



CACPR NEWSLETTER

Relieving Pain in America

OCTOBER 2021



CACPR Member Spotlight:

Introducing Ian Kleckner, PhD, MPH Associate Professor and Director of the Cancer Control Mind & Body Lab in the University of Maryland Baltimore School of Nursing.

Dr. Ian Kleckner PhD MPH joins the CACPR recently from the University of Rochester Medical Center in Rochester, NY. He is now Associate Professor and Director of the Cancer Control Mind & Body Lab in the University of Maryland Baltimore School of Nursing. He received a BS in Physics from University of Rochester, an MS and PhD in Biophysics from The Ohio State University, a post-doctoral fellowship in Psychology and Neuroscience at Northeastern University in Boston and The Laureate Institute for Brain Research in Tulsa, Oklahoma, and an MPH from University of Rochester Medical Center.

Dr. Kleckner and his lab study how cancer chemotherapy causes side-effects such as neuropathy and distress, and how to treat these symptoms using exercise assessed via randomized clinical trials. He uses methods from

psychophysiology (measuring heartbeats, skin conductance), neuroimaging (fMRI), exercise science, and psychological and behavioral science with computational approaches honed from his backgrounds in physics and biophysics. His research program focuses on chemotherapy-induced peripheral neuropathy (CIPN), with related lines of inquiry: (1) to predict who will get CIPN and how severe its signs and symptoms will be, (2) to gain mechanistic insight into how CIPN symptoms occur, and (3) to develop and test promising treatments for CIPN. Some examples of his work thus far suggests that (1) patients who are more physically active before chemotherapy and who have lower circulating levels of inflammation experience less severe CIPN during neurotoxic chemotherapy, (2) although CIPN is typically studied in the periphery, changes in the interoceptive brain system are related to the severity of CIPN, and (3) daily exercise during the weeks of neurotoxic chemotherapy is a promising treatment for CIPN.

He has been PI on four NIH/NCI grants (K07, R21s, NCORP) including a nationwide clinical trial of exercise for CIPN. He has published 45 scientific papers and received numerous awards for his working including the Best of American Society for Clinical Oncology (ASCO). For more information see www.iankleckner.com

“I am thrilled to join the CACPR team to converse and collaborate to accelerate not only my own work on chemotherapy-induced peripheral neuropathy mechanisms, prophylactics, and treatments but more broadly to alleviate the burden of chronic pain for all.”

CACPR Member Laurels

Highlights of recent grant awards, publications, and presentations.

Simon Akerman, PhD & Marcela Romero Reyes, DDS, PhD

Akerman S, PhD, Salvemini D, PhD, Romero-Reyes M, DDS, PhD
[Targeting reactive nitroxidative species in preclinical models of migraine.](#)
[Cephalalgia 2021:3331024211017884](#)

Reactive nitroxidative species, such as peroxynitrite are strongly implicated in chronic pain mechanisms. Here, we determined that peroxynitrite is also involved in the underlying mechanisms in mediating nociceptive neuronal and behavioral outcomes in rodent models of migraine. Similar to chronic pain disorders, peroxynitrite, therefore, represents a novel and potentially efficacious target in the treatment of migraine and similar headache disorders.

Luana Colloca, MD, PhD, MS

[Treatment-Resistant Depression-Resistant to Placebos as Well?](#)

Cusin C, **Colloca L**.

JAMA Netw Open. 2021 Sep 1;4(9):e2127952. doi:

10.1001/jamanetworkopen.2021.27952.

PMID: 34559235 No abstract available.

This is a commentary on a large metaanalysis of 50 studies including 3228 participants, and the resulting effect size for placebo was (Hedges $g = 1.05$), albeit smaller than that typically observed in major depressive disorder (MDD) trials in individuals without Treatment Resistant Depression.

[Engagement in Prescription Opioid Tapering Research: the EMPOWER Study and a Coproduction Model of Success.](#)

Mardian A, Perez L, Pun T, Cheung M, Porter J, De Bruyne K, Kao MC, Flood P, Moore N, **Colloca L**, Cramer E, Ashton-James CE, Lorig K, Mackey SC, Darnall BD.

J Gen Intern Med. 2021 Aug 13. doi: 10.1007/s11606-021-07085-w. Online ahead of print.

PMID: 34389937

This is a collaborative project with Stanford University whereby Dr. Darnall and the team propose a new model for tapering opioids.

[Pain experience and mood disorders during the lockdown of the COVID-19 pandemic in the United States: an opportunistic study.](#)

Colloca L, Thomas S, Yin M, Haycock NR, Wang Y.

Pain Rep. 2021 Sep 23;6(3):e958. doi: 10.1097/PR9.0000000000000958.

eCollection 2021 Sep-Oct.

PMID: 34589641

This is an opportunistic study we conducted during the lock-down window of the pandemic and we found that Participants who self-reported COVID-19 symptoms had higher pre-pandemic depression. Among the 72 participants not

diagnosed with COVID-19, 70.8% of the participants experienced symptoms resembling those associated with COVID-19. Pain outcomes improved while anxiety and depression worsened suggesting a shift in symptom illnesses.

[Pancreatic Pain-Knowledge Gaps and Research Opportunities in Children and Adults: Summary of a National Institute of Diabetes and Digestive and Kidney Diseases Workshop.](#)

Uc A, Andersen DK, Apkarian AV, Bellin MD, **Colloca L**, Drewes AM, Dunbar EK, Forsmark CE, Goodman MT, Kapural L, Koob GF, Palermo TM, Pandol SJ, Pasricha P, Phillips AE, Piomelli D, Saloman JL, Schwarzenberg SJ, Singh VK, Sowa G, Strouse T, Treisman GJ, Windsor JA, Yadav D. *Pancreas*. 2021 Aug 1;50(7):906-915. doi: 10.1097/MPA.0000000000001899.

This is a review based on the NIDDK workshop on pancreatic pain.

Joyce T. Da Silva, PhD & David A. Seminowicz, PhD

[Time of Day Influences Psychophysical Measures in Women With Burning Mouth Syndrome.](#)

Janell S. Payano Sosa, **Joyce T. Da Silva**, Shana A. B. Burrowes, Soo Y. Yoo, Michael L. Keaser, Timothy F. Meiller and **David A. Seminowicz**. *Frontiers in Neuroscience*. October, 1st 2021

In this study, we showed that warm and cold processing is impaired in burning mouth syndrome (BMS) type I patients, which could suggest hypervigilance toward clinically relevant pain of the orofacial area that results in reduced sensitivity to innocuous stimuli applied to distal body areas.

Announcements



Baltimore Brain Series

Virtual Seminar, Tuesday Oct 26, 12:00 – 1:00 PM

Rani Richardson, National Institute of Drug Abuse
Ghrelin receptor antagonism reduces binge-like alcohol drinking in mice: Potential dissociation of a central vs peripheral effect



Kauê M. Costa, Ph.D., National Institute of Drug Abuse
Dopamine release reflects value-less prediction errors during sensory-sensory learning



Hosted by University of Maryland Baltimore



To view the flyer above, please [click here](#).

Baltimore Brain Series

October 26th at 12 PM - 1:00 PM

Program in Neuroscience Journal Club is pleased to host the Baltimore Brain Series, a Baltimore-wide talk series organized by graduate students and postdoctoral fellows to highlight exciting work being done by graduate students and postdoctoral fellows in the Baltimore area.

[Please click here to access the Baltimore Brain Series zoom meetings.](#)

For any questions, please reach out to:

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Pronouns: she/her

The Pain Journal Club

The Pain Journal Club consists of students, postdocs, and faculty from the UMB Schools of Dentistry, Medicine, and Nursing, whose research interests include mechanisms of pain in animal models and humans. A pain-related scientific article is presented by a volunteer and everyone discusses the findings of the article. The Pain Journal Club will be held virtually every **Wednesday at 8:30 am, starting on October 27th, 2021.**

Below is the reoccurring Zoom link for the Pain Journal Club meeting.
[Please click here to access the Pain Journal Club zoom meetings.](#)

To view the full schedule for Pain Journal Club meetings, please [click here.](#)

PIG (Pain Interest Group)

The CACPR is delighted to announce the 2021-2022 Pain interest group (PIG) meeting series. PIG meetings are informal meetings for labs with an interest in Pain research to present what they are working on. The meetings are meant as a sounding board for new ideas or a place to present preliminary data to get feedback. It can also be used to give graduate students and postdocs practice at organizing and presenting their projects. It is a low-key meeting that is not meant to be intimidating, allowing people to talk through innovative ideas that might turn into something. Having attendance from people across campus can be a springboard to new collaborations. The meetings will be given remotely to favor attendance. Consider joining us to listen to the new research advances of our teams and faculty. We look forward to meeting you.

If you want to be included on the mailing list or for more information about the PIG meetings, contact Dr. Wei Guo at wguo@umaryland.edu or Dr. Luana Colloca at colloca@umaryland.edu.

To view the full schedule for Pain Interest Group (PIG) meetings, please [click here.](#)

The UM Center to Advance Chronic Pain Research (CACPR) is a multidisciplinary center composed of nationally and internationally renowned clinical and preclinical translational scientists whose principle research focus is on the physiological, genetic, and psychosocial



underpinnings of the development and persistence of debilitating chronic pain conditions.

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