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FOREWORD

Undergraduate students at Washington University in St. Louis engage in research in a wide variety of disciplines and areas of study. Mentored by faculty who are dedicated to the training of future scholars, students conduct research that may lead to solutions to many of today's pressing social problems, to new interpretations of the past, as well as creation of new knowledge. In many cases, their research may even lead to new questions to be studied by future investigators.

Of the students whose work is contained in this volume of the *Washington University Undergraduate Research Digest*, some conducted research in St. Louis while others traveled abroad. They worked over the summer and into the school year. They spent hours in the field, in laboratories, in libraries, collecting, analyzing and interpreting data. They have written theses, published papers, and presented findings. Consider the work of the authors of our feature articles:

Luke Churchill explores the role of conscious and unconscious semantic activation, helping gain new insights that provide great relevance in academic contexts including memorization-based learning. His research and others like it that explore the processes that drive retrieval will help policy-makers and educators alike to better design classes and pedagogical techniques for a new generation of students.

Michael Seitanakis and Ryan Wahidi both conducted research in the area of physics. Seitanakis investigates a novel way to couple a ruby spin ensemble to a double post reentrant three-dimensional copper cavity. His findings open new avenues using nano-fabrication techniques to construct superconducting quantum circuits and aid future research focused on understanding and controlling open quantum systems. Wahidi's investigation of a sample-thickness dependence, comparing his simulation to experimental results previously reported, will permit researchers to understand the underlying physics of the observed anomaly in bone sonometry studies.

These feature articles and the many students whose abstracts follow could not have conducted their research without dedicated faculty mentors, whom we owe a debt of gratitude. We also gratefully acknowledge the work of the Peer Review Board in carefully editing our feature articles. Finally, we invite you to enter the world of research at Washington University and become inspired by the works herein.

Respectfully,

A handwritten signature in black ink that reads "Lindsey Paunovich". The signature is written in a cursive, flowing style.

LINDSEY PAUNOVICH

Editor