

TRANSFORMATIVE STUDENTS RESEARCH LEARNING CONFERENCE 2024

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Departments of Biology and Psychology, Rivier University



The Transformative Learning Conference (TLC) is an annual event where senior students majoring in Biology and junior or senior students majoring in Psychology are proud to showcase innovative research projects. This conference is not just a platform for presentation but a celebration of the creativity, dedication, and academic rigor our students bring to their fields of study.

We are thrilled to present a diverse array of projects that span across a variety of topics relevant to biomedical, environmental, and psychological areas of science. Each project, a testament to the transformative journeys of our students, has the potential to make a real-world impact. They have pushed the boundaries of knowledge, tackled complex problems, and proposed solutions that could lead to significant changes in their respective fields.

Our students becoming excellent scholars became especially evident in the last two years when the Rivier University Biology department became a part of the New Hampshire IDeA Network of Biomedical Research Excellence (NH-INBRE). First, being part of NH-INBRE enabled us to expand the financial support for undergraduate research, which resulted in conducting more sophisticated experimental work. Second, students who have been trained to work on research projects funded by NH-INBRE become mentors to the students who have just entered a research field.

It is truly amazing to observe the transformation of students who had little knowledge of the research process and procedures at the start of this journey into confident, knowledgeable, and passionate researchers.

This conference is a testament to the power of undergraduate research in shaping the thinkers and leaders of tomorrow. It provides our students with the invaluable opportunity to engage in meaningful dialogue, receive feedback from their peers and faculty mentors, and further refine their research and critical thinking skills.

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Irelynn Mullen, a junior Biology major, presents her research to Dr. Mihaela Malita

TLC24 Conference resulted in the presentation of eleven research projects that have been conducted by 12 students. All students presented their research during the poster session. Four abstracts, reflecting the results of the most accomplished projects, have been selected for oral presentations (see below).



Kelly Janerico '24, a Psychology major, after her successful presentation "The 'Bouba-Kiki' Effect on Visualizing Faces".



Danielle Clement, a senior Biology major, presents her research "Survey of freshwater turtles in Salmon Brook, Nashua, New Hampshire, USA".



Aaron LePoer, a senior Biology major, receives his achievement certificate from Professors Shanna Demers, Leila Jabbour, and Tatiana Jones.



Alexandria Williams and Kayla Lyle, senior Biology majors, present their research.

SHANNA DEMERS, Assistant Professor of Biology, obtained a Master of Science in plant pathology from North Dakota State University and a Master of Science in environmental studies from Antioch University. She is pursuing her doctorate at Antioch University. Demers is broadly trained as an ecologist. Her current research is focused on population dynamics of freshwater turtles in urban ponds and the role cryptogams (mosses/lichens) play in vascular plant succession following disturbance. Her passion is to encourage curiosity and wonder about the natural world and how it works.

Dr. LEILA JABBOUR, Associate Professor of Biology, earned her Bachelor of Science degree in cell biology (biochemistry minor) from Sorbonne University and her Ph.D. in anatomy (molecular biology) from Case Western Reserve University, where she also completed a post-doctoral fellowship on Huntington's disease. With 23 years of academic experience, she teaches anatomy and physiology to undergraduate and graduate students and has received several teaching awards. Her research on the effects of opioids on the human brain has led her students to present at national conferences. Dr. Jabbour has been a panelist and speaker at many community events focused on drug use disorder awareness.

Dr. EMLEE C. KOHLER, Associate Professor of Psychology, received her graduate training in the biological roots of Alzheimer's disease from Bowling Green State University. While maintaining her interest in memory disorders, she has become a psychology generalist due to her wide array of interests. Her past research focused on homing pigeons and the biochemical and neurological mechanisms of aging and Alzheimer's disease. Currently, her research efforts are centered on the scholarship of teaching and learning, specifically the use of manipulatives in teaching and the reading abilities of college-level students.

Dr. BRIAN PATENAUE has been part of the Division of Arts and Sciences at Rivier University since August 2020. Brian earned his B.S. in Mathematics and B.S. in Physics from the University of New Hampshire in 2009. He then went on to work in industry for five years prior to returning to academia. Brian earned his Ph.D. in Inorganic Chemistry from the University of New Hampshire in May 2020. During his time at the University of New Hampshire, Brian's research focused on generating small molecule and polymeric model systems for hydrogenase enzymes and heme proteins.

TATIANA JONES, M.D., Ph.D., Assistant Professor of Biology, obtained her M.D. at First Pavlov's State Medical Institute; she completed her clinical postdoctoral training in rheumatology and obtained her Ph.D. in clinical immunology at Military Medical Academy in Leningrad (St. Petersburg), Russia. She has 17 years of experience working as a practicing physician and rheumatologist. After moving to the United States in 2000, Dr. Jones worked at Harvard Medical School performing research in immunology. She joined Rivier University in 2020. Since 2021, she has been a Principal Investigator on NH-INBRE grants. Her research interest is the influence of extracellular (ex)RNA on the inflammatory profile of macrophages.