

Department of Biomedical Sciences Newsletter

We have many things to celebrate this past quarter:

Years of Service Milestones:

Diana Goode: 5 years

Benjamin Harrison: 5 years

Kin Ly: 5 years

James Georgitis: 10 years

Sean Kilgallen: 10 years

Tamara King: 10 years

Angela Morse: 25 years

Congratulations and thank you for your service.

Congratulations to those faculty receiving “Faculty of the month” honors in our department:

Frank Willard, PhD – November

David Johnson, PhD – January

Hwyda Arafat, MD, PhD – February

Congratulations to Dr. Kin Ly on her promotion to Associate Professor!!!

Congratulations to Dr. Ben Harrison on receiving an NIH R01 award from NIH titled, “RNA-Protein Interactions in Nociception”!!!

Congratulations to Dr. Diana Goode on being selected as a COBRE project leader, with her project titled: “Novel expression of MHC class II on DRG neurons can directly activate CD4+ T cells contributing to the resolution of neuropathic pain”!!!

Congratulations to Dr. Karen Houseknecht on being named a Fulbright Scholar!!!

Faculty meeting dates:

- April 27, 2022; 1-2 pm
- May 25, 2022; 1-2 pm
- June 22, 2022; Cancelled

Feel free to send any agenda items for discussion at our faculty meeting to Angela Morse.

2022 UNE COM Seminars:

All seminars hosted by the department will be posted on our seminar link on our site, which can be found here:

<https://sites.une.edu/biomedicalsciences/seminar-series/>

Spring 2022 Shared Governance:

UFA

Wednesday, April 20

Via Zoom, 12-2pm

Wednesday, May 18

Via Zoom, 12-2pm

COMFA

Thursday, April 21

St. Francis/Zoom, 12-1pm

Wednesday, May 25

St. Francis/Zoom, 12-1pm

Thursday, June 16

St. Francis/Zoom, 12-1pm

NOTE: Publication costs for papers which have COM students as authors are eligible to be covered by the [SGA's educational enhancement fund](#) (link enabled). These requests are vetted by students on the finance committee of the SGA and processed by RSAS.

[Faculty / Student / Staff Highlights:](#)

[New Publications \(from PubMed \(links enabled\)\)](#)

[Effectiveness of a Multidisciplinary Chronic Pain Management Program.](#)

Barker CL, Sultan DA, Koh WY, Hull SZ, **Cao L**.

Journal of Pain & Relief. 2021. Volume 10, Issue 7, 388.

[Weaknesses in Experimental Design and Reporting Decrease the Likelihood of Reproducibility and Generalization of Recent Cardiovascular Research.](#)

Williams JL, *Chu HC, *Lown MK, *Daniel J, *Meckl RD, *Patel D, *Ibrahim R.

Cureus. 2022 Jan 10;14(1):e21086.

doi: 10.7759/cureus.21086

*denotes student author

[Effects of Morphine on Gp120-induced Neuroinflammation Under Immunocompetent Vs. Immunodeficient Conditions.](#)

Canonico D, Casale S, Look T, **Cao L**.

J Neuroimmune Pharmacol. 2022 Jan 21.

doi: 10.1007/s11481-021-10040-5

[Predictive Values of Whole Campus Wastewater Surveillance for SARS-CoV-2.](#)

Green E, Barlow D, Rostama B, Berkner P, **May M**.

Annals of Pub Health Rep. 2022 Feb; 6 (1): 254-255.

[Propranolol promotes bone formation and limits resorption through novel mechanisms during anabolic parathyroid hormone treatment in female C57BL/6J mice.](#)

Trey Ball A, Bergeron AC, Brooks DJ, Langlais AL, Hashmi H, Nagano K, Barlow D, Neilson RJ, Roy TA, Nevola KT, **Houseknecht KL**, Baron R, Bouxsein ML, Guntur AR, Motyl KJ.

J Bone Miner Res. 2022 Feb 5.

doi: 10.1002/jbmr.4523

[Angiotensin blockade therapy and survival in pancreatic cancer: a population study.](#)

Keith SW, Maio V, **Arafat HA**, Alcusky M, Karagiannis T, Rabinowitz C, Lavu H, Louis DZ.

BMC Cancer. 2022 Feb 7;22(1):150.

doi: 10.1186/s12885-022-09200-4

[Back to the Future: Maximizing Student Learning and Wellbeing in the Virtual Age.](#)

Belovich AN, Bahner I, Bonaminio G, Brenneman A, Brooks WS, Chinn C, El-Sawi N, Habal S, Haight M, Haudek SB, Ikonne U, McAuley RJ, McKell D, **Rowe R**, Taylor TAH, Thesen T, Vari RC.

Med Sci Educ. 2022 Feb 10:1-7.

doi: 10.1007/s40670-022-01516-x

[Evidence for a phenotypic switch in corneal afferents after lacrimal gland excision.](#)

Sullivan C, Lee J, Bushey W, Demers D, Dinsdale S, Lowe K, Olmega J, **Meng ID**.

Exp Eye Res. 2022 Feb 28:109005.

doi: 10.1016/j.exer.2022.109005

[Voluntary exercise blocks ongoing pain and diminishes bone remodeling while sparing protective mechanical pain in a rat model of advanced osteoarthritis pain.](#)

Townsend K, Imbert I, Eaton V, Stevenson GW, **King T.**

Pain. 2022 Mar 1;163(3):e476-e487.

doi: 10.1097/j.pain.0000000000002392

*Part of a special series called: *PAIN 2022: Global Year for Translating Pain Knowledge to Practice*

[Ceftriaxone to PRevent pneumOnia and inflammaTion aftEr Cardiac arresT \(PROTECT\): study protocol for a randomized, placebo-controlled trial.](#)

Gagnon DJ, Ryzhov SV, **May MA**, Riker RR, Geller B, May TL, Bockian S, deKay JT, Eldridge A, Van der Kloot T, Lerwick P, Lord C, Lucas FL, Mailloux P, McCrum B, Searight M, Wirth J, Zuckerman J, Sawyer D, Seder DB.

Trials. 2022 Mar 4;23(1):197.

doi: 10.1186/s13063-022-06127-w

New Publications (from bioRxiv (links enabled in blue)) – a preprint, a preliminary version of a manuscript that has not completed peer review at a journal.

[Ovariectomy increases paclitaxel-induced mechanical hypersensitivity and reduces anti-inflammatory CD4+ T cells in the dorsal root ganglion of female mice.](#)

Diana J. Goode, Neal E. Mecum

bioRxiv 2022.01.13.476262

doi: <https://doi.org/10.1101/2022.01.13.476262>

Faculty Achievements:

Congratulations to **Dr. Kin Ly** on her promotion to Associate Professor!!!

Congratulations to those faculty receiving “Faculty of the month” honors in our department:

Frank Willard, PhD – November

David Johnson, PhD – January

Hwyda Arafat, MD, PhD – February

Congratulations to **Dr. Diana Goode** for being selected to attend the 2022 Fundamentals of Proteomics Workshop (IDeA National Resource for Quantitative Proteomics, University of Arkansas for Medical Sciences, Little Rock, AR).

Regional/National/International Presentations

Oral Presentations:

Dr. Mark Schuenke was an invited seminar speaker at the Association of Extremity Nerve Surgeons Annual Symposium in Golden, CO (2021), where he presented a talk titled “Significance of the Medial Arch Fat Pad?”

Dr. Mark Schuenke ran a workshop on “Nerve Salvage and Revisional Techniques” at the Association of Extremity Nerve Surgeons Annual Symposium in Golden, CO (2021).

Dr. Hwya Arafat presented the keynote address at the Student National Medical Association, Regional Medical Education Conference for the Northeast Region. Her address was titled “Accelerating the future of medicine” and was held on January 29, 2022.

Dr. Meghan May gave a talk titled “Clarifying COVID-19: the Impact of Long COVID, and Epidemiology for the Everyday Physician” at the Maine Osteopathic Association Midwinter Forum in Portland, ME in February 2022.

Dr. Derek Molliver presented a poster titled “Mitochondrial dynamics modulate sensory neuron excitability in models of inflammatory and neuropathic pain” at the Keystone Conference for Mitochondrial Biochemistry in Health and Disease. This work was a collaboration with both **Dr. Christoph Straub** and **Dr. Diana Goode**.

Dr. Meghan May gave a presentation titled “...But That’s Another Story” at Towson University’s 22nd Annual Women in Science Forum in Baltimore, MD in March 2022.

Poster Presentations:

Fennell S, Mecum N, **Goode DJ**. Dorsal Root Ganglion Neurons from Paclitaxel-Treated Female Mice Activate Antigen-specific Anti-Inflammatory CD4+ T cells. Maine Osteopathic Association Mid-Winter Virtual Research & Scholarship Symposium, February 2022; Virtual.

Cattaneo C, Mecum N, **Goode DJ**. Paclitaxel Increases Novel Expression of Major Histocompatibility Complex II in Dorsal Root Ganglion Neurons in Female Mice. Maine Osteopathic Association Mid-Winter Virtual Research & Scholarship Symposium, February 2022; Virtual.

New Funding

Congratulations to **Dr. Ben Harrison** on receiving a 5-year, NIH R01 award from NIH titled, “RNA-Protein Interactions in Nociception”.

Congratulations to **Dr. Diana Goode** on being selected as a COBRE project leader, with her project titled: “Novel expression of MHC class II on DRG neurons can directly activate CD4+ T cells contributing to the resolution of neuropathic pain”.

COM Student Presentations (and their departmental mentors):

Congratulations to UNE/UMaine PhD candidate, Zaid Al-Abbasi. He was selected by the Bioscience Association of Maine's Education (BioME) Committee to receive a BioME Conference Award to support his scientific presentation at the virtual 2021 Society for Neuroscience meeting (November 8-11) for his poster titled "Rapgef Family Members Expressed In Mouse Dorsal Root Ganglion Neurons Contribute To Erk Phosphorylation Downstream Of G_s-coupled Receptors". Congratulations also to his mentor, **Dr. Derek Molliver**.

Maine Osteopathic Association Virtual Research Forum - February 12, 2022

Poster Presentations:

Ahlholm, Paige (OMS 2)

Title: The Role of CD2AP in Alzheimer's Disease

Mentor: **Benjamin Harrison, PhD**

Cattaneo, Catrina (OMS 2)

Title: Paclitaxel Increases Novel Expression of Major Histocompatibility Complex II in Dorsal Root Ganglion Neurons in Female Mice

Mentor: **Diana Goode, PhD**

Connors, Nora (OMS 2)

Title: Inflammatory Responses within Lumbar Dorsal Root Ganglia following Sciatic Nerve Crush in Microglial CD137L Conditional Knockout Mice

Ling Cao, MD, PhD

Dao, Brandon (OMS 2)

Title: Supervised Interprofessional Student Pain Clinic Program - Efficacy with the Utilization of Zoom

Mentor: **Ling Cao, MD, PhD**

Fennell, Siobhan (OMS 2)[@]

Title: Dorsal Root Ganglion Neurons from Paclitaxel-Treated Female Mice Activate Antigen-specific Anti-Inflammatory CD4⁺ T cells

Mentor: **Diana Goode, PhD**

Izzo, Cassandra (OMS 3)

Title: Unique Presentation of spatial awareness, memory, and recovering weakness post Traumatic brain injury and spinal cord injury due to helmetless motorcycle accident

Mentor: **Frank Willard, PhD**

Kohsar, Ahmad (OMS 2)

Title: Bioinformatic Pathway Analysis of Spinal Cord Inflammation in a Tat Induced HIV-Associated Sensory Neuropathy Model

Mentor: **Ling Cao, MD, PhD**

Lavarnway, Kaitlyn (OMS 3)

Title: The Utility of Student Led Medical Education During a Pandemic

Mentor: **Carol A. Brenner, PhD**

Lundstedt, Chrysanthi; Chase, Anthony (OMS 2)

Title: Surveillance for Tickborne Pathogens in the Upper Midwest

Mentor: **Meghan May, PhD, MS**

Morel, Shana (OMS 2)

Title: Quantitative Examination of Hedgehog Signaling in Primary Cilia and Potential Localization of the ACE2 Receptor to Primary Cilium

Mentor: **Kerry Tucker, PhD**

Ravichandran, Priyanka (OMS 2)

Title: Pandemic Parallels: Common Threads Between the Emergence of SARS-CoV1 and SARS-CoV-2

Mentor: **Meghan May, PhD, MS**

Reimonn, Cassandra (OMS 3)

Title: Elucidating Chemotherapy-Induced Peripheral Neuropathy Mechanisms Using Transcriptome Analysis of Sensory Neurons and Skin

Mentor: **Benjamin Harrison, PhD**

Souza Di Nucci, Bruno (OMS 2)

Title: Local Inflammatory Responses in CD137L Knockout Mice Following Sciatic Nerve Crush-Induced Neuropathic Pain Mentor: **Ling Cao, MD, PhD**

Theberge, Karli (OMS 2)

Title: Commonalities Between COVID-19 and Zika Virus Disease, Two Public Health Emergencies of International Concern Mentor: **Meghan May, PhD, MS**

Maine Osteopathic Association Virtual Research Forum - AWARDS

@Congratulations to OMS *Siobhan Fennel* on being awarded 2nd place in the Medical Student Original Research Category for her poster titled “Dorsal Root Ganglion Neurons from Paclitaxel-Treated Female Mice Activate Antigen-specific Anti-Inflammatory CD4+ T cells.” Congratulations to her mentor **Dr. Diana Goode**.

COM Student Fellowships Awarded (and their departmental mentors):

Congratulations to the following COM students (and their faculty mentors from the Department of Biomedical Sciences) for receiving a 2022-2023 Carmen Pettapiece Student Research Fellowship:

Anwasha Gangopadhyay (Class of 2025)

Project title: Effects of Atypical Antipsychotics on the Liver: Regulation of genes and pathways associated with Non-Alcoholic Fatty Liver Disease (NAFLD) and Iron Metabolism

Mentor: **Karen Houseknecht, PhD**

Molly Schassaberger, Charlotte Kirk, Samantha Fields (Class of 2024)

Project title: COVID Vaccination Hesitancy in Pregnant and Non-Pregnant Persons

Mentor: **Carol Brenner, PhD**

Congratulations to the following COM students (and their faculty mentors from the Department of Biomedical Sciences) for receiving a 2022-2023 *Peter Morgane Student Research Fellowship* and the *Kahn Foundation Student Research Fellowship* [Funding support was provided by the UNE College of Osteopathic Medicine, the UNE Office of the Associate Provost of Research and Scholarship, and the Kahn Family Foundation]

2022-2023 Peter Morgane Student Research Fellowship:

Alyssa Ahern & Carla Champagne (Class of 2023)

Project title: Perceived Importance and Success of Integration of Concepts of Diversity and Inclusion, Wellness, and Personal Growth at UNE COM

Mentor: **Hwyda Arafat, MD, PhD**

Vrushabh Daga & Prakash Patel (Class of 2025)

Project title: The Impact of Prophylactic Ceftriaxone Treatment on Antimicrobial Resistance Development by Colonizing Microbes

Mentor: **Meghan May, PhD**

Gunther Thaddeus (Class of 2025)

Project title: The effect of the GABA agonist muscimol on cancer-induced break through bone pain

Mentor: **Tamara King, PhD**

Chuhao Nie (Class of 2024)

Project title: Characterization of individuals with chronic pain in the state of Maine using the Behavioral Risk Factor Surveillance System (BRFSS) data

Mentor: **Ling Cao, PhD, MD**

Nicholas Sian (Class of 2025)

Project title: Investigating Differences of Neuroplasticity in the Osteoarthritic Knee of Female Compared to Male Models

Mentor: **Tamara King, PhD**

The Kahn Family Foundation Funds:

Michael Alen (Class of 2025)

Project title: Examining potential sex differences in salivary nociceptive markers in a rat model of TMJOA

Mentor: **Tamara King, PhD**

Ahmad Kohsar (Class of 2024)

Project title: Identifying potential drugs that could treat Tat-associated HIV sensory neuropathy through bioinformatic analysis

Mentor: **Ling Cao, MD, PhD**

A big thank you to **Dr. Hwyda Arafat** (the faculty advisor for the Pettapiece Research Fellowships), the **UNECOM Research and Scholarship Committee** (overseers of the Peter Morgane Student Research Fellowships), and **Dr. Ian Meng** (the administrator of the Kahn Family Foundation Funds).

Acknowledgements and gratitude to the COM faculty who reviewed the applications:

Drs. Kathleen Becker, Carol Brenner, Paul Berkner, Eliza Grlickova-Duzevik, Marilyn Gugliucci, Tamara King, Meghan May, David Mokler, Kyle Scully, and Doug Spicer.

Finally, a big thank you to **Diane Labbe** for providing incredible support throughout the entire fellowship process.

Other News:

Associate Provost Karen Houseknecht named a Fulbright Scholar

Congratulations to **Dr. Karen L. Houseknecht** for being named a Fulbright Senior Scholar. She will spend part of the 2022-2023 academic year in Spain as a professor-in-residence at the Department of Pharmacology within the College of Medicine at the Autonomous University of Madrid (February to May, 2023). More information can be found at this link: <https://www.une.edu/news/2022/associate-provost-karen-houseknecht-named-fulbright-scholar>

Dr. Meghan May was quoted in *The Scientist* (“Omicron Propagates 70 Times Faster than Delta in Bronchi: Study”) <https://www.the-scientist.com/news-opinion/omicron-propagates-70-times-faster-than-delta-in-bronchi-study-69540>

Dr. Meghan May was quoted in *Yahoo News* (“New Febreze Fabric Antimicrobial Helps Americans Kill Bacteria Living On Their Soft Surfaces”) <https://finance.yahoo.com/news/febreze-fabric-antimicrobial-helps-american-120000831.html>

Dr. Russ Ferland served as a judge at the Regional Medical Education Conference for Region VII of the Student National Medical Association Meeting on January 29, 2022.