

Denise M. McGuire, Biological Sciences professor remembered for inspiring students to do research.

Award promotes student research

The college initiative to encourage collaborative research among students and faculty was bolstered by the 2005 and 2006 Denise M. McGuire Student Research Award.

The annual award process requires applicants to submit formal, written research proposals. Each applicant's faculty sponsor must also submit a document that rates the student's research acumen.

The process produced 12 winners in 2005 and 15 in 2006. Chosen by the Applied Research Committee members who evaluated each proposal and sponsor document, the recipients received recognition at a ceremony held in conjunction with the university's Student Research Colloquium. They also received a keepsake certificate and a monetary sum.

Since 2002, the award has been a memorial to McGuire, a faculty member of Biological Sciences from 1986 until her death in 2002.

The award process is facilitated by the Applied Research and Development Center (ARDC) under the supervision of Dale Williams, the associate dean. The ARDC is located in Headley Hall (HH) 227A. Funding for the DMMSRA is supplied by the Dean's Office.

2005

Roderick Bovee: A Geochemical Survey of Saint Cloud Granites and Basalts

Faculty Sponsor(s): Kate Pound, Chemistry

Megan Cleland: Anti-cancer Activity and DNA Interaction Studies of Ruthenium Metal Complexes

Faculty Sponsor(s): Lakshmaiah Sreerama, Chemistry

Matthew Gesmundo: Molecular Spectroscopy of Comet Machholz

Faculty Sponsor(s): Maria Womack, Physics, Astronomy and Engineering Science

Shourjo Ghose: Genomic Analysis of Human Breast Adenocarcinoma MCF-7 Cell Line Resistant to Ottelione A (MCF 7/ottA)

Faculty Sponsor(s): Lakshmaiah Sreerama, Chemistry

Dennis Hansen: The Effects of Alkyl Phenol on the Diatom, *Melosira varians*; a Proteomics Study

Faculty Sponsor(s): Matthew Julius, Biological Sciences

Theresa Iverson: Correlating the Appearance of Pioneer Gobioid Fish Species with Pacific Island Formation using Molecular Clock Techniques

Faculty Sponsor(s): Matthew Julius, Biological Sciences

Steve Kron: Differential Expression of Proteins in Ottelione A Resistant Human Breast Carcinoma Cells

Faculty Sponsor(s): Lakshmaiah Sreerama, Chemistry

Alyssa Nguyen: Anticancer Activities and DNA Interactions of Ruthenium Benzimidazole Complexes

Faculty Sponsor(s): Lakshmaiah Sreerama, Chemistry

Mohammad Salad: Detoxification of Chloroacetaldehyde by Class 9 Aldehyde Dehydrogenase (ALDH9A1) Present in Human Kidney

Faculty Sponsor(s): Lakshmaiah Sreerama, Chemistry

Sarah Sewell: Urban Effects on Nutrient Loading of the Sauk River within the St. Cloud Metro Area

Faculty Sponsor(s): Michner Bender, Environmental and Technological Studies

Jordan Vincent: Hydrothermal Synthesis and Characterization of Vanadium-Flavonoid Complexes

Faculty Sponsor(s): Mohammad Mahroof-Tahir, Chemistry

Emily Wessel: Role of ALDH1A1, ALDH2, and ALDH3A1 in the Metabolism of Benzoyloxyacetaldehyde

Faculty Sponsor(s): Lakshmaiah Sreerama, Chemistry

2006

Justin Bushkofsky: Chemistry of Vanadium-Flavonoid Complexes: Potential Antidiabetic Properties

Faculty Sponsor(s): Mohammad Mahroof-Tahir, Chemistry



Roberto Cediel: Red and White Muscle Fiber Distribution in Two Species of Climbing Hawaiian Freshwater Fishes (Gobiidae)

Faculty Sponsor(s): Heiko Schoenfuss, Gordon Schrank, Biological Sciences

Jacob Galzki: Analysis of Nutrient Loading and Fecal Coliform Contamination of the Sauk River

Faculty Sponsor(s): Michner Bender, Environmental and Technological Studies

Alima Gikineh: Assessing the Effects of Biogenic Silica Binding to 4-Nonylphenol in Diatoms

Faculty Sponsor(s): Matthew Julius, Biological Sciences

Rainer Grant: Mutagenicity of Ethylene Glycol Ethers Aldehydes and Acids

Faculty Sponsor(s): Lakshmaiah Sreerama, Chemistry

Quinn Kurtz: Expressed Gene Sequencing of *Toxoplasma gondii*

Faculty Sponsor(s): Christopher Kvaal, Biological Sciences

Katharine Lentz: Potential Latent Fingerprinting Techniques Based on Binding/Complexing Properties of 8-Quinolol Sulfate and Coomassie Brilliant Blue G Dye

Faculty Sponsor(s): Lakshmaiah Sreerama, Chemistry

Catherine Lyon: Pharmacological Effects of *Cimicifuga racemosa* on Rat Uterine Contractility

Faculty Sponsor(s): Maureen L. Tubbiola, Biological Sciences

Ian Penniston: Identification and Characterization of Aldehyde Dehydrogenase in Fathead Minnow Tissues

Faculty Sponsor(s): Lakshmaiah Sreerama, Chemistry

Meggan Potocek: Analysis of Royal Gala and Granny Smith Apples Via Single-Drop Microextraction and Solid-Phase Microextraction

Faculty Sponsor(s): Michael Jeannot, Chemistry

Andrew Roering: Photochemistry of Phenyl and Phenethyl Isothiocyanates

Faculty Sponsor(s): Daniel Gregory, Chemistry



Jake Galzki samples the Sauk River to analyze the nutrient loading and fecal coliform contamination.

Mohammad Salad: Cloning and Characterization of Class 9 Human Aldehyde Dehydrogenase (ALDH9A1)

Faculty Sponsor(s): Lakshmaiah Sreerama, Chemistry

Abbey Sjogren: Purification and Crystallization of Human Aldehyde Dehydrogenase-1A1 in the Presence of Resveratrol

Faculty Sponsor(s): Nathan Winter, Chemistry

Wai Wong: Neurotransmitter Regulation of Hypothalamic and Pancreatic Gonadotropin-Releasing Hormone (GnRH) Secretion

Faculty Sponsor(s): Oladele S. Gazal, Biological Sciences

Joseph Storlien: Lawn Turf Response to Soil Amino Sugar Nitrogen Concentration

Faculty Sponsor(s): Michner Bender, Environmental and Technological Studies



Joe Storlien observes lawn turf response to soil amino sugar nitrogen concentration in the Environmental Soils Center in Headley Hall.