

# Department of Biomedical Sciences Newsletter

Congratulations to **Dr. Barbara Winterson**, Professor Emerita in the Department of Biomedical Sciences, on receiving UNE COM's Pioneer of Osteopathic Medicine Award at the 2024 UNE COM Graduation Ceremony. The Pioneer award is the highest honor bestowed by UNE COM.



Picture of Dr. Winterson receiving the Pioneer Award from Dean Carreiro.

Welcome to **Dr. Scott Wood** who joined the Department of Biomedical Sciences in August 2024. Besides being an Associate Professor in the department, he is also the Director of the Portland Laboratory for Biotechnology and Health Sciences (more on Dr. Scott Wood can be found in the email from the Provost's Office on June 11).

## DBMS Faculty meeting dates:

- October 23, 2024; 1-2 pm
- November 27, 2024; 1-2 pm
- No December meeting

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

## 2024 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:

### COMFA

Thursday, October 17  
12-1pm

Wednesday, November 20  
12-1pm

Thursday, December 19  
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:](#)

**Tamara King, PhD** served as co-chair of the NIH Scientific Review Committee, “*Neurobiology of Pain and Itch (NPI)*” in June 2024 (Hybrid session).

**Scott Wood, PhD** had two children’s books related to his research published (older child version [Amazon link](#) and younger Child version [Amazon link](#))

**Scott Wood, PhD** also filed a new patent application (United States Design Patent Application No. 29/953,487, *MICROFLUIDIC PLATFORM FOR CULTURING CELLS*) through his prior institution based on work done there.

**Tamara King, PhD** was a panel member at Governor Mill’s Opioid Summit. More information can be found here:

Session title: Current research in precision medicine and addiction. Governor Mills’ 6th annual Opioid Response Summit. July 2024. Panel hosted by the Jackson Laboratories.

UNE researchers (including department faculty members, Drs. **K. Houseknecht, D. Molliver, B. Harrison, K. Becker, and H. Filippakis** as well as COBRE professional staff, Denise Giuvelis and Peter Caradonna) attended the 9th national IDeA Symposium of Biomedical Research Excellence. Read more about [here](#).



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

### [Creating a Culture of Teaching and Learning.](#)

McKell D, Ely S, Ausel E, Bahner I, Belovich AN, Brenneman A, Brooks W, Garwood S, Habal S, Haight M, Hernandez M, Ikonne U, Porter R, **Rowe R**, Taylor TAH, Thesen T.

Med Sci Educ. 2024 Jul 3;34(4):961-966.

doi: 10.1007/s40670-024-02103-y.

### [Prenatal protein malnutrition decreases neuron numbers in the parahippocampal region but not prefrontal cortex in adult rats.](#)

Amaral AC, Lister JP, Rueckemann JW, Wojnarowicz MW, McGaughy JA, **Mokler DJ**, Galler JR, Rosene DL, Rushmore RJ.

Nutr Neurosci. 2024 Aug 1:1-14.

doi: 10.1080/1028415X.2024.2371256.

### [A cell-autonomous role for primary cilium-mediated signaling in long-range commissural axon guidance.](#)

Dumoulin A, Wilson NH, **Tucker KL**, Stoeckli ET.

Development. 2024 Aug 19:dev.202788.

doi: 10.1242/dev.202788.

### [Bilateral paramedian thalamic infarction in the setting of uncontrolled atrial fibrillation with rapid ventricular response.](#)

Murphy M, Lee A, **Willard F**, Price K.

BMJ Case Rep. 2024 Sep 10;17(9):e260687.

doi: 10.1136/bcr-2024-260687.

## [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.

### [CD2AP is Co-Expressed with Tropomyosin-Related Kinase A and Ras-Related Protein Rab-5A in Cholinergic Neurons of the Murine Basal Forebrain](#)

Lindsey Avery Fitzsimons, Mohammad Atif-Sheikh, Jayden Lovely, Madison Meuth, Makaela Rice, Kevin Kotredes, Gareth Howell, **Benjamin J Harrison**.

bioRxiv 2024.07.24.604961

doi: <https://doi.org/10.1101/2024.07.24.604961>

## Regional/National/International Presentations

### **Research Talks:**

#### **9th National IDeA Symposium of Biomedical Research Excellence (NISBRE)**

Washington DC June 17-19, 2024

**Presenter: Harry Filippakis, PhD**

**Presentation Title:** Therapeutic targeting of Tryptophan-mediated Macropinocytosis in Tuberous Sclerosis Complex

**Authors:** Sarah Lafleur, Windrie Cox, Aidan McGrath-Conwell, Elizabeth P. Henske, **Harilaos Filippakis**

### **Poster Presentations:**

ARVO Annual Meeting, June 2024

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

Rachelle Mendola; Samuel S Reynolds; Clark Glory; Ken E.B. Niyonkuru; William R Renthal; **Ian D Meng**

9th National IDeA Symposium of Biomedical Research Excellence (NISBRE)

Washington DC June 17-19, 2024

**Presenter:** Denise Giuvelis

**Poster Title:** Unleashing the Potential of UNE's Rodent Behavior Core.

**Co-Authors:** **Tamara King, Ian Meng**

Holler M, Rozhkova E, Novosad V, **Wood S**. *A Novel Method for Studying Mechanotransduction: Complex Force Frequency Application Using Magnetic Vortex Microdiscs*. 2024 Summer Biomechanics, Bioengineering, and Biotransport Conference (SB<sup>3</sup>C), Lake Geneva, WI.

Smith S, **Wood S**. *Building Homemade Optical Tweezers to Study the Mechanical Forces of the Chondrocyte Cytoskeleton in the Context of Osteoarthritis*. 2024 Summer Biomechanics, Bioengineering, and Biotransport Conference (SB<sup>3</sup>C), Lake Geneva, WI.

Mirazi H, **Wood S**. *Modeling human joint health and disease: A four-cell co-culture chip approach under varied fluid shear stress*. 2024 3rd Microphysiological Systems World Summit, Seattle, WA.



## New Funding

Congratulations to **Dr. Tamara King** on being awarded three new NIH grants. Each of the grants and a blurb about her work can be found here:

NIGMS R16GM153601

PI: **Tamara King**

June 2024-May 2028

“Mechanisms underlying sex differences in emergence of advanced osteoarthritis pain”  
*This grant explores whether pathological changes in innervation of the OA joint and adjacent muscle determines transition between mid-stage and advanced OA pain and whether this occurs in a sex dependent fashion that increases susceptibility of females to develop more severe OA joint pain.*

NINDS 1R61NS133264

MPI: **Tamara King**, Rebecca Wachs (corresponding)      September 2024-August 2026

“Validation of a Translational Model of Chronic Discogenic Low Back Pain”

*Chronic low back pain is a leading cause of chronic pain and has a substantial economic impact in the United States. Treatments for disc-associated low back pain exhibit poor long-term efficacy highlighting an important unmet medical need. Our work will develop a novel model of chronic low back pain that sufficiently mimics human patients, to screen therapeutics more accurately for treatment.*

NINDS R61NS136569

PI: Laura Stone; Subaward PI: **Tamara King**

September 2024-August 2026

“Development and Validation of a Mouse Model of Intervertebral Disc Degeneration-Induced Low Back Pain to Facilitate Non-Addictive Analgesic Discovery”

*Low back pain (LBP) is a leading cause of disability worldwide with many cases attributed to degenerating intervertebral discs (IVD). The objective of this proposal is to develop a preclinical model of discogenic LBP that recapitulates the etiopathogenesis and progression of clinical discogenic LBP, to support new therapeutics for LBP.*

Contract Awarded:

**Dr. Tamara King** received a contract from EydisBio to examine whether a proprietary compound blocks paclitaxel-induced hind paw hypersensitivity in male mice.

## In the News

**Geoffrey McCullen, MD** was interviewed by US News and World Report regarding orthopedic surgery practice and training. He along with two UNE COM third year students provided information for the reporter. The link to the article can be found here:

<https://www.usnews.com/education/best-global-universities/articles/how-to-prepare-academically-to-become-an-orthopedic-surgeon>