

BIO BITS

Biology News

GREETINGS FROM THE SCIENCE CENTER!



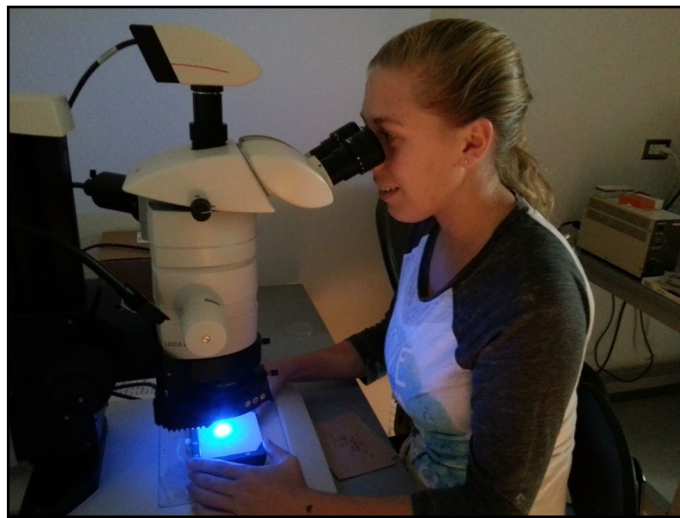
The Biology and Chemistry departments moved into their new home in the summer of 2014. This beautiful 92,000 square foot, four story building is surrounded by a stunning courtyard and connects to Houghton Hall. The Science Center features flexible teaching spaces that allow seamless movement from lectures to small group collaborative learning opportunities. Social learning spaces, including a café, study alcoves and a reading room spark creative collaborations.



The \$60 million Science Center boasts \$4.2 million worth of new equipment, 16 research labs, 10 teaching labs, two computer labs, a 120 seat auditorium, three classrooms, a café adjacent to the main lobby, a student reading room, a second floor outdoor terrace, three conference rooms, a greenhouse and an observatory. We think the Fredonia Biology Department offers the most up-to-date facilities, cutting edge instrumentation and technology of any undergraduate biology department in New York State.

A main goal of the university strategic plan is to offer a transformative learning experience to students, the Science Center clearly affords this opportunity to our students. Please stop by and visit us!

For additional information about the building, see <http://home.fredonia.edu/sciencecentercomplex>



ALUMNI NEWS

Homecoming 2014

Science Center Dedication

On the morning of October 17th, Fredonia President Virginia Horvath led hundreds of students, alumni, faculty, staff administrators, members of NYS governance and community members in a celebration of the remarkable complex. After the formal dedication of the building, close to 30 spaces within the building were dedicated in honor of accomplished alumni, retired faculty and friends of Fredonia. Spaces were named for Biology Emeritus Professors Allen Benton, Kevin Fox, Ken Mantai, Ken Wood and former faculty member Tom Storch; Biology alumni Joe and Jane (Schuster) Falcone, Michael Marletta, Marie Stavrides, and Biology friends the Good Family, Arnold Holmberg, Major Alice Sam, Adele Sam, and Dr. Robert Wettingfeld. Spaces were named by benefactors Joe and Jane (Schuster) Falcone, Tom Fink, the Fox Family, Deborah Good, the Holmberg Foundation, Lake Shore Savings, the Mantai Family, Michael Marletta, Frank Priznar, Barbara and Grace Sam, Jules Silverman, the family of Marie Stavrides, Josephine Wilson, and Shari Yudenfreund-Sujka.



From left, clockwise: President Horvath opening the Science Center Dedication ceremony, Drs. Chris Mirabelli and Jeff Kelly at the dedication dinner, Joe and Jane (Schuster) Falcone cutting the ribbon at the Falcone Greenhouse.

Several naming opportunities remain in this impressive campus centerpiece; please see www.fredonia.edu/sciencecenter/naming.asp for more information.

“Back to the Future: Conversations with Science Alumni”

To continue the celebration, 32 science alumni offered presentations in the new Science Center on Saturday October 18th; well over 100 alums, faculty, students and community members attended the event. Biology alums giving talks included:

- Michael Marletta, PhD, '73, Professor of Chemistry, Scripps Institute
- Norman Karin, PhD, '76, Associate Dean for Graduate Studies, Roswell Park Cancer Institute
- Claire Vasios, PhD, '78, Vice-President, Intellectual Property, Alkermes, Inc.
- Dianne Ritter, PhD, '81, Principle Scientist, Pfizer
- Hugh Share, '82, Senior Global Director, Beer & A Better World, Anheuser-Bush InBev
- Thomas Arnone, PhD, '82, Lead Physician, Unity Family Medicine at Country Village



Alumni conference in the Kelly Family Auditorium.

- Kimberlee Neifer Caldwell, PhD, '87, Professor, Department of Biological Sciences at the University of Alabama
- Mindy McMinn, MD, '91, Medical Director of Palliative Medicine Service, Crouse Hospital
- Todd Tetrault, MA, MT (ASCP), MBA, '92, Commander, Navy Medical Service Corps, U.S. Navy
- Jason Gestwicki, PhD., '97, Associate Professor, Department of Pharmaceutical Chemistry, Institute for Neurodegenerative Disease, University of California at San Francisco
- Alex Ladowski, BS '08, MS '11, Science Department Chair, Mount Mercy Academy
- Lindsey Wittmeyer, MT(ASCP), BS '12, Medical Technologist, University of Rochester Medical Center, Microarray CGH Laboratory
- Steve Gangloff, BS '12, Third year Medical Student, University of Buffalo School of Medicine



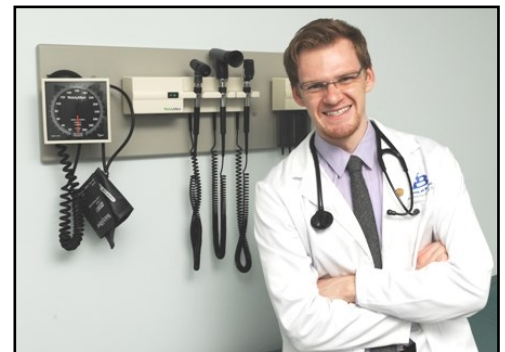
Lindsey Wittmeyer

Homecoming 2015



Nick Dragonette speaking to faculty and students.

Eleven Biology Department alumni currently enrolled in graduate and professional programs returned to Fredonia to give presentations, participate in panel discussions and network with our students. The alums enjoyed seeing the new Science Center and interacting with current students; students greatly appreciated the opportunity to network with the alums and gain insights into graduate and professional programs. The speakers included:



Steve Gangloff

- Malachi Blundon, BS in Molecular Genetics, '10; M.S. in Biology, '12; Cell and Developmental Biology PhD Program, Carnegie Mellon University
- Nicholas Catanzaro, BS in Molecular Genetics, '13; Microbiology PhD program, Virginia Polytechnic Institute and State University
- Maxwell Denies, BS in Biology, '13; Cell and Molecular Biology PhD program, University of Michigan
- Nicholas Dragonette, BS in Biology, '14; University of Buffalo School of Dentistry
- Steven Gangloff, BS in Biology, '12; University of Buffalo School of Medicine
- Maria Green, BS in Biology, '13; Lake Erie College of Osteopathic Medicine, College of Medicine
- David Morris, BS in Exercise Science, '11; Stony Brook University, School of Health Technology and Management, Physical Therapy program
- Jennifer Michelsen, BS in Exercise Science, '12; Occupational Therapy Program, D'Youville College
- Leonard Smith, BS in Exercise Science, '12; Stony Brook University, School of Health Technology and Management, Physician Assistant program
- Megan Szalkowski, BS in Biology, '12; University of Buffalo Accelerated Bachelor of Science in Nursing
- Leah Kerns Webb, BS in Biology, '12; Ohio State University College of Veterinary Science



Leah Kerns Webb

Homecoming 2016

Dr. Chris Mirabelli, '77, will be honored as an Outstanding Alum at the 2016 Homecoming weekend. Chris will be visiting Biology classes on Friday morning and will give his keynote presentation that afternoon.

Dr. Mirabelli has played an important role in the development of medicines used to treat a variety of cancers and autoimmune diseases. He directed an R&D department within Smith Kline & French, and established and directed his own pharmaceutical companies. Chris is currently the Managing Director of HealthCare Ventures, a venture capital firm in Boston that specializes in the pharmaceutical industry. He has been a great friend and benefactor to Fredonia and the Biology department, creating and funding the largest Biology scholarship given to incoming freshmen, the Yunghans-Mirabelli scholarship.



Biology Homecoming Schedule:

Friday, October 21, 2016

- * 3:00 PM: Alumni, faculty and student reception in the Atrium
- * 4:00 PM: Keynote Presentation, Kelly Family Auditorium – Dr. Chris Mirabelli

Saturday, October 22, 2016

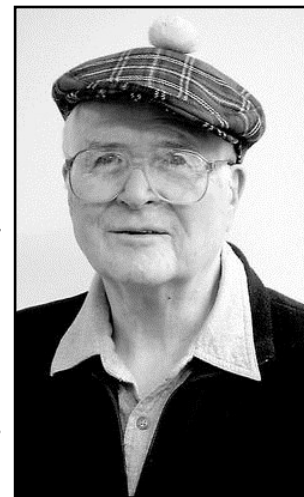
- * 9:00 – 10:30 AM: Biology Alumni Breakfast, Major Alice Sam Conference Room. Building tours will be available.
- * 10:00 AM – 4:00 PM: Fredonia Mini Maker Faire. The Faire is sponsored by the State University of New York at Fredonia, the Fredonia Science Center and our local BOCES. It will be held in the Science Center, Jewett Hall and the Williams Center. The Maker Faire is considered the 'Greatest Show (and Tell) on Earth' where makers, artists, inventors, tinkers and performers show what they are making and share what they are learning. Additional information can be found at <https://makerfairefredonia.com/>

We enjoy hearing from our alums! Please let us know what you are doing and we will add it to our alumni webpage.

Emeritus Faculty

We were saddened by the passing of Dr. Allen Benton on September 29, 2014 and Dr. Moti Sharma on October 14, 2014. They are deeply missed by family, former colleagues and students, and friends.

Dr. Allen Benton was born in Cato, NY in 1921. He received his Bachelors, Masters and PhD degrees from Cornell University and served as a combat soldier with the 112 Calvary Regimental Combat Team in WW II. Allen was a professor in the Biology Department at Fredonia for 22 years and was the first Fredonia faculty member to receive the NYS Distinguished Teacher Award. Dr. Benton served as department chair and taught classes in numerous fields of biology. He was a highly respected educator and authored several books, a multitude of research articles, newspaper columns and books of poetry.



Dr. Moti Sharma was born in India in 1920. He received his Bachelor's degree from Lucknow University, India, his Master's degree from Allabad University, India, and his Ph.D. degree from the University of Cincinnati, Ohio. Dr. Sharma was a professor in the Biology Department for 26 years and taught courses in anatomy, physiology and pathophysiology. Moti was very active in the local community, serving as a member of the Dunkirk Fredonia Lions Club and the Torch Club. He was also a member of the Masonic Lodge and served as Secretary and Grand Master.



Dr. Kevin A. Fox sends a message to alums: "I'm looking forward to seeing many of you for Homecoming. I plan to be there for Chris' presentation Friday afternoon and for at least the first hour of the Saturday morning coffee. I hope you are all as pleased as I am with the quality of our new faculty and resources. From what I've seen and heard, Biology remains the premier academic department at Fredonia." You can email Kevin at fox@fredonia.edu.

Dr. Ken Mantai reports the following: 'Hello to all of you alums out there. I can't believe I have been retired almost 11 years! As I look back over my career the thing that made it so satisfying was you former students. I made many lasting friendships and still keep in contact with former students from over 30 years ago. Some of you have even retired! Talk about making me feel old. I am on Facebook so you can contact me there. Have a great life.'



Dr. Ken Wood tells us that "Jean and I live in a small apartment with a view of the tides on Hen Cove, Maine. I have an audience on Facebook that keeps me busy. We recently had a vacation on Molokai, that lonely Hawaiian Island. I also just had a stress test and asked the attendants when they planned to use the high speed! " Ken invites alums to contact him at caldy23@yahoo.com.

Dr. Wayne Yunghans shares the following: 'Not much news on the home front. I have been caring for my granddaughter Emma, who enters kindergarten this fall. I have also been working diligently this spring finishing work on my son and daughter-in-law's house. They hope to enter in July. Best wishes to all.'



DEPARTMENT NEWS

Bill Nye the Science Guy visits Fredonia

Bill Nye was the keynote speaker on September 19, 2014 for the university's annual convocation, which kicked off the opening of the new Science Center. More than 4000 attended the venue that had the feel of a rock concert. In his informative and entertaining talk, Mr. Nye challenged the college students to 'change the world' – a message he has extended to a generation of children. After the presentation, Bill toured the Science Center and met with Biology faculty and students; students took many selfies with their childhood hero! Bill Nye was extremely impressed with the Science Center and the learning opportunities afforded the students – and at a very reasonable price!

Phil Frankino, '16, and Bill Nye



Exercise Physiology Suite

The new Exercise Science Laboratory suite at Fredonia will provide students, faculty/staff and members of the community with state-of-the-art technology and expertise to help individuals achieve their health/fitness and human performance goals. The space is approximately 1500 sq. ft. and there has been a \$300,000 equipment investment for teaching labs and research in the suite. Cornerstone equipment pieces of the lab include:

- BodPod: used for the assessment of body composition and resting energy expenditure.
- Quark metabolic cart: used for the determination of maximal oxygen consumption, pulmonary function, electrocardiography and aerobic capacity.
- Biodex isokinetic dynamometer: determines functional performance of major muscle groups, range of motion of all major joints and torque curves for major muscle groups.
- Noraxon 3Dmotion analysis: 3D motion analysis can be used to track, record and analyze athletic/exercise movements. The system creates a 3Dskeletal model that accurately tracks the subject's movement and can determine joint angles and angular velocities.
- Noraxon wireless electromyography (EMG): measures electrical activity of major muscles and muscle groups.



The suite includes a teaching space with movable tables and chairs, dry erase boards, and screen computer projection. A second space houses large exercise and fitness assessment equipment including several treadmills and cycle ergometers as well as a salivary analysis benchtop lab. There is a dedicated space for the BodPod with attached bathroom including lockers and a shower.

The suite will be used by Exercise Science students in both teaching and research capacities. Teaching labs will introduce students to foundational exercise science protocols for fitness assessment, human performance, and health. Additionally, students engaging in research will be involved in studies investigating optimal hydration for human performance, hormonal response to exercise (via salivary analysis), and muscle activity

during exercise. The new Exercise Science Laboratory suite will provide a great opportunity for Exercise Science students to gain valuable experience working with clients/subjects using state-of-the-art equipment that will be beneficial for their future employment and post graduate plans.

PHun Days!

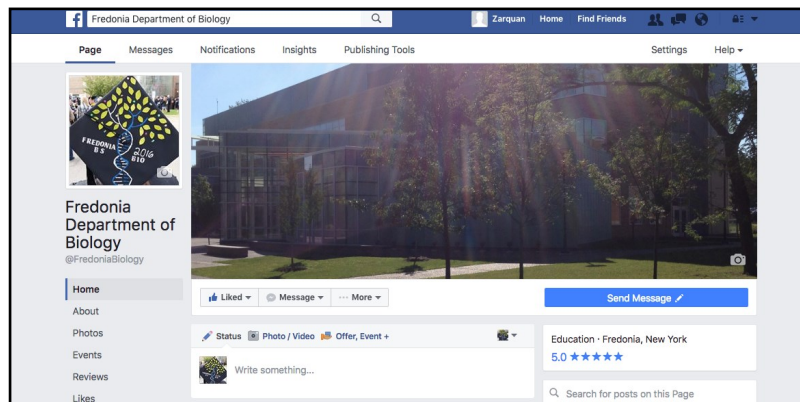
The Biology Department hosted PHun Days for close to 400 Dunkirk Middle School students in the fall of 2014 and 2015. PHun Day activities are a part of the American Physiological Societies national K-12 outreach program to introduce young people to the important role of physiology in their daily lives while encouraging them to explore career options in biology and health related professions. The middle school students thoroughly enjoyed the engaging activities that helped them learn about cardiovascular and muscular systems. Activities were led by Drs. Kathleen Lesniak, Scott Medler, Todd Backes, Fred Harrington, Bruce Tomlinson and a number of Biology Department majors.



Right clockwise, Drs. Medler, Lesniak and Backes with middle school students at PHun Days.

Senior Capstone, we need more internships!

All Biology Department majors are now required to perform a Senior Capstone experience. Many students express interest in performing a Capstone Internship and the Biology Department is looking to expand the number and type of internship opportunities available. If you or your employer are able to offer internships, we would be grateful to know of such opportunities. Please contact me at astray@fredonia.edu.



Web pages and Facebook page

Our webpages have been recently updated, check them out at <https://home.fredonia.edu/biology>. We also maintain an active Facebook at <https://www.facebook.com/FredoniaBiology>

FACULTY and STAFF

New Faces in the Department

Dr. Courtney Wigdahl-Perry joined the Fredonia Biology Department in the fall of 2014 as an Assistant Professor of Biology. Courtney teaches Introduction to Ecology and Evolution lecture and lab, Aquatic Biology and Global Change Biology. Her research focuses on understanding how environmental change influences organisms living in lakes, including different aspects of plankton ecology, lake response to climate change and anthropogenic effects, regional synchrony of such responses, and the influence of physical lake characteristics in shaping food web interactions.



Dr. Kathleen Lesniak joined the Biology Department in the fall of 2014 as an Associate Professor of Science Education and Coordinator of Science Education. Dr. Lesniak teaches undergraduate and graduate level courses for science education majors. Kathy's primary interests are in understanding and enhancing how science teachers develop their knowledge for effective teaching and how to optimize science learning for students of all ages. Dr. Lesniak brings an important and deep understanding of instructional pedagogy to the department.

Dr. Patricia Noel will be joining the Fredonia Biology Department this fall as a Biology Lecturer. Patty will bear primary responsibility for instruction of the freshman Introduction to Ecology and Evolution and Introduction to Cell and Molecular Biology laboratories. She will also serve as the freshman laboratory coordinator. We look forward to Dr. Noel's contributions to the freshman year learning experience for our students.



So long and best wishes

Dr. Roger Byrne assumed the position of the Dean of the Cook-Cole College of Arts and Sciences at Longwood University in Virginia in July 2016. Roger was a faculty member at Fredonia for 25 years and taught courses in anatomy and physiology and performed research in aquatic biology. In addition to being a Professor of Biology, he served as Department Chair, Interim Dean of the College of Liberal Arts and Sciences (CLAS), Associate Dean of CLAS, Director of Campus Assessment, Director of the Science Education Partnership and Coordinator of Middle States. We wish him well in his new position!

Promotions

Mr. Ed McCarrick was promoted to Instructional Support Associate in May 2014. Ed serves the department and institution in critical ways, including maintenance of the stockroom, director of the animal colony, and ordering supplies and equipment. He was our lead person in the purging of Jewett Hall, the ordering of \$2.1 million worth of Biology equipment for the new building, and the move into the Science Center.

Dr. Scott Ferguson was promoted to the rank of Associate Professor in September 2015. Scott teaches a variety of courses in genetics and molecular biology, and is the coordinator of the Molecular Genetics program. He has a very active research lab where his team investigates the control of growth factor translation in *Drosophila*.

Dr. Scott Medler will assume the rank of Associate Professor in September 2016. Scott teaches a variety of courses in anatomy, physiology and neurobiology, and is an integral part of the Freshman Year Experience and the Health Professions Advisory Committees. His research lab is very busy investigating the organization of skeletal muscle and its response to changes in exercise and diet.

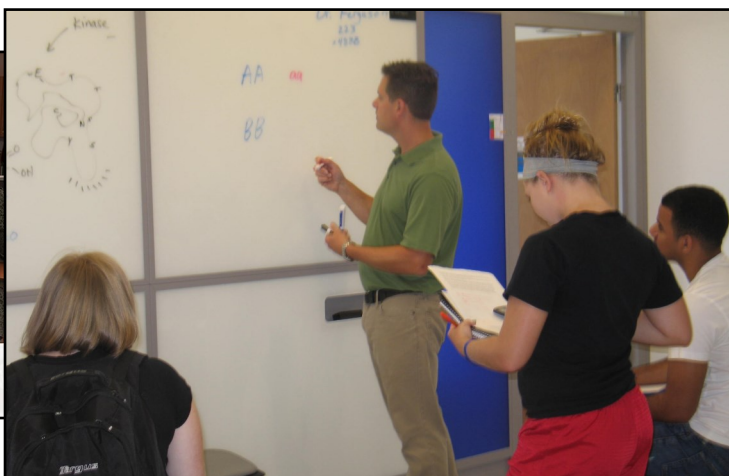
Awards

Dr. Ted Lee received the 2015 President's Award for Excellence in Teaching and offered a presentation entitled "The Evolution of Pharmaceutical Drugs: Teaching Drug Discovery, Development and Mechanism of Action". Ted is the Chair of the Health Professions Advisory Program and performs research on the molecular analysis and identification of microorganisms from aquatic systems.

Dr. Scott Medler was recognized for his scholarly accomplishments when he received the 2015 William T. and Charlotte N. Hagan Young Scholar/Artist Award. Dr. Medler's research focuses on the cellular and molecular organization of skeletal muscles and how these properties change in response to development, exercise and other demands.

Dr. Jon Titus will be recognized for his extensive scholarly achievements in the fall of 2016 when he receives the Kasling Award. Dr. Titus is a plant community ecologist and studies ecological relationships between plants and other organisms. He is a Fulbright scholar and studied the demography of Mountain aloe at the University of Botswana in 2011. Dr. Titus has published 40 peer-reviewed research articles, and has conducted work on 5 funded grants since his arrival at Fredonia 12 years ago.

Mrs. Dawn Hunt received the 2016 Chancellor's Award for Excellence in Classified Service this August. Dawn joined the department as Biology Secretary in 2009, and is well-known for her commitment to excellence, her enthusiasm for the department, her cheerful attitude, and her tireless assistance to faculty and students.



Sabbaticals and Grants

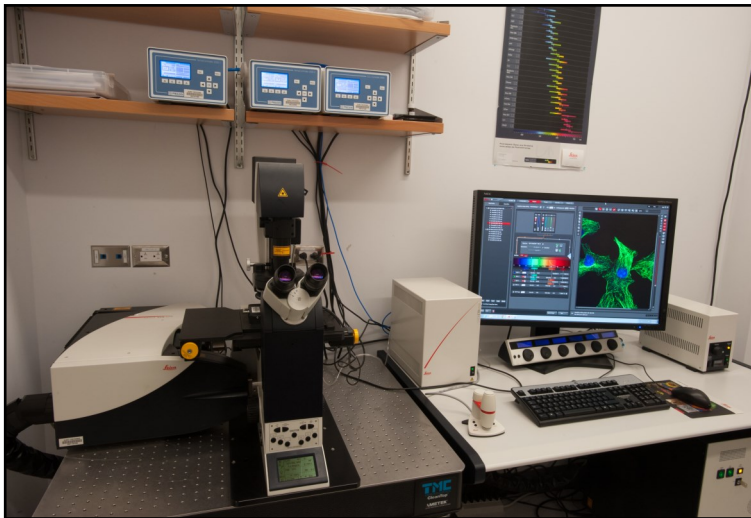
Dr. Courtney Wigdahl-Perry is the recipient of two grants for environmental research. She received a \$10,000. grant funded by the SUNY 4E Network of Excellence to apply high-resolution sensors to monitor water-quality issues in lakes across NYS as part of a SUNY Lakes Ecological Observatory Network. Dr. Wigdahl-Perry and Dr. Sherri Mason (Chemistry Department) received a multiyear New York Sea Grant award for plastic pollution research in Lake Erie. The \$187,000. grant will be used to study the impact of plastic ingestion on lake plankton.

Dr. Ted Lee completed a sabbatical during the fall 2015 semester. The focus of the sabbatical was on community health; specifically to make connections with health care providers to learn about public health in Chautauqua County, to help recruit health care providers to the county and to recruit pre-health students to Fredonia. Towards that end, Ted is working with the Health Services subgroup of the Local Economic Development (LED) team at the Northern Chautauqua Community Foundation.

Dr. Bill Brown has received a Fulbright grant for his fall 2016 sabbatical at the Indian Institute of Science's Centre for Ecological Sciences in Bengaluru, India. Bill specializes in animal behavioral ecology, and will be involved in collaborative research with Rohini Balakrishnan, an expert in bioacoustics and the nature of acoustical communication among insects in natural environments.

Dr. Scott Ferguson has been awarded a sabbatical for the spring 2017 semester. Continuing the work funded by his 2013 NSF grant, Scott will continue to collect data, submit a new NSF grant proposal and develop a manuscript that will elucidate the structure and function of sequences regulating the translation of a gene critical during early development.

College Lodge
Brocton NY



Leica SP8 Confocal Microscope



Dr. Wigdahl-Perry with students at Canadaway Creek.

STUDENT NEWS

2014 and 2015 Student Summer Research

Many students perform research at Fredonia or at other institutions during the summer months, while still others perform summer internships. Fellowships to support summer research in the State University of New York at Fredonia Biology Department come from the Holmberg Foundation Research Award, the Falcone Endowment Fund, the Constantine Barker Memorial Fund, the Dr. Robert Wettingfeld Undergraduate Research Award Endowment, the Yunghans-Dietter Research Award and the Yunghans/Mirabelli Scholarship.

2014 Summer Research - State University of New York at Fredonia

- **Ms. Mona Alabbadi, Taif, Saudi Arabia,** Allelopathic Effects of *Centaurea jacea* On Native Plants Species, Faculty Mentor—Dr. Jonathan Titus
- **Ms. Taylor (Stearns) Coleman, Jamestown, NY,** End of Summer Progress Report on the Effects of Ectoparasitism on a Local Bat Species, Faculty Mentor—Dr. Karry Kazial
- **Mr. Miles DeAngelis, Trumbull, CT,** Molecular Analysis of Microbial Biofilms, Films near Canadaway Creek, Faculty Mentor—Dr. W. Theodore Lee
- **Mr. Benjamin Fuller, Russell, NY,** Analysis of the Microtubule motor K1FC1 in mitotic progression in the Cancer Cell line, UPCI:SCC070, Faculty Mentor—Dr. Nicholas Quintyne
- **Ms. Miranda Gill, Dunkirk, NY,** The Effect of Ectoparasites on the Behavior and Health of Big Brown Bats, Faculty Mentor—Dr. Karry Kazial
- **Mr. Jordan Johnson, Saint Albans, NY,** Determining the Effects of Maternal Obesity on Muscle Fiber Composition of the Offspring, Faculty Mentor—Dr. Scott Medler
- **Mr. Aman Kumar, Bullville, NY,** Oil Accumulation in *C. reinhardtii* Using the Antianginal Drug Trimetazidine and Oxamate to Shift From Lipid Oxidation to Fatty Acid Accumulation by Inhibiting 3-Ketoacyl Coenzyme A Thiolase, Faculty Mentor—Dr. Frederick Harrington
- **Ms. Lindsay Pruitt, Buffalo, NY,** Role of the Microtubule Motor Protein KIF9 in Cell Cycle Progression, Faculty Mentor—Dr. Nicholas Quintyne
- **Mr. Christopher Wemmer, Spencer, NY,** Establishing Long Term Beech Bark Disease Monitoring Plots and Deer Exclosure Plots at the College Lodge, Faculty Mentor—Dr. Jonathan Titus



Taylor (Stearns) Coleman, '15



Miles DeAngelis, '15

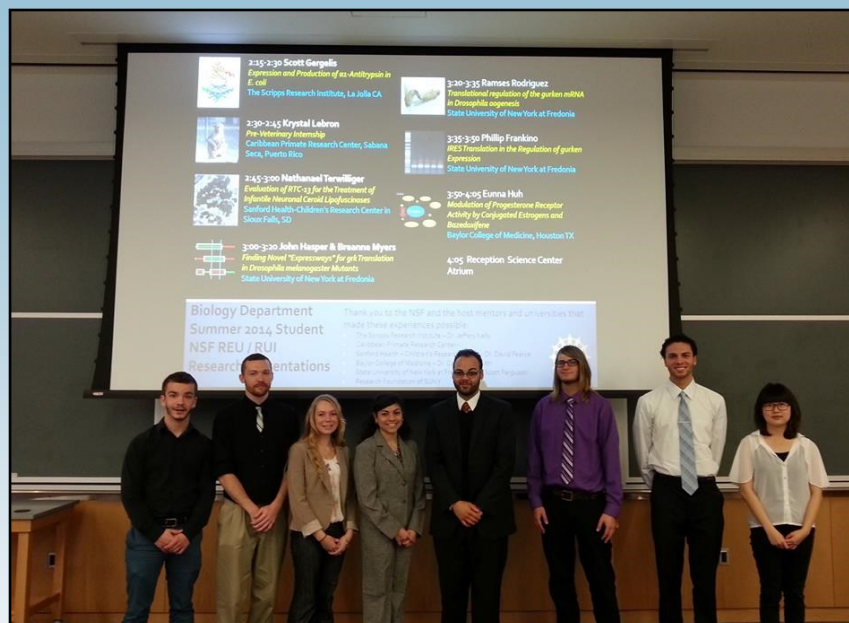


Human Anatomy and Physiology

STUDENT NEWS - continued

2014 Summer Research - Research at Undergraduate Institutions, Research Experience for Undergraduates and Internships

- **Mr. Scott Gergelis, East Amherst, NY**, The Scripps Research Institute, La Jolla CA, Production of α 1-antitrypsin and Stability of its Small Molecule-Mediated Native State, Faculty Mentor—Dr. Jeffery Kelly
- **Mr. Phillip Frankino, Derby, NY**, State University of New York at Fredonia, IRES translation in the regulation of Gurken expression, Faculty Supervisor: Dr. Scott Ferguson
- **Mr. John Hasper, Great Valley, NY**, State University of New York at Fredonia, Finding "Expressways" for Gurken Translation in Novel *Drosophila melanogaster* Mutants, Faculty Mentor—Dr. Scott Ferguson
- **Ms. Eunna Huh, Republic of Korea**, Baylor College of Medicine, Modulation of Progesterone Receptor Activity by Conjugated Estrogens and Bazedoxifene, Faculty Mentor—Carolyn L Smith
- **Ms. Krystal Lebron, Kissimmee, FL**, Caribbean Primate Research Center, Sabana Seca, Puerto Rico, Pre-Veterinary Internship, Faculty Mentor—Dr. Marilyn Arce
- **Ms. Breanna Myers, Seneca Falls, NY**, State University of New York at Fredonia, Finding "Expressways" for Gurken Translation in Novel *Drosophila melanogaster* Mutants, Faculty Mentor—Dr. Scott Ferguson
- **Mr. Ramses Rodriguez, Fredonia, NY**, State University of New York at Fredonia, Translational regulation of the gurken mRNA in *Drosophila* oogenesis, Faculty Mentor—Dr. Scott Ferguson
- **Mr. Nathanael Terwilliger, Geneva, NY**, Sanford Health-Children's Research Center in Sioux Falls, South Dakota, Evaluation of RTC-13 for the Treatment of Infantile Neuronal Ceroid Lipofuscinoses, Faculty Mentor—Dr. David Pearce



2015 Summer Research - State University of New York at Fredonia

- **Ms. Emily A. Bystrak, Lancaster NY**, The Effects of Carcinogens and Antioxidants on Mitotic Defects, Faculty Mentor—Dr. Nicholas Quintyne
- **Mr. Tyler Christensen, Sheridan NY**, Future Mating Expectation of a Male Praying Mantis, Faculty Mentor—Dr. William Brown
- **Ms. Rebecca G. Hartling, Falconer NY**, Induction and Repair of Carcinogen-Induced Mitotic Defects in the Lung Cancer Line A549, Faculty Mentor—Dr. Nicholas Quintyne



Rebecca Hartling, '17

- **Mr. Jeffrey Martin, Derby NY,** Protein Assemblages of Crustacean Muscle Fibers in Different Sized Ghost Crabs and their Effect on Locomotive Ability, Faculty Mentor—Dr. Scott Medler
- **Ms. Breanna Myers, Seneca Falls NY,** The Role of p150^{Glued} in Microtubule Binding, Faculty Mentor—Dr. Nicholas Quintyne
- **Ms. Jennifer Phillips Russo, Fredonia NY,** Changes in Cyanobacteria and Species Composition of the Plankton Community of a Freshwater Lake in Relation to the Existing Water Quality and Experimental Nutrient Addition Bioassays, Faculty Mentor—Dr. Courtney Wigdahl-Perry
- **Ms. Kawthr Y. Sendi, Makkah Saudi Arabia,** The Role of Song in Male-Male Aggression in *Acheta domestica*, Faculty Mentor—Dr. William Brown
- **Ms. Abigail Stavish, Fredonia NY,** Determination of the Mechanism of Induction of Triglyceride Accumulation by Salt and Light Stress in *Chlamydomonas reinhardtii*, Faculty Mentor—Dr. Frederick Harrington

2015 Summer Research - Research at Undergraduate Institutions, Research Experience for Undergraduates and Internships

- **Mr. Joshua M. Blundon, Franklinville, NY,** State University of New York at Fredonia, Translational regulation of the Gurken mRNA, Faculty Mentor—Dr. Scott Ferguson
- **Ms. Tera Douglas, Winthrop, NY,** State University of New York at Fredonia, Forest Structure at College Lodge and Chautauqua County Swamps, Faculty Mentor—Dr. Jonathan Titus
- **Mr. Jorge Escobar, Bay Shore, NY,** Research Experience for Undergraduates, University of Buffalo, Interaction of Zn(II) macrocyclic complexes with G-quadruplexes utilizing PCR stop assay, Faculty Mentor—Dr. Janet Morrow in collaboration with Dr. Matthew Fountain
- **Mr. Phillip A. Frankino, Derby, NY,** The Scripps Research Institute, La Jolla CA, Characterization of a Transthyretm Amyloidosis Model in
- **Ms. Meaghan E. Griffin, Barton, NY,** University of Chicago, Optogenetic Dissection of *Drosophila* Neuroblast Polarization, Faculty Mentor—Dr. Michael Glotzer
- **Mr. John Hasper, Great Valley, NY,** State University of New York at Fredonia, The CA231 Horror Picture Show: Creeping Ever Closer to the Mutation, Faculty Mentor—Dr. Scott Ferguson
- **Ms. Paige E. Jacobs, Kirkville, NY,** University of Nevada, Las Vegas, Effects of Altered Diets on Development and Energy Content of *Drosophila melanogaster*, Faculty Mentor—Dr. Allen Gibbs



Meaghan E. Griffin, '16



Jennifer Russo, '16



Phil Frankino, '16



John Hasper, '16

2015 Summer Research - Research at Undergraduate Institutions, Research Experience for Undergraduates and Internships—continued

- **Mr. Shane R. Murphy, Fredonia, NY**, Skykomish Ranger District, Washington State, SCA and the USFS - My Summer as a Forest Ranger Intern in Mt. Baker-Snoqualmie National Forest, Mentor: Mr. John Robinson, Forestry Technician and Wilderness/Recreation Specialist
- **Mr. Geraldo Polanco, Bronx NY**, Rutgers New Jersey Medical School and Rutgers School of Dental Medicine, Summer Medical and Dental Education Program, Faculty Mentor—Dr. Chaviano
- **Mr. Ramses Rodriguez, Fredonia, NY**, State University of New York at Fredonia, Translational regulation of the Gurken mRNA, Faculty Mentor—Dr. Scott Ferguson

2014, 2015 and 2016 Scholarship Winners



1929 Graduates' Bioethics Award—Leah M. McIsaac, Sandusky, NY; Krystal P. Lebron, Dunkirk, NY; Ian J. Richardson, Camillus, NY

Archer and Mabel Fox Memorial Scholarship—Christopher Eberle, East Amherst, NY; Samantha R. Fleming, East Syracuse, NY; Alison E. Barton, Kirkwood, NY; Brenna C. Donovan, Youngstown, NY; Matthew P. Drake, Bergen, NY

Bruce and Nancy Garlapow Memorial Scholarship—Samantha R. Fleming, East Syracuse; Brenna C. Donovan, Youngstown, NY

Adele Maytum Hunter Scholarship—Allison H. Martin, Fredonia, NY; Maya D. Mills, Brentwood, NY; Kaitlyn A. Crossan, Dunkirk, NY; Mark B. Dudek, Fredonia, NY; Benjamin L. Fuller, Russell, NY; Scott R. Gergelis, East Amherst, NY; Aman Kumar, Bullville, NY; Kerri E. Williamson, North Chili, NY; Cory R. Emborski, Salamanca, NY; Rebecca G. Hartling, Falconer, NY; Zachary Eklum, Jamestown, NY

Herbert and Marion Mackie Memorial Endowment Fund—Christopher R. Wemmer, Spencer, NY; Shane R. Murphy, Fredonia, NY; Brenna C. Donovan, Youngstown, NY

Alice M. Sam Biology Scholarship—Leah M. McIsaac, Sandusky, NY; Kelci J. Yousett, Fredonia, NY; Krystal P. Lebron, Dunkirk, NY; Mark B. Dudek, Fredonia, NY; Jordan E. Lamb, Webster, NY; Ian J. Richardson, Camillus, NY; Kerri E. Williamson, North Chili, NY; Chelsea M. May, Springville, NY

Willard F. Stanley Memorial Scholarship—Sarah O. Miller, Forestville, NY; Meredith E. Nugent, Shoreham, NY; Kelsey R. Lowery, North Tonawanda, NY

Kourelis-Stavrides Award for Outdoor Interests, Alumna '46 Scholarship—Shane R. Murphy, Fredonia, NY; Scott R. Gergelis, East Amherst, NY; Tyler J. Christensen, Sheridan, NY; Jennifer J. Russo, Fredonia, NY; Darren A. Norris, Falconer, NY; Samantha R. Fleming, East Syracuse, NY

Kourelis-Stavrides Scholarship—Emily A. Bystrak, Lancaster, NY

The Yunghans-Mirabelli Biology Achievement Scholarship—Jessica S. Merle, Portland, NY; Laurel Finson, Lakewood, NY

Sons of Karen West Scholarship—Lindsay Pruitt, Buffalo, NY; Amanda K. Valentine, Buffalo, NY; Tara L. Thompson, Fredonia, NY

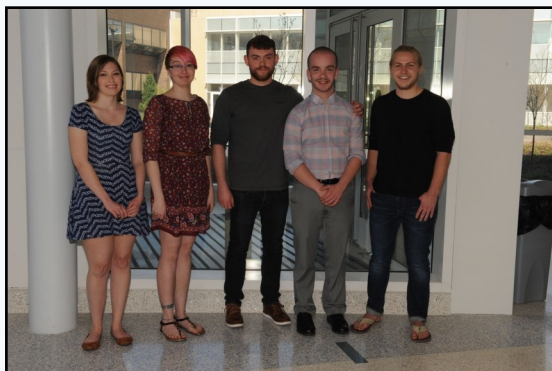
Michael and Marie Kaufman Yochym Biology Scholarship—Mark B. Dudek, Fredonia, NY; Krystal P. Lebron, Dunkirk, NY

Ken Mantai Scholarship Endowment—Kameron T. Dry, Salamanca, NY; Mary Steeprock, Irving, NY

James D. Burdick Memorial Scholarship (Exercise Science) - Richard J. Spinella, Cassville, NY; Alyssa A. Stroud, Allegany, NY

Medical Technology Scholarship Award—Whitney E. Athoe, Batavia, NY; Allison M. Williams, Fairport, NY; Lindsay P. Wishman, Corfu, NY

Molecular Genetics Scholarship Award—Alexander J. Dimitri, Fredonia, NY; Brian J. Guy, Rochester, NY; Jessica S. Merle, Portland, NY



Scholarships

We are very grateful for the support of our benefactors. With your help we have been able to attract talented students to our programs, and support continuing, high achieving students who are benefiting from unique of learning opportunities.

A variety of scholarships are available for students interested in ecology, environmental biology and adolescence education. We also have several scholarships for pre-health students interested in medicine, dentistry and veterinary. Thank you for your necessary and continued support to these scholarships.

Areas of consistent and growing need within the Department are Medical Technology, Molecular Genetics and Exercise Science. New endowments to support students in these career areas are needed and would be very much appreciated.

If you have any questions about charitable giving to support students pursuing careers in Biology, please contact Betty Catania Gossett, Interim Vice President for University Advancement (716) 673-3321 or betty.gossett@fredonia.edu. We appreciate your continued support.

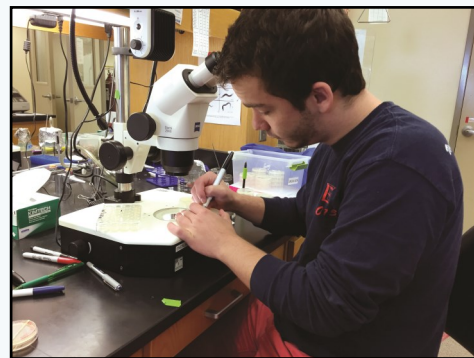
New Health Professions Scholarship to help Students

The Health Professional School Preparation Scholarship Fund assists pre-health students with the costs of applications and professional school exams. The fund supports students taking preparation courses for the exams (such as the MCAT, DAT, and OAT), the costs of the exams and the costs of applying to health professional schools. While there are fee waivers for students with financial needs, some students require additional assistance. Your support will help to further develop our pre-health professional program. Gifts can be made by going to <http://home.fredonia.edu/give> and using the drop-down menu for Biology.

Student Research at Scripps Institute in LaJolla, California

Three students have had outstanding opportunities to perform research at Scripps these past few summers. Many thanks go out to alum Dr. Jeff Kelly, '82; alum Dr. Michael Marletta, '77; and Dr. Sandra Encalada for making these opportunities possible at Scripps, and to the Fredonia University Advancement office for covering the cost of these summer research activities.

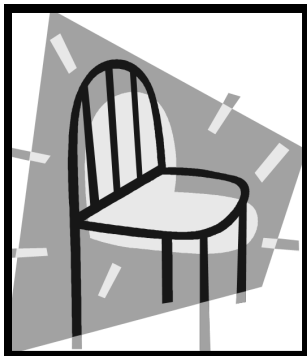
Scott Gergelis, '16 (UB School of Dental Medicine) and Joshua Blundon, Molecular Genetics major, both worked in Dr. Kelly's laboratory, studying protein misfolding and aggregation which are associated with a variety of human diseases. Scott investigated the disease Transthyretin Amyloidosis, Josh investigated the disease Light Chain Amyloidosis. Phil Frankino, '16 (PhD student at Berkeley) worked in Dr. Encalada's lab where he studied the disease Transthyretin Amyloidosis using the *C. elegans* system.



We are updating our alumni database and would be grateful if you would send us your email address. You may email us at biology@fredonia.edu.

Department of Biology
Fredonia Science Center
Fredonia NY 14063

Mailing Address Line 1
Mailing Address Line 2
Mailing Address Line 3
Mailing Address Line 4
Mailing Address Line 5



Message from the Chair...

Greetings to our alumni!

It has been over two years since our last newsletter, and what a busy time it has been! Bill Nye the Science Guy was the 2014 convocation speaker and we dedicated the Science Center a few weeks later. Close to thirty alumni have offered presentations to our students and faculty during the past two years. We are well settled into our wonderful building where our students are engaged in transformative learning opportunities and are going on to exciting positions in graduate school, professional programs and the workplace. We look forward to Homecoming 2016 when Dr. Chris Mirabelli, '77, will be honored and will be our keynote speaker; we hope you will join us. As mentioned in our recent postcard, we are increasing our sustainability efforts by posting the newsletter on line instead of printing and mailing 2000 copies. However, if you would prefer to have a print copy, please contact Dawn Hunt at Dawn.Hunt@fredonia.edu or 716-673-3282 with your request and we'll be happy to send you one.

Thank you for all you do to support the department and our efforts to provide excellent educational opportunities for our students; your generosity allows us to continue to offer scholarships and summer research fellowships. Please feel free to email or call me with your ideas and comments Patricia.Astry@fredonia.edu or 716-673-3282, and I hope to see many of you at Homecoming 2016!

My thanks to Mrs. Hunt for her invaluable assistance in preparing this newsletter.

Best regards, Patricia Astry