

Department of Biomedical Sciences Newsletter

Years of Service Recognition (congratulations and thank you for your service):

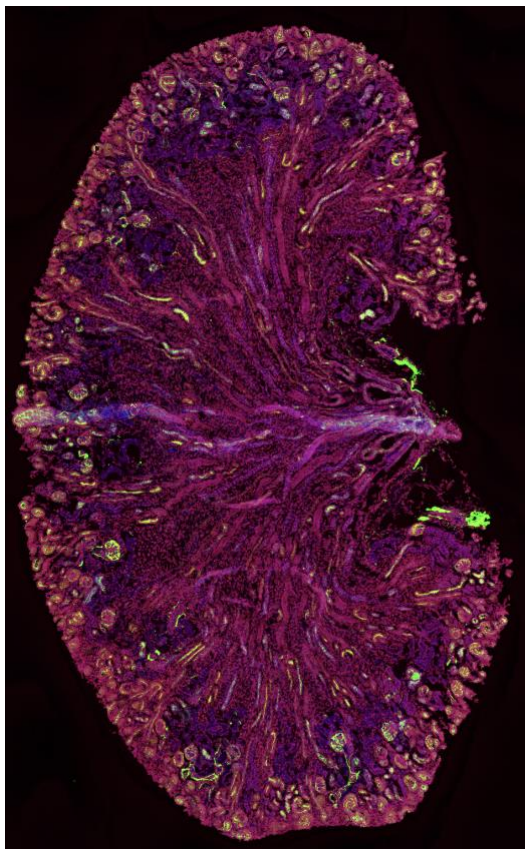
Peter Morganelli - 10 years

Kerry Tucker - 10 years

Frank Willard - 40 years

Science as Art:

The below image was submitted by **Lindsey Fitzsimons** to the *American Journal of Renal Physiology* for its "Clash of the Kidneys: Return of the Electrolytes Sci-Art Competition." She won third place in the Post-Doc category. Congratulations Lindsey!!!



Faculty meeting dates:

- January 24, 2024; 1-2 pm
- February 28, 2024; 1-2 pm
- March 27, 2024; 1-2 pm

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

2023 UNE COM Seminars:

All seminars hosted by the department will be posted on our seminar link on our site: <https://sites.une.edu/biomedicalsciences/seminar-series/>

Shared Governance Meetings:

UFA

Wednesday, January 17
via Zoom, 12-2pm

Wednesday, February 21
via Zoom, 12-2pm

Wednesday, March 20
via Zoom, 12-2pm

COMFA

Wednesday, January 24
12-1pm

Thursday, February 15
12-1pm

Wednesday, March 27
12-1pm

NOTE: Publication costs for papers which have COM students as authors are eligible to be considered for up to \$250/student by the [SGA's educational enhancement fund](#) (link enabled). These requests are vetted by the finance committee of the SGA and processed by RSAS.

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

[New Peer-Reviewed Publications \(from PubMed \(links enabled below\)\)](#)

[Anatomy Outreach Days: One Approach to Large-Scale Anatomy Outreach Events.](#)

Redway TH, Hanna P, Loomis B, Quinn MM.

HAPS Educator. 2023;27(2):18-35.

doi.org/10.21692/haps.2023.014

[Primary cilia are critical for tracheoesophageal septation.](#)

Fitzsimons LA, Tasouri E, Willaredt MA, Stetson D, Gojak C, Kirsch J, Gardner HAR, Gorgas K, **Tucker KL**.

Dev Dyn. 2023 Sep 30.

doi: 10.1002/dvdy.660.

[Not Just Fun and Games: Game-Based Learning in Health Professions Education.](#)

Thesen T, Bahner I, Belovich AN, 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.

Med Sci Educ. 2023 Aug 24;33(5):1301-1306.

doi: 10.1007/s40670-023-01859-z.

[Forgotten Branch of the Intercostal Nerve: Implication for Cryoablation Nerve Block for Pectus Excavatum Repair.](#)

Talsma J, Kusakavitch M, Lee D, Niederhauser C, Palmer B, Ozgediz D, Idowu O, Kim S. J Pediatr Surg. 2023 Dec;58(12):2435-2440.

doi: 10.1016/j.jpedsurg.2023.05.006.

[A peptidomimetic modulator of the Cav2.2 N-type calcium channel for chronic pain.](#)

Gomez K, Santiago U, Nelson TS, Allen HN, Calderon-Rivera A, Hestehave S, Rodríguez Palma EJ, Zhou Y, Duran P, Loya-Lopez S, Zhu E, Kumar U, Shields R, Koseli E, McKiver B, Giuvelis D, Zuo W, Inyang KE, Dorame A, Chefdeville A, Ran D, Perez-Miller S, Lu Y, Liu X, Handoko, Arora PS, Patek M, Moutal A, Khanna M, Hu H, Laumet G, **King T**, Wang J, Damaj MI, Korczeniewska OA, Camacho CJ, Khanna R. Proc Natl Acad Sci U S A. 2023 Nov 21;120(47):e2305215120.

doi: 10.1073/pnas.2305215120.

[US medical school curriculum on opioid use disorder-a topic review of current curricular research and evaluation of winning student-designed opioid curricula for the 2021 Coalition on Physician Education in Substance Use Disorders curricular competition.](#)

Cao L, Van Deusen J.

Front Pain Res (Lausanne). 2023 Oct 27;4:1257141.

doi: 10.3389/fpain.2023.1257141.

[Teaching Biochemistry to Students of Dentistry, Medicine, and Pharmacy
9th International Conference of the Association of Biochemistry Educators \(ABE\)
Kiawah Island, South Carolina, April 30-May 4, 2023.](#)

Franklin DS, Richardson C, Eisenmann KM, Simmons JM, Fong SFT, **Spicer DB**,
Sadik A, Dahlman KB.

Med Sci Educ. 2023 Sep 28;33(6):1439-1444.

doi: 10.1007/s40670-023-01889-7.

[Invited Commentary \(link enabled below\)](#)

[Immunotherapy, a new approach for the treatment of human pain.](#)

Goode DJ.

Pain. 2023 Nov 16. doi: 10.1097/j.pain.0000000000003107.

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

[The Primary Cilium and its Hedgehog Signaling in Nociceptors Contribute to Inflammatory and Neuropathic Pain.](#)

Lindsey A. Fitzsimons, Larissa Staurengo-Ferrari, Oliver Bogen, Dioneia Araldi, Ivan J. M. Bonet, Ethan E. Jordan, Jon D. Levine, Kerry L. Tucker

bioRxiv 2023.12.27.573420

doi: <https://doi.org/10.1101/2023.12.27.573420>

[Novel expression of MHC II in DRG neurons attenuates paclitaxel-induced cold hypersensitivity in male and female mice.](#)

Emily E. Whitaker, Neal E. Mecum, Riley C. Cott, Diana J. Goode

bioRxiv 2023.03.31.535136

doi: <https://doi.org/10.1101/2023.03.31.535136>

[Regional/National/International Presentations](#)

Oral Presentations:

UNE COM Presentation:

Ben Harrison, PhD presented his work at an UNE COM Seminar titled “RNA-Protein Interactions in Nociception and Persistent Pain” on November 7, 2023.

Diana Goode, PhD presented her work at an UNE COM Seminar titled “Neuron, present yourself! Implications in chemotherapy-induced peripheral neuropathy (CIPN)” on November 28, 2023.

Regional Presentations at the 2023 Maine Research Symposium on Biomedical Science and Engineering:

Karen Houseknecht, PhD:

Beyond Obesity: Exploring Mechanisms Underlying Medication Associated Metabolic Liver Disease (MASLD) in Mental Illness

Kathleen Becker, PhD:

Saphenous Nerve Transection Results in Sensory and Sympathetic Denervation of the Mouse Tibia

National Presentation:

Mark Schuenke, PhD gave two presentations and a workshop at the Association of Extremity Nerve Surgeons 2023 Annual Symposium in Fort Worth, Texas which ran from November 10-12, 2023.

Mark Schuenke, PhD gave three hours of lectures to the Sutherland Cranial Teaching Foundation in October, 2023.

Poster Presentations:

National Meetings:

Beisenova K, Daniel J, Nuengchana N, Mast P, **McCullen G.**

Commotio Cordis in Sports.

2023 Family Medicine Education Consortium (FMEC) Annual Meeting

Oct. 13 – 15, 2023

Providence, RI

Al-Abbasi Z and **Molliver DC** (2023)

Gs-coupled receptor signaling through Rapgef2 contributes to nociceptor sensitivity and inflammatory hyperalgesia.

Society for Neuroscience Annual Meeting, Abstract PSTR142.14.

Lizotte T, Henderson G, Hickey J, Caradonna P, Eaton VE, Deoliveira G, **Molliver DC, King TE, Becker K.** (2023)

Transection of the Saphenous Nerve Results in Sensory and Sympathetic Denervation of the Mouse Tibia.

Society for Neuroscience Annual Meeting, Abstract PSTR541.10.

UNE COM Research and Scholarship Forum (October 13, 2023; Portland ME):

Mugg B, Scott HT, Zuke JT, Caradonna P, **King T**

Variable CGRP Expression May Explain Pain Differences Across Stages of Osteoarthritis

DeOliveira G, Lizotte T, Caradonna P, Eaton V, **King T, Becker K**

Changes in Cortical Bone Mineral Density in Female Mice

**Poster won 3rd Place in the Basic Science Research Category*

Scott HT, Mugg B, Zuke JT, **King T**

Sex-dependent Differences in Synovial Nerve Growth Factor Levels Do Not Correspond to Differences in Joint Pain Between Male and Female Rats

Davoudi MS, Jordan EE, **Tucker KL**

Investigating Primary Cilium-Mediated Modulation of Nociceptive Pathways

Mistikawy N, McGrath-Conwell A, Henske EP, **Filippakis H**

The Role of Lysosomal NUDT5 in the Pathogenesis of TFE3-Renal Cell Carcinoma

Lafleur S*, Cox W*, McGrath-Conwell A, Henske EP, **Filippakis H**

Investigating the Role of the Kynurenine Pathway in Macropinocytosis and Proliferation of TSC2-deficient Cells

** Authors contributed equally*

Kneeland DM, Fitzsimons LA, Hannigan G, Wu L, **Tucker KL**

Electromyocardial Manifestations in Left Ventricular Noncompaction Cardiomyopathy in the Pediatric Population: A Systematic Review

Aloimonos C, Bean EN, **Cao L**

Changes of Lumbar Spinal Cord GFAP and CD137 Expression Following Sciatic Nerve Crush in Mice

Nguyen K, Gomes Aversa M, Gibson H, **Brenner C**, Doane C

Impact of the Transition to Pass/Fail Scoring for COMLEX Level 1 and USMLE Step 1 on Osteopathic Medical Students at UNECOM

Philhower M, **Cao L**

Nerve Conduction Study in a Tat Induced HIV-associated Sensory Neuropathy Model

Nuengchana N, Bean NE, **Cao L**

Changes in Tollip Expression in the Development of HIV-Tat-associated Sensory Neuropathy

Mendola R, Glory C, Niyonkuru K, **Meng I**

Activity-dependent genetic labeling of corneal neurons in the spinal trigeminal nucleus and lateral parabrachial nucleus in response to corneal pain

UNE Interprofessional Student Showcase (December 6, 2023):

Interprofessional Telehealth Delivery: Pros and Cons

Lauren Elmblad, CDM; Ethan Gagnon, Pharm; Luciana Gizzo, COM; Anna Lindenmayer, MS-OTS; Kristine Papa, MSAN; Rachele Ryan, MSW-S

Faculty Mentors: Denise Blais, MSN, RN

Patricia Day, RN, M.S.N.

Kin S. Ly, PharmD, EdD

A Case of Type II Diabetes Mellitus

David Karpe, COM; Madeleine Powers, COM; Aidan Reagan, Pharm

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

SDOH and Accessibility from an IP Standpoint

Sarah Micucci, COM; Sarah Benesi, MSW-S; Stephen Lin, COM; Jared Robinson, LSUHSC

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

Pediatric Asthma: A Case of Inadequate Access

Caeli Beecher, COM; Annick Metoule, MPH-S; Elizabeth Woodworth, COM;

Faculty Mentors: **Ling Cao, MD, PhD**

Kin S. Ly, PharmD, EdD

J.B.: Patient-Centered Framework for Chronic Pain

Madeline Baker, CDM; Samantha Dinsdale, COM; Pavana Elavalakanar, COM; Richard Patnaude, Pharm

Faculty Mentors: **Ling Cao, MD, PhD**

Kin S. Ly, PharmD, EdD

Mr. Ryan's Total Gastrectomy: A Patient-centered Framework

Julia Baracewicz, COM; Darina Shannon, MSAN; Gabriel Peck-Frame, COM; Katie Santanello, COM

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

A Case Study of an HIV Patient in Maine

Brittany Bertaux, COM; Julie Zeiler, MSW-S; Nazifa Sheikh, COM

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

New Funding

Congratulations to **Dr. Harry Filippakis** on receiving a one-year Biosample Seed Grant titled "Identifying the tryptophan/kynurenine metabolic landscape in TSC" from the National Tuberous Sclerosis Association.

Other News

Professor Talsma and his research team were featured in Medical Press for the work in their recent publication. The title of the press release was "Study improves outcomes for patients undergoing chest wall surgery". [LINK](#)

Professor Ling Cao was highlighted in the Portland Press Herald with an article titled "University of New England biomedical professor awarded \$1.7 million grant". [LINK](#)

COM's new **Clinical Anatomy MS Degree Program** was featured in MaineBiz on October 5, 2023. [LINK](#)

Professor Ben Harrison and his laboratory were featured in the most recent *UNE Magazine* with an article titled "One slide at a time: UNE undergrad joins the enduring quest to cure Alzheimer's". [LINK](#)