexity frameworks.	Yan Ma (PI) Gloria Yeh (mentor) Peter Wayne (mentor)				
Mindfulness-based interventions for persons living with HIV and with increased CVD risk NCCIH T32 AT005436 (2020-2023)	This study uses secondary analyses to examine associations between mindfulness, psychological functioning and adaptive health behaviors for patients with HIV and increased cardiovascular risk.	Jacklyn Foley (PI) Gloria Yeh (Mentior)				
Multimodal tele-video mind-body intervention for mTBI NCCIH K23 AT01065 (2020-2025)	This study will develop, refine and test feasibility in an RCT of a mind-body resiliency program delivered remotely via video for anxiety in patients with traumatic brain injury.	Jonathan Greenberg (PI) Gloria Yeh (mentor)				
Opioid dose reduction in comprehensive inpatient rehabilitation: A pharmaco-behavioral approach NIH / NIDA K23 DA052041-01A1 (2021-2026)	This career development award supports Dr Morales-Quezada in conducting a pilot RCT of a novel intervention based on classical conditioning and placebo analgesia for pain management in complex pain patients with spinal cord injury in the inpatient rehabilitation setting.	Leon Morales-Quezada (PI) Gloria Yeh (Mentor) Ted Kaptchuk (Mentor)				
Physiological outcomes of mind-body health behaviors for stress-related disorders NCCIH F32 (2021 -2023)	This is a pre-doctoral early career development award that supports a project to examine pranayama, hyper-arousal and cardiovascular reactivity in female sexual trauma survivors.	Sinead Sinott (PI) Gloria Yeh (co-mentor)				
Researching COVID to Enhance Recovery (RECOVER) Initiative: A multi-site observational study of post-acute sequelae of SARS-CoV-2 infection in adults NIH / NHLBI OT2HL161847 (2021-2025)	The goal of the study is to rapidly improve understanding of recovery after SARS CoV-2 infection and to prevent and treat post-acute sequelae of COVID-19 (PASC).	Howard Sesso (Co-I)				
Research training: Complementary & integrative medicine NIH / NCCIH T32 AT000051 (2012-2024)	This institutional training grant supports a three-year research fellowship program for faculty development in complementary and integrative medicine.	Gloria Yeh (PI)				

SUMMARY OF ACTIVE RESEARCH STUDIES

ACTIVE PROJECTS						
Study/Project Title (Funding Source)	Summary Description	PI/ Key Osher Investigators/Affiliates	Research Domain			
NIH Funded						
Stress management and resiliency program for fear of cancer recurrence NCCIH K23 AT010157 (2019-2024)	This study will develop, refine and test feasibility in an RCT of adapted SMART program for fear of recurrence in cancer survivors, and explore impact on psychological symptoms and healthcare engagement.	Daniel Hall (PI) Gloria Yeh (mentor)				
Supplement to the Women's Health Study: Infrastructure support for continued cohort follow-up NIH / NCI U01 CA182913-06S2 (2020-2023)	This supplement to the main grant supporting the Women's Health Study will use data from the Centers for Medicare and Medicaid to examine the prevalence and incidence of dementia within the cohort and to examine risk factors for dementia	Pamela Rist (PI)				
Tai Chi and chronic pain in HIV NCCIH K23 AT010099 (2019-2024)	This study will develop, refine and test feasibility in an RCT of adapted Tai Chi Easy program for HIV patients with chronic pain, and explore its impact on psychological symptoms.	Eugene Dunne (PI) Gloria Yeh (mentor)				
Tai Chi exercise and wearable feedback technology to promote physical activity in ACS survivors NIH / NCCIH R01G059491 (2022-2027)	This application investigates an intervention that integrates remote Tai Chi exercise classes with a wearable feedback device to increase physical activity with the potential to significantly impact cardiovascular risk and morbidity in high-risk individuals.	Gloria Yeh (PI) Peter Wayne (Co-I)				
The Women's Health Initiative regional field center program renewal NIH / NHLBI HHSN268201100001C (2010-2025)	The overall objective of the trial is to test the effectiveness of treatments that may improve the health of post-menopausal women in the areas of cardiovascular disease, cancer and fractures.	Howard Sesso (Co-I)				
Toolkit for optimal recovery after orthopedic injury: A multi-site feasibility study to prevent persistent pain and disability National Center for Complementary and Integrative Health; U01AT010462 (2020-2024)	This is a multisite feasibility trial of the Toolkit for Optimal Recovery after injury delivered via live video versus usual care. We aim to meet feasibility markers necessary before a fully powered RCT via the UG3/UH3 mechanisms.	James Doorley (Co-I)				
Treatments against RA and effect of FDG PET CT: The TARGET trial NIH/NIAMS U01 AR068043	This randomized clinical trial will compare the effect on vascular inflammation of two treatment regimens for rheumatoid arthritis.	Pamela Rist (Co-I)				
Understanding components of mind-body exercise for physical activity engagement in metabolic syndrome NIH / NCCIH, 1K23AT011043-01A1 (2021-2026)	This grant proposes to investigate the effects of mindful exercise on health behavior change processes and physical activity engagement among individuals with metabolic syndrome.	Kristen Kraemer (PI) Gloria Yeh (Mentor) Peter Wayne (Mentor)				



Science of Mind Body Connections



Placebo and the Science of Human Connection





















Systems and Translational Biology of Integrative Medicine

















Clinical Effectiveness of Multimodal and Integrative Interventions

SUMMARY OF ACTIVE RESEARCH STUDIES

ACTIVE PROJECTS						
Study/Project Title (Funding Source)	Summary Description	PI/ Key Osher Investigators/Affiliates	Research Domain			
Foundation and Internally Funded						
A randomized, double-blind, placebo-controlled trial to determine the effect of Korean red ginseng on immuno-enhancement in healthy subjects Korean Ginseng Corporation, industry-sponsored (2022-)	This industry-sponsored multi-site clinical trial examines the effect of 12-weeks use of a ginseng supplement on immune biomarkers.	Gloria Yeh (Site PI)				
ACT for migraine trial Lavine Foundation (2020-2023)	RCT evaluating Acceptance and Commitment Based Therapy vs. wait-list control for chronic migraineurs. Outcomes: feasibility, migraine episodes. Neuroimaging sub-study. Mixed methods. (N=40)	Bernstein (PI) Pamela Rist (co-I) Peter Wayne (co-I)				
Epidemiologic risk factors for COVID-19 across three established trial cohorts of older US adults BWH Internal Funds Investigator-Initiated Grant (2020-2022)	The goal of this project is to identify COVID-19 risk factors and reported COVID-19 outcomes across three large ongoing trial cohorts in nearly 70,000 older US adults, including VITAL, COSMOS, and WHS.	Howard Sesso (PI) Peter Wayne (Co-I)				
Gait health as a clinical outcome Palmer Foundation (2020-2024)	This feasibility study assesses integration of gait health parameters (Zeno Gait System) into patient visits at Osher Clinic.	Peter Wayne (PI) Matthew Kowalski (Co-I)				
Health Equity Research Network (HERN) project for the prevention of hypertension: RESTORE (AddREssing Social Determinants TO pRevent hypErtension) network project American Heart Association, 878488 (2021-2025)	The goal of this study is to determine the effectiveness of a DASH grocery intervention on SBP among Black adults with elevated blood pressure or untreated stage 1 hypertension, using the RE-AIM framework.	Kristen Kraemer (Co-I)				
Increasing access to Tai Chi balance training for frail older adults using a robotic-enhanced 'Tele-Tai Chi' platform MIT Asada Robotics Lab (2022-2023)	This proof of concept study merges an existing platform for virtual delivery of Tai Chi with a robotic walker and fall-preventing harness to extend balance training to frail elders at high risk of falling.	Peter Wayne (PI)				
Inter-institutional chiropractic research network Grant Palmer College Foundation (2017-2024)	This award supports a series of pilot/feasibility trials and observational evaluating the effectiveness of chiropractic care for reducing pain and enhancing function in chronic pain conditions.	Peter Wayne (PI) Matthew Kowalski (Co-I)				
Mindfulness and Tai Chi for cancer health: The MATCH Trial Hecht Foundation (2018-2023)	This Canada-based pragmatic patient preference and randomized trial evaluates the effectiveness of two alternative mind-body therapies (tai chi vs. mindfulness training) for symptom management and quality of life in cancer patients.	Linda Carlson (PI), Peter Wayne (Co-I)				
Natural history of neurofilament concentrations and mechanisms of healthy aging using data science Massachusetts Life Science Center Investigator-Initiated Grant (2020-2023)	Through a unique combination of industry and academic collaborations, we will develop a Data Science Platform among 1,300 participants providing 3,000 blood samples from PHS, VITAL, and COSMOS to study the natural history of neurofilament levels with novel aging-related biomarkers newly measured via substantial in-kind contributions and previously collected risk factors and aging outcomes.	Howard Sesso (PI)				
Non-verbal measurement of negative self-conscious emotion Harvard Medical School Osher Center for Integrative Medicine (2020-2023)	Pilot study using facial gesture, posture, and voice acoustic analyses along with machine learning algorithms to identify objective markers of shame in men diagnosed with HIV and who engage in risky behaviors. (N=30)	Abigail Batchelder (PI), Paolo Bonato (co-I), Peter Wayne (co-I)				
Pre-sleep EEG brain dynamics and mindfulness meditation in insomnia Harvard Medical School Osher Center for Integrative Medicine (2019-2022, NCE)	This pilot awards supports the development of a pilot feasibility study examining changes in novel EEG brain dynamics, pre-sleep mindfulness meditation, and improvement of sleep quality in patients with insomnia, utilizing advanced physiological processing and non-linear complexity measures.	Gloria Yeh (PI)				

SUMMARY OF ACTIVE RESEARCH STUDIES

ACTIVE PROJECTS						
Study/Project Title (Funding Source)	Summary Description	PI/ Key Osher Investigators/Affiliates	Research Domain			
Foundation and Internally Funded						
Physiological dynamics of the sleep onset process: conventional and novel analyses using SHHS data The American Academy of Sleep Medicine (AASM) Foundation - Focused Projects Grant for Junior Investigators (2022-2023)	Physiological dynamics during the sleep onset process may represent important biomarkers characterizing sleep pathophysiology. This grant allows me to explore the physiology of the wake-sleep transition, and provide novel information regarding pre-sleep physiology, hyper-arousal, and sleep-onset with the richness of observational data from the real world.	Yan Ma (PI)				
Randomized trial of cocoa flavanols and multivitamins for cardiovascular disease and cancer prevention (COSMOS Blood) Mars Symbioscience Investigator-Initiated Grant (2014-2023)	This ancillary study will collect supplemental blood and urine, plus anthropometrics and blood pressure, at baseline, 1, 2, and 3 years follow-up in the COSMOS trial, a randomized, 2x2 factorial trial testing a cocoa extract and a multivitamin supplement (Centrum Silver) in the prevention of cardiovascular disease (CVD) and cancer in 21,444 women aged ≥65 years and men aged ≥60 years.	Howard Sesso (Co-PI)				
Randomized trial of cocoa flavanols and multivitamins for cardiovascular disease and cancer prevention (COSMOS ModBent) Mars Symbioscience Investigator-Initiated Grant (2014-2023)	This ancillary study will collect cognitive function data via web assessment at baseline, 1, 2, and 3 years follow-up, plus add cognitive assessments to COSMOS Clinic visits at baseline and 2 years follow-up, in the ongoing COSMOS trial testing a cocoa extract and a multivitamin supplement (Centrum Silver) in 21,444 women aged ≥65 years and men aged ≥60 years.	Howard Sesso (Co-PI)				
Randomized trial of cocoa flavanols and multivitamins for cardiovascular disease and cancer prevention Mars Symbioscience Investigator-Initiated Grant (2014-2023)	This study proposes to conduct a randomized, double-blind, placebo-controlled, 2x2 factorial trail of a patented, high-quality cocoa extract and a multivitamin supplement (Centrum Silver) in the prevention of cardiovascular disease (CVD) and cancer in 21,444 women aged ≥65 years and men aged ≥60 years with 4 years of treatment and follow-up.	Howard Sesso (Co-PI)				
Tai Chi plus chiropractic for chronic neck pain in nurses Palmer and Van Sloun Foundations (2021-2022)	Pre-post feasibility study evaluating pragmatic (community-based) delivery of combined tai chi and chiropractic care for chronic neck pain Primary outcomes: feasibility, neck pain, function, postural control. Mixed methods.	Peter Wayne (PI) Matthew Kowalski (Co-I), Pamela Rist (Co-I)				
The effect of a combined technology-mediated walking and Tai Chi intervention on physical function in veterans with COPD and co-occurring dyspnea and chronic musculoskeletal pain VA MERIT, 1 I01 RX004225-01 (2022-2027)	This is a randomized controlled trial that tests efficacy of an existing web-mediated intervention (Every Step Counts) integrated with a tai chi exercise video library and synchronous online exercise classes to promote physical function in patients with COPD and co-morbid pain.	Gloria Yeh (Co-I)				
The role of epigenetics on health outcomes and risk factors in the Physicians' Health Study FOXO Technologies, Inc Investigator-Initiated Grant (2021-2022)	We will conduct epigenetic profiling of 11,718 PHS participants in relation to numerous risk factors, long-term aging outcomes, and the extension of mortality follow-up through 2020 via a National Death Index search.	Howard Sesso (PI)				
Trial of magnesium supplementation and blood pressure reduction among adults with elevated systolic blood pressure Pure Encapsulations Investigator-Initiated Grant (2021-2026)	This study is a randomized, double-blind, placebo-controlled trial to test the effects of 480 mg/day of Mg glycinate on BP over 12 weeks of treatment and follow-up in 120 middle-aged and older adults with initial seated BP ≥130 mmHg.	Howard Sesso (PI)				
Trial of magnesium supplementation and blood pressure reduction among adults with untreated hypertension Pure Encapsulations Investigator-Initiated Grant (2018-2023)	This study is a randomized, double-blind, placebo-controlled trial to test the effects of 480 mg/day of Mg glycinate on BP over 12 weeks of treatment and follow-up in 59 middle-aged and older adults with untreated hypertension.	Howard Sesso (PI)				
Vitamin D for COVID-19 (VIVID) trial Harvard, Charitable, Philanthropic Investigator-Initiated Grant	The VIVID trial is a pragmatic, cluster randomized, double-blinded trial of newly diagnosed individuals with COVID-19 infection and close household contacts randomized to either vitamin D3 (loading dose, then 3200 IU/day) or placebo for 4 weeks to determine the effect of vitamin D supplementation on disease progression and post-exposure prophylaxis for COVID-19 infection.	Howard Sesso (Co-PI)				

SUMMARY OF ACTIVE RESEARCH STUDIES

ACTIVE PROJECTS		
Study/Project Title (Funding Source)	Summary Description	PI/ Key Osher Investigators/Affiliates
Education and Clinic Awards		
Mind body intervention program for physicians MGPO Frigoletto Committee on Physician Well-Being (2020-2023)	This pilot project examines the impact of a resiliency intervention in physicians in the MGH Cancer Center. The course has been granted continuing medical education credit through HMS.	Darshan Mehta (Co-I)
Establishing a clinician-researcher chiropractic postdoctoral fellowship at the Harvard Medical School/Brigham and Women's Hospital Osher Center for Integrative Medicine NCMIC Foundation \$562,408 (2020-2024)	This gift supports the training of a chiropractic clinician-research fellow at the Osher Center for a 3-year period.	Peter Wayne (MPI) Matthew Kowalski (Co-I)
Myalgic encephalomyelitis/chronic fatigue syndrome initiative Once Here Foundation; Clinical Project (2021 -)	This project aims to expand the clinical program at MGH and improve access to care and quality of life for patients with ME/CFS through innovations in diagnosis and treatment.	Darshan Mehta (Co-I)
Stress management and resiliency training for employees and their family members Mass General Brigham Systems Behavioral and Mental Health Grant; Clinical Project (2021-2022)	This project aims to improve access to behavioral health care for MGB employees and their covered family members through subsidies for participation in tai chi and mindfulness workshops at the Osher Center for Integrative Medicine at BWH.	Darshan Mehta (PI) Peter Wayne (Co-I)
TEDxMGH MGH Center for Faculty Development (internal funding); Educational Project (2020 -)	This project uses the TEDx internal event platform to invite inspirational stories from the MGH community and how people have handled challenges—through innovation, resilience, vulnerability, and connection. Talks are curated monthly, produced, and distributed for the MGH community	Darshan Mehta (PI)



Science of Mind Body Connections

















Placebo and the Science of Human Connection



Systems and Translational Biology of Integrative Medicine



Clinical Effectiveness of Multimodal and Integrative Interventions

SUBMITTED/PENDING GRANTS						
Study/Project Title (Funding Source)	Summary Description	PI/ Key Osher Investigators/ Affiliates	Research Domain			
App-guided bedtime mindfulness for insomnia NIH / NCCIH K23 - Mentored Patient-Oriented Research Career Development Award	This proposal aims to spark new insights regarding the feasibility and potential benefits of app-guided mindfulness meditation (MM) for patients with insomnia disorder, by comparing two approaches of MM interventions (instructed bedtime practice versus uninstructed practice) with a control group.	Yan Ma (PI)				
Assessing the Efficacy of Mindfulness Apps R01 AT012456 (2023-2028)	This remotely-conducted large clinical trial will determine the of a preference-matched mindfulness app (digital therapeutic alliance) compared to digital placebo control for reducing depression in those with moderate-severe disease.	Yeh (Co-I)				
Chiropractic care for episodic migraine NIH / NCCIH 1 R01 AT012228 (2023-2025)	The goal of this application is to perform a pilot study of chiropractic care for episodic migraine to help inform the design of a future, full-scale multi-site pragmatic effectiveness trial.	Peter Wayne (MPI) Matthew Kowalski (Co-I), Pamela Rist (MPI)				
Enhancing aerobic intensity of Tai Chi intervention for sedentary individuals with cardiovascular risk NIH / NCCIH 1 R34 AT011525-01 (2022-2025)	The benefit of exercise and increasing cardiorespiratory fitness to decrease morbidity and mortality due to cardiovascular disease is well-known. Tai chi is a promising multi-modal mind-body exercise that provides multiple physical, cognitive-emotional, and behavioral benefits and may be an ideal exercise, particularly for sedentary individuals. This application develops a more aerobically intense tai chi intervention that has the potential to significantly impact a large proportion of the population to decrease cardiovascular risk	Peter Wayne (MPI) Gloria Yeh (MPI)				
Investigating brain mechanisms of interoception as a predictor of treatment response to a combined mindfulness and vagus nerve stimulation intervention for anxiety. NCCIH K01 Mentored Research Scientist Career Development Award (PA-20-176)	Anxiety disorders are characterized by dysregulation among brain mechanisms of interoceptive awareness, and have previously had mixed responses to mindfulness-based interventions. Vagus nerve stimulation may augment mindfulness-based interventions for anxiety by directly targeting mechanisms of interoceptive awareness in the central autonomic nervous system. We proposed to investigate how brain response during interoceptive attention, along with anxiety symptom profiles including interoceptive hypersensitivity, may predict the response to a multimodal treatment approach combining a mindfulness-based intervention with transcutaneous vagus nerve stimulation.	Michael Datko (PI)				
Implementing brief web-based acceptance and commitment therapy for chronic musculoskeletal pain in an urban community health center National Center for Complementary and Integrative Health; 1K23AT012207-01 (2022)	The goal of the proposed study is to establish the feasibility of implementing a web-based, self-guided acceptance and commitment therapy intervention with supportive coaching (PainTracker Self-Manager; PTSM) for chronic musculoskeletal pain in a community health center in the low-SES neighborhood of Roxbury, MA.	James Doorley (PI)				
Mental health literacy in musculoskeletal healthcare providers: Identifying implications for practice, policy, and medical education West Virginia Clinical and Translational Science Institute (2022)	The goals of this project are to assess mental health literacy among musculoskeletal healthcare professionals treating patients who are vulnerable to negative mental health outcomes in rural West Virginia, evaluate providers' mental healthcare policies and procedures, and explore associations between providers' mental health literacy and mental health policy compliance	James Doorley (Consultant)				

SUBMITTED / PENDING GRANTS (Continued)

SUBMITTED/PENDING GRANTS						
Study/Project Title (Funding Source)	Summary Description	PI/ Key Osher Investigators/ Affiliates	Research Domain			
Mindful Steps: A Web-Based Mind-Body Exercise Intervention to Promote Physical Activity in Chronic Cardiopulmonary Disease R01 AT012166 (2023-2028)	The major goal of this remotely-conducted clinical trial is to test the efficacy of a multi-modal, web-mediated, mind-body program to facilitate physical activity and walking in patients with COPD and heart failure.	Yeh (PI) Wayne (Co-I)				
Pilot of a Brief Cognitive Behavioral Therapy Intervention to Enhance Benzodiazepine Deprescribing USDeN (2023-2024)	The objective of this proposal is to pilot test a deprescribing intervention that combines an established benzodiazepine tapering program with a novel, brief third-wave cognitive-behavioral intervention.	Yeh (Co-PI) Kraemer (Co-I)				
Preemptive acupuncture for pain reduction and opioid sparing in head and neck Cancer: A pilot randomized controlled trial NIH / NNCCIH R34AT011544 (2022-2025)	Opioid naïve patients taking prescription opioids for acute pain increases the risk for developing New Persistent Opioid Use. To inform the feasibility and design of a future definitive trial, the goal of this application is to perform a pilot study of preemptive acupuncture for reducing opioid use in head and neck cancer patients.	Peter Wayne (MPI)				
Promoting resilience through non-opioid therapy for pain management DOD PRMRP 2022-2026)	The goal of this proposal is to conduct trials of non-medicinal treatments to help military personnel develop resiliency for pain management.	Peter Wayne (Co-I - subcontracted)				
Using instrumented everyday gait to predict falls in older adults using the WHS cohort NIH / NNCCIH R01 AG078256-01 (2022-2026)	Among community-living older adults, falls are a leading cause of injury, disability, injury-related death, and high medical costs. Using data collected from approximately 17,500 women enrolled in the Women's Health Study who wore an accelerometer during waking hours for a week, we will evaluate if metrics of daily living gait and physical activity inform the prediction of injurious falls.	Peter Wayne (MPI) Pamela Rist (Co-I)				

2022 GRAND ROUNDS PRESENTATIONS AND ATTENDANCE

DATE	SPEAKER	PROGRAM/INSTITUTION	TITLE	REGISTRANTS	ATTENDED
1/4/2022	Ben Kligler, MD, MPH	Veteran's Administration	Whole Health in the VA: Moving from "What's the Matter with You?" to "What Matters to You?"	128	79
2/1/2022	Michael Spertus, PhD	Marino Center for Integrative Health	Quieting the Mind: Harnessing Integrative Medicine in Primary Care	118	77
3/1/2022	Michael Ferguson, PhD	Center for Brain Circuit Therapeutics, Brigham and Women's Hospital	Neurospirituality: Science, Circuit, Soul	445	261
4/5/2022	Franklin King, MD	Mass General Center for Neuroscience of Psychedelics	The Psychedelic Renaissance in Psychiatry	233	135
5/3/2022	QuiFu Ma, PhD	Dana-Farber Cancer Institute	An Anatomical Basis for Electroacupuncture to Drive Anti-Inflammatory Neural Pathways	338	113
6/7/2022	Donald Levy, MD & Matthew Kowalski, DC	Osher Clinical Center, BWH	Integrative Medicine for Chronic Pain: Beyond the Toolbox	101	70
7/12/2022	David Victorson, PhD	Northwestern University Feinberg School of Medicine	Nature Nurtures: Exploring the Health and Healing Benefits of Being Connected to Mother Earth	237	126
8/2/2022	Scarlett Soriano, MD	Duke Health and Well-Being	Innovations in Integrative Medicine	122	81
9/6/2022	Gurjeet Birdee, MD	Osher Center for Integrative Health - Vanderbilt University	Stretching Breath for Health: The Science and Application of Slow Breathing for Yoga	282	158
10/4/2022	Paula Gardiner, MD, MPH	Center for Mindfulness and Compassion, Cambridge Health Alliance	The Doctor will Meditate with You Now: Implementation of Mind-Body Practices into Clinical Care	111	71
11/1/2022	Maren Nyer, PhD	Depression Clinical and Research Program, MGH	Heated Yoga, Whole Body Hyperthermia and Depression	137	85
12/6/2022	David Rakel, MD	University of Wisconsin-Madison	Remembering our Why: Salutogenic Synergy for Optimal Cognitive Health	287	188

FACULTY LOCAL LECTURES 2022

PRESENTER	NAME	TYPE	INSTITUTION
Matthew Kowalski	Introduction to chiropractic - Indications, rationale, techniques and outcomes	Invited lecture	Harvard Medical School T32 Integrative Medicine Research Fellowship
Darshan Mehta	Mind body medicine as a building block in medical education – From student to faculty perspectives	Grand rounds	Department of Obstetrics and Gynecology, BIDMC
Darshan Mehta	The wounded healer	Invited lecture	Division of Pulmonary and Critical Care, MGH
Darshan Mehta	Stress Resiliency Program for MGH Graduate Students	Invited lecture	Graduate Student Division, MGH
Pamela Rist	Neuroepidemiology: Current and future research directions in the DPM	Invited lecture	Division of Preventive Medicine, Department of Medicine, BWH/HMS
Pamela Rist	The COcoa Supplement and Multivitamin Outcomes Study (COSMOS): Results from a large-scale pragmatic prevention trial	Invited lecture	Division of Preventive Medicine, Department of Medicine, BWH/HMS
Pamela Rist	Pilot studies: Overview and analytic issues	Invited lecture	Osher Center for Integrative Medicine, BWH/HMS
Pamela Rist	Epidemiology of the migraine-CVD connection	Invited lecture	Boston Ackerman Stroke Society, Department of Neurology, MGH
Howard Sesso	The primary findings from the COSMOS trial	Grand rounds	Division of Preventive Medicine, BWH
Howard Sesso	Role of large- and small-scale clinical trials for testing bioactive components of foods	Organizer; presenter	Workshop on Functional Foods, Bioactives and Human Health, Real Colegio Complutense Harvard University
Howard Sesso	The findings for the cocoa extract and multivitamin interventions from the COSMOS trial	Invited lecture	Division-wide Seminar, Division of Preventive Medicine, BWH
Howard Sesso	Cocoa extract and cardiovascular disease: Findings from the COSMOS trial	Invited lecture	Journal Club, Division of Preventive Medicine, BWH
Howard Sesso	Driving innovation and collaboration through randomized clinical trials of bioactives, foods, and health outcomes	Invited plenary presenter	Real Colegio Complutense - Harvard University, Cambridge, MA
Peter Wayne	Establishing the connections that underlie integrative health and healthcare: A brief history of the Osher Center for Integrative Medicine (HMS/BWH)	Plenary speaker	20th Anniversary Celebration for the Osher Center, BWH/HMS
Peter Wayne	Clinical trials of Tai Chi: Unique challenges inherent in evaluating multi- component non-pharmacological interventions	Invited lecture	HMS Master of Medical Science in Clinical Investigation Program
Peter Wayne	Tai Chi for fall prevention in older adults: Contributions of ‘top-down’ affective and cognitive processes	Invited lecture	McCance Center for Brain Health MGH/HMS
Gloria Yeh	Small steps to big change: Mind-Body movement to support positive behavior change	Invited lecture	Sadhgaru Center for a Conscious Planet, BIDMC

FACULTY REGIONAL/NATIONAL LECTURES 2022

PRESENTER	NAME	TYPE	INSTITUTION
Matthew Kwoalski	Indications, rational and outcomes of chiropractic	Invited lecture	Osher Collaborative for Integrative Health
Darshan Mehta	Mind body medicine	Grand rounds	Department of Medicine, BronxCare Health System, Bronx, NY
Darshan Mehta	Resilience and well-being	Invited lecture	Department of Medicine, Mercy Hospital St. Louis, MO
Darshan Mehta	The wounded healer	Invited lecture	Association of Academic Surgery Annual Retreat, Boston, MA
Aterah Nusrat	Integrative medicine and planetary health	Invited panel presenter	Osher Collaborative for Integrative Health, Seattle, WA
Pamela Rist	Confounding and bias in clinical research	Invited lecture	Montclair State University, Montclair, NJ
Pamela Rist	Migraines and the complexities of studying migraine as a chronic disease	Invited lecture	University of Arizona, Tucson, AZ
Pamela Rist	Collecting and analyzing epidemiologic data: Lessons from WHS and COSMOS	Invited lecture	Weill Medical College of Cornell University, New York, NY
Pamela Rist	Migraine – More than just a headache	Invited lecture	George Washington University, Washington DC
Howard Sesso	The primary results for the cocoa extract and multivitamin intervention of the COSMOS trial	Invited lecture	Women's Health Initiative, Seattle, WA
Howard Sesso	The primary findings from the COSMOS trial	Invited lecture	Women's Health Initiative. Seattle, WA
Howard Sesso	Considerations for primary and secondary health outcomes in clinical trials: From design to analysis	Invited lecture	Statistical Challenges and Novel Methodologies for Analyzing Health Outcomes, Joint Statistical Meetings 2022, Washington, DC
Howard Sesso	Cocoa flavanols and cardiovascular health: From the Kuna Tribe to the COcoa Supplement and Multivitamin Outcomes Study (COSMOS)	Invited lecture	Academy of Nutrition and Dietetics, Cardiovascular Health & Well-being DPG - Chicago, IL
Peter Wayne	Integrating health with mind-body exercises: Studies of chronic heart failure, balance, cognition and pain	Invited lecture	Georgetown University School of Medicine, MD
Peter Wayne	Tai Chi for fall prevention	Invited lecture	Georgetown University School of Medicine, MD
Peter Wayne	Integrative health and medicine	Invited panel presenter	Morehouse School of Medicine, Atlanta GA
Peter Wayne	Integrating medicine: Towards an ecology of mind, body, and planet	Invited lecture	College of the Atlantic, Bar Harbor, ME
Peter Wayne	Increasing access to Tai Chi balance training for in frail older adults using a robotic-enhanced "Tele-Tai Chi" platform	Invited lecture	NSF ERC for Connected Health and Aging-in-Place Technology (CHAPTer) Conference, Mass Institute for Technology, Cambridge, MA
Peter Wayne	Successes and challenges	Invited panel presenter	Osher Collaborative for Integrative Health, Seattle, WA

FACULTY INTERNATIONAL LECTURES 2022

PRESENTER	NAME	TYPE	INSTITUTION
Darshan Mehta	Osher integrative medicine network forum	Conference organizer; session chair	Osher Integrative Medicine Network Forum - The Lived Experience of Depression, Boston, MA, USA
Aterah Nusrat	From Mindful Behavior to a Shift in Identity: An Individual and Collective Exploration	Invited panel presenter	NOVA Institute for Health of People, Places and Planet 2022 Annual International Conference: Flourishing Futures
Howard Sesso	The primary findings for the cocoa extract intervention of the COSMOS trial	Invited lecture	International Conference of Polyphenols and Health, London, England, UK
Howard Sesso	Where do we go next for cocoa flavanol research beyond COSMOS?	Invited panel presenter	International Conference on Polyphenols and Health, London, England, UK
Peter Wayne	Tai Chi for fall prevention in older adults: Contributions of 'top-down' affective and cognitive processes	Invited lecture	Neural and Social Basis of Creative Movement, University of MD/ NIH Baltimore, MD, USA
Peter Wayne	Mindful movement for chronic pain: Does it make "sense"?	Invited lecture	International Association of the Study of Pain, Toronto, Canada
Peter Wayne	Whole health across disciplines: Connecting emerging patterns from research on forests and humans	Panel presenter	International Congress on Integrative Medicine and Health, Phoenix, AZ, USA
Peter Wayne	Mind-body and manual therapy interventions	Session chair	International Congress on Integrative Medicine and Health, Phoenix, AZ, USA
Peter Wayne	Qigong mind-body training in the context of othering, belonging, and becoming	Invited lecture	Mind and Life Summer Research Institute, NY, USA
Peter Wayne	The science of Tai Chi for whole person health: Twenty years of research at Harvard Medical School	Invited lecture	First Beijing Sport University Traditional Chinese Sport Health Preservation Forum, Beijing, China
Peter Wayne	Tai Chi for fall prevention in older adults	Keynote speaker	World Taiji Science Federation Conference, Beijing, China
Peter Wayne	Opening Remarks; Mindfully moving through depression	Session chair; Invited panel presenter	Osher Integrative Medicine Network Forum - The Lived Experience of Depression, Boston, MA, USA
Peter Wayne	Group mind-body practices are a good 'prescription' for both patients and planet	Invited panel presenter	NOVA Institute for Health of People, Places and Planet 2022 Annual International Conference: Flourishing Futures
Gloria Yeh	The science of Tai Chi for whole person health: Twenty years of research at the Harvard Medical School	Q&A panelist	First Beijing Sport University Traditional Chinese Sport Health Preservation Forum, Beijing, China
Gloria Yeh	Tai Chi in patients with COPD: Results from the LEAP study (Long-Term Exercise After Pulmonary Rehabilitation)	Keynote speaker	World Taiji Science Federation Conference, Beijing, China
Gloria Yeh	Current complementary and integrative approaches to depression	Session chair	Osher Integrative Medicine Network Forum - The Lived Experience of Depression, Boston, MA, USA

2022 FELLOWS ORAL PRESENTATIONS

PRESENTER	NAME	INSTITUTION/LOCATION
Wren Burton	Establishing chiropractic interprofessional postdoctoral fellowship programs in research and health policy: Experiences from two United States medical schools / Platform	World Federation of Chiropractic, St. Louis, MO
Michael Datko	Increased body trusting associated with increased insula response to interoception after mindfulness training in patients with depression and anxiety.	International Congress on Integrative Medicine and Health, Phoenix, AZ
James Doorley	Implementing mind-body interventions for diverse, low-SES populations with chronic musculoskeletal pain	Health Promotion and Resiliency Intervention Research Program, MGH
Jacklyn Foley	Sexual networking and HIV/STI prevention among men who have sex with men and identify as a person of color in the era of COVID-19 in Boston, MA	Annual meeting of the Association of Behavioral and Cognitive Therapies, New York, New York.
Jacklyn Foley	Stigma, discrimination, and sexual risk-taking in men who have sex with men who have HIV and endorse substance use: The impact of injection drug use	Annual meeting of the Association of Behavioral and Cognitive Therapies, New York, New York.
Jacklyn Foley	Experienced discrimination, trauma symptoms, and behavioral motivation systems in MSM living with HIV who use substances	Annual meeting of the Association of Behavioral and Cognitive Therapies, New York, New York.
Jacklyn Foley	Descriptive analysis of the impact of COVID-19 among men who have sex with men with substance disorders living with HIV	Annual meeting of the Association of Behavioral and Cognitive Therapies, New York, New York.
Jacklyn Foley	Developing, refining, and evaluating mind-body interventions for diverse populations of people living with HIV: Exemplars of the NIH stage model	Symposium Presentation to the annual meeting of the International Congress on Integrative Medicine and Health, Phoenix, Arizona.
Kristen Kraemer	Exploring tai chi and mindful breathing in patients with COPD: A randomized controlled feasibility trial	Grand Rounds, Division of General Medicine, BIDMC
Kristen Kraemer	K23 research in progress: Mind-Body exercise for promoting physical activity engagement	Mind-Body Clinical Research Group, Department of Psychiatry, MGH
Dennis Munoz-Vergara	The impact of acute yoga exercise on inflammation	Department of Preventative Medicine Seminars, BWH
Joseph Rosansky	CHAMindWell and the Resilience Study	National Center for Complementary and Integrative Health (NCCIH) Advisory Council Open Session on Impactful Clinical Trials, Online.
Eunmee Yang	Opportunities and challenges of implementing a virtual acupressure service for cancer patients during COVID-19: A retrospective analysis.	2022 International Congress on Integrative Medicine and Health, Phoenix, AZ.

2022 FELLOWS POSTER PRESENTATIONS

PRESENTERS	POSTER TITLE	INSTITUTION/LOCATION
Michael Datko	Heart rate variability response to mindfulness meditation and a novel nature-based video control activity in migraineurs.	Osher Integrative Medicine Network Forum - The Lived Experience of Depression, Boston, MA, USA
Michael Datko	Insula response to interoception is inversely correlated with trait mindfulness, self-compassion, and migraine frequency in patients with episodic migraine	Annual meeting of the US Association for the Study of Pain (USASP), 2022, Cincinnati, OH & Annual meeting of the Organization for Human Brain Mapping, 2022, Glasgow, Scotland, UK
Jacklyn Foley	Facets of mindfulness are associated with inflammation biomarkers in a sample of sexual minority men with HIV	Osher Integrative Medicine Network Forum - The Lived Experience of Depression, Boston, MA, USA
Jacklyn Foley	Approach versus avoidant coping strategies and antiretroviral therapy adherence among men who have sex with men living with HIV and using	2022 International Congress on Integrative Medicine and Health, Phoenix, AZ
Kristen Kraemer	Understanding the mechanisms through which mind-body exercise promotes physical activity engagement: Using focus groups to refine a mindful attention script	2022 International Congress on Integrative Medicine and Health, Phoenix, AZ
Kristen Kraemer	A pilot randomized controlled trial evaluating the feasibility, acceptability, and preliminary effects of a single-session mindfulness-based intervention for intolerance of uncertainty and anxiety sensitivity	56th annual meeting of the Association for Behavioral and Cognitive Therapies, New York, NY
Yan Ma	Circadian patterns and day-night differences in heart rate dynamics	2022 International Congress on Integrative Medicine and Health, Phoenix, AZ
Yan Ma	Feasibility of examining component-specific effects of yogic breathing on heart rate variability during sleep: A three-arm pilot RCT	SLEEP 2022, Charlotte, NC
Yan Ma	Impaired sleep quality in major depressive disorder and effects of Tai Chi in a pilot trial	Osher Integrative Medicine Network Forum - The Lived Experience of Depression, Boston, MA, USA
Heena Manglani	Establishing an MS psychology clinic and results from piloting a mind-body program in one dyad	Osher Integrative Medicine Network Forum - The Lived Experience of Depression, Boston, MA, USA
Dennis Muñoz-Vergara, Wren Burton	The dynamics of inflammatory mediators in response to short-and long-term mind-body movement therapies (MBMT): A systematic review	2022 International Congress on Integrative Medicine and Health, Phoenix, AZ
Dennis Muñoz Vergara	The effects of a single bout of high-and moderate-intensity yoga exercise on circulating inflammatory mediators: a pilot feasibility study	2022 International Congress on Integrative Medicine and Health, Phoenix, AZ
Joseph Rosansky	Evaluating a population-based mindfulness approach to 1° and 2° prevention of mental health disorders	Osher Integrated Medicine Network Forum, 2022. (Virtual)
Joseph Rosansky	SMART Bet: A pilot study of problem gambling prevention in emerging adults	International Center for Responsible Gaming Conference on Gambling and Addiction, Las Vegas, NV, US.
Joseph Rosansky	CHAMindWell: A population-based approach to primary and secondary prevention of mental health disorders	Cambridge Health Alliance 14th Annual Academic Poster Session, Somerville, MA.
Joseph Rosansky	Patients' experiences with buprenorphine treatment in Massachusetts during the COVID-19 pandemic	Collaborative Perspectives on Addictions Annual Meeting, Portland, OR.
Eunmee Yang	Ear acupuncture during chemotherapy infusion for symptom management in breast cancer patients: a retrospective chart review.	2022 International Congress on Integrative Medicine and Health, Phoenix, AZ
Eunmee Yang	Are acupoints "hot spots"? A systematic review of thermal assessments of acupoints in healthy vs. clinical populations	2022 International Congress on Integrative Medicine and Health, Phoenix, AZ

FACULTY AND FELLOWS 2022 PUBLICATIONS

A call for technology-enhanced delivery models to facilitate the implementation of psychologically informed practice for chronic musculoskeletal pain.

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