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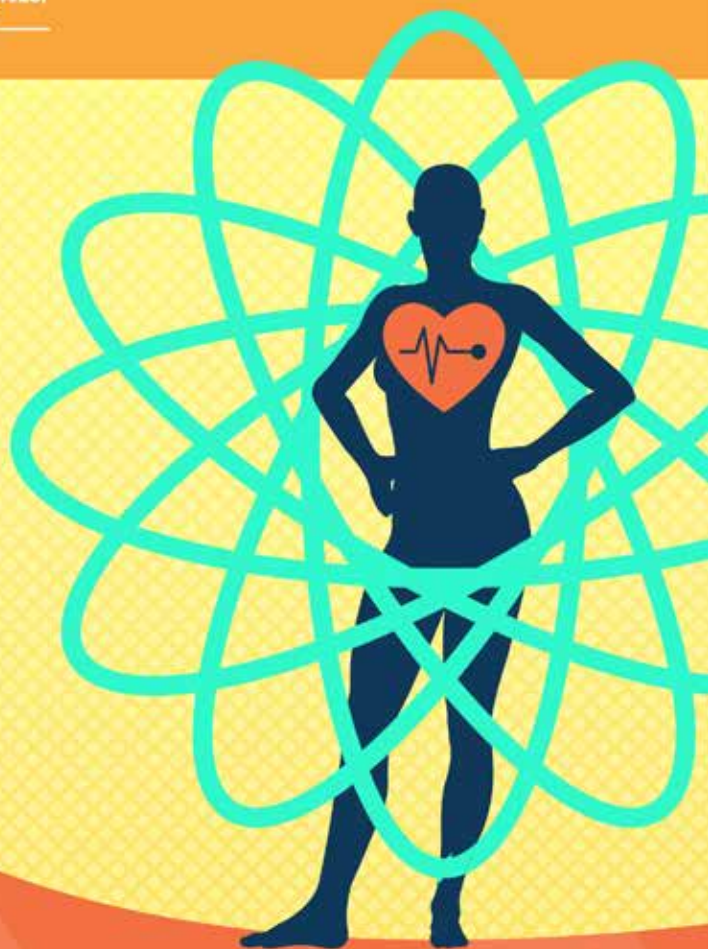
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AUG 1
SEERLEY HALL



2014
SUMMER

UNDERGRADUATE RESEARCH SYMPOSIUM

featuring guest speaker

DR. MICHELLE HEALY STOFFEL

University of Kansas
Medical Center

FROM A SUMMER OF RESEARCH
TO A LIFETIME OF LEARNING:

How My UNI Experience Inspired Pursuit of a Career as a Physician-Scientist

A MESSAGE FROM DR. JOEL HAACK
Dean, College of Humanities, Arts and Sciences

There is no substitute for undergraduate research in any undergraduate science major.

In the College of Humanities, Arts and Sciences at the University of Northern Iowa, we encourage undergraduate students to pursue research. Our faculty members are both interested and eager to work with students. In the traditional classroom-based curriculum, there is nothing quite equivalent to these research opportunities. In many classes, students learn the results of scientific disciplines, but have little opportunity to do science themselves. In other classes, instructors have carefully planned assignments to give their students some sense of what it means to do science, to participate in the disciplinary community, but these projects typically have a fixed time frame, often do not begin with questions the students have generated, and may present only limited opportunities to share what is learned with their disciplinary community. Only in a full-scale research opportunity are students able to experience the entire scientific process.

Here at UNI, students experience the entire process of research as it typically occurs—ask a question or formulate a project, apply for support for the funds required to pursue the project, carry out the research, then make a public presentation of the results. I congratulate all those involved with this celebration of the hard work, and of the joy, of doing science.

(Adapted from a column in the American Journal of Undergraduate Research, June 2007.)



CONFERENCE SCHEDULE

11:00 AM

WELCOME

Dr. Joel Haack

Dean, College of Humanities, Arts and Sciences
Seerley 115

11:15 AM

KEYNOTE

Dr. Michelle Healy-Stoffel

University of Kansas Medical Center

"From a Summer of Research to a Lifetime of Learning:
How My UNI Experience Inspired Pursuit of a Career
as a Physician-Scientist"

Dr. Michelle Healy Stoffel graduated from UNI in 2004.
She is in the MD/PhD program at the University of Kansas
Medical Center.

12-1:30 PM

EXHIBIT OF POSTERS

LUNCH

Seerley Great Reading Room

Participants & Poster Locations

Alex P. Meirick and Dr. Marek K. Sliwinski (Biology)
Analysis of Archaea that Inhabit Soil Particles of Varying Size

Allison Dreyer, Dr. Carl Thurman and Dr. Peter Berendzen (Biology)
Funded by the Myrna and Gary Floyd Undergraduate Research Assistantship
Who's Your Crawdaddy? Genetic Identification of Crayfish Species of the Cedar River Basin

Brittnie Dotson and Dr. Kavita Dhanwada (Biology)
Cell Cycle Distribution of HepG2 Cells Exposed to Atrazine Metabolites DEA and DIA

Celeste Underriner and Dr. Darrell Wiens (Biology)
Funded by the Myrna and Gary Floyd Undergraduate Research Assistantship
Graded Response of Dorsal Root Ganglion Neurons to Increasing Concentrations of Folic Acid

Elizabeth A. McCulloch, Dr. Kavita R. Dhanwada (Biology), and Dr. Martin Chin (Chemistry and Biochemistry)
Funded by the Dr. Robert and Brenda Good Undergraduate Research Fellowship in Biology
Effect of Cp2Ru2(bipy)2(DMSO)2 on Growth of Human Liver Cells

Hallie Kuchera and Dr. Kenneth Elgersma (Biology)
The Significance of a Significant P-Value: Does Sample Size Change P-Value Interpretation?

Haley Stevens, Dr. Peter Berendzen and Dr. Carl Thurman (Biology)
Do Crayfish from the Same Location have Identical Patterns of Daily Activity?

Participants & Poster Locations

Jade A. Simpson, Dr. Kavita R. Dhanwada (Biology), and Dr. Nalin Goonesekere (Chemistry and Biochemistry)
Analysis of Protein Expression in Human Tumor Cell Lines as Potential Biomarkers for Pancreatic Cancer

Libby Torresani, Stephanie Pappe, and Dr. Mark Myers (Biology)
Grassland Bird Nest Survival in Perennial Agroenergy Crops

Mauricio Leon*, Allison Dreyer, Jeremy Corbett*, Audrey Cooper*, Haley Stevens, Leander Scott*, Dr. Carl Thurman, Dr. David McCullough*, Dr. Peter Berendzen, and Dr. Eric Merten* (Biology)
Distribution and Ecology of Crayfish within the Upper Cedar and Middle Wapsipinicon River Drainages of NE Iowa
*Wartburg College

Peter Ickes and Dr. Kenneth Elgersma (Biology)
The Effectiveness of Burning, Mowing, and Herbicide Application in Managing Invasive Cattail Spread and Growth

Sigrid Walter and Dr. Darrell Wiens (Biology)
Effects of Valproic Acid on Embryonic Neural Development

Stephanie Paape, Libby Torresani and Dr. Mark Myers (Biology)
Ground Beetle Abundance in Switchgrass and Prairie Agroenergy Crops

Zachary Kockler, Jordan Koos and Dr. Mark Sherrard (Biology)
Plant Nitrogen Use in Bioenergy Feedstocks

Participants & Poster Locations

Alex Smith, Dr. Nalin Goonesekere (Chemistry and Biochemistry), and Dr. Kavita Dhanwada (Biology)
Evaluating the Expression Levels of Four Putative Biomarkers in a Panel of Pancreatic Cancer Cell Lines by qPCR

Allison Wold, Sarah Eikenberry, and Dr. Melisa M. Cherney (Chemistry and Biochemistry)
Probing the Identity of the Distal Heme Ligand in Cys80 Variants of Iso-1-cytochrome c

Angela Schmitt, Dr. Joshua Sebree, and Quentin Pavic (Chemistry and Biochemistry)
Understanding Titan's Surface Chemistry through Laboratory Simulations, Part 1: Engineering and Automation

Katie Fay, Dr. Kavita R. Dhanwada (Biology), and Dr. Martin R. Chin (Chemistry and Biochemistry)
Growth Effects of Cp2Ru2(phen)2 on Human Cells

Kylene Carlson and Dr. Colin Weeks (Chemistry and Biochemistry)
Molecular Sponges: Crystals and their Liquid Sorption Properties

Madeline Hartman and Dr. Sarah Boesdorfer (Chemistry and Biochemistry)
The Effects of Engineering Experiences on Preservice and In-service Teachers

Miki Freese, Sean Steinke, and Dr. Eric Peterson (Chemistry and Biochemistry)
Modulation of Protein Stability Using Hofmeister Ions: The Folding Pathway of Urea-denatured Cytochrome c

Participants & Poster Locations

Quentin Pavic, Dr. Joshua Sebree, and Angela Schmitt (Chemistry and Biochemistry)
Understanding Titan's Surface Chemistry Through Laboratory Simulations, Part 2: Synthesis and Analysis

Rachel Kunst and Dr. Jeff Elbert (Chemistry and Biochemistry)
Synthesis of Organic Derivatives to Demonstrate Localized Drug Delivery

Raphaël Durand, Alyssa Johnson and Dr. Martin Chin (Chemistry and Biochemistry)
Synthesis and Reactivity of Diruthenium Dihydride Complexes

Robin Livermore and Dr. Sarah Boesdorfer (Chemistry and Biochemistry)
Impact of Cost on Chemistry Laboratory Teaching Practices

Sarah Eikenberry, Allison Wold, and Dr. Melisa M. Cherney (Chemistry and Biochemistry)
Measuring the Stability of Iso-1-cytochrome c Variants Using Heme Spectra

Sean Steinke, Miki Freese, and Dr. Eric Peterson (Chemistry and Biochemistry)
Modulation of Protein Stability Using Hofmeister Ions: The Thermal Folding Pathway of Cytochrome

Tori Quist and Dr. Dawn Del Carlo (Chemistry and Biochemistry)
Comparison of Life Experiences of Men and Women in the Sciences

Participants & Poster Locations

Ashley Lembke and Dr. Mohammad Iqbal (Earth Science)
Movement of Agriculturally Derived Nitrate from Its Source to Surface Water: Mitchell and Floyd Counties, Iowa

Chad J. Dentlinger and Dr. Alexa R.C. Sedlacek (Earth Science)
Strontium Isotope Stratigraphy of the Permian-Triassic Boundary of Taskent, Turkey: Stage One- Determining Preservation of Seawater Trends

Benjamin Castle and Dr. Adrienne Stanley (Mathematics)
Meta-Lindelöf Scattered Spaces and D-spaces

Jacqueline Rowland and Dr. Suzanne Riehl and Dr. Olof B.Steinhorsdottir (Mathematics)
Routes to Proportional Reasoning: Exploring Student Strategies

Mark Ronnenberg and Dr. Bill Wood (Mathematics)
Constructions and Properties of Cube Tilings with Application to Discrete Extremal Length

Mojtaba Al Fardan and Dr. Sarah M. Diesburg (Computer Science)
Analysis of Deletion Habits on Used USB Thumb Drives

Andrew Folken and Dr. Tim Kidd (Physics)
Synthesis of Carbon Nanotube / Nanocellulose Composites

Casie Means-Shively, Chao Ji, and Dr. Rui He (Physics)
Raman Studies of Vibrational Properties of Doped Topological Insulators

Participants & Poster Locations

Eric Clausen and Dr. Tim Kidd and Dr. Rui He(Physics)
Funded by the Mel and Rosalie Dostal Undergraduate Research Fund
Simultaneous Synthesis of Nanoscale Carbon and Molybdenum Disulfide via Ultrasonic Cavitation

Gaihua (Sebastian) Ye and Dr. Andrew Stollenwerk (Physics)
Exploring the Complex Mechanics of Six Legged Movement

Jessica Thatcher and Dr. Andrew Stollenwerk (Physics)
Robotic Prosthetics: Interfacing Electronics with Biology

John Danker, Dr. Tim Kidd and Dr. Paul Shand (Physics)
Dr. Laura Strauss (Chemistry and Biochemistry)
Superspin Glass Behavior of Nanostructured Mn-Intercalated TaS₂

Matthew Cook and Dr. Andrew Stollenwerk (Physics)
Funded by the Intermann Undergraduate Research Fellowship in Physics
Electron Injection into Finite Layer Materials

Zhipeng Ye, Dr. Tim Kidd, and Dr. Rui He (Physics)
Funded by the Mark and Sharon Butterworth Undergraduate Research Fellowship in Physics
Studies of Monolayer MoS₂/WSe₂ Heterostructures

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