We Are Whitaker!

September 7, 2012

Mission Statement

The Whitaker Center's mission is to become a comprehensive model of inquiry and innovation in Science, Technology, Engineering, and Mathematics (STEM) education, serving as a nexus of expertise and leadership for Southwest Florida. The Whitaker Center takes a systemic approach to enhancing and reforming STEM education by conducting research in STEM teaching and learning; developing innovative curricula, resources, and materials; providing professional development opportunities for educators; developing and supporting programs for students; and building strong community partnerships.
SERVICES

• Consult to develop your teaching style
• Measure student learning and/or teaching effectiveness
• Consult and observe your course design
• Publish research articles on STEM teaching and learning topics (SoTL)
• Coordinate STEM education grants
• Evaluate STEM education grants
• Coordinate K-12 or community outreach efforts

Research Grants for

• Faculty (in STEM Education)
• Graduate Students and Undergraduates (in STEM disciplines)

• $500 max. (reimbursement grant)
• Oct. 8 and Feb. 25 submission deadlines
Travel Grants for
• for Faculty (in STEM Education)
• Graduate Students and Undergraduates (in STEM disciplines)

• $500 max. (reimbursement grant)
• Oct. 8 and Feb. 25 submission deadlines

PK-12 Initiative Grants for
• Faculty targeting PK-12 faculty or students in STEM

• $500 max. (reimbursement grant)
• Oct. 8 and Feb. 25 submission deadlines
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Do you enjoy our Whitaker Center Social events?
Consider supporting the Center through Annual Giving. Forms available today!

Consider a Planned Giving donation through payroll deduction.

Meet the Director - We are Whitaker!

Chemistry Professor
College of Arts and Sciences

Laura Frost
Meet the Affiliates
We are Whitaker!

Meet the Leadership Team - We are Whitaker!

Amy Benvie

Mathematics
Instructor II
College of Arts and Sciences
Meet the Leadership Team - We are Whitaker!

Susan Cooper
Science Education
Assistant Professor
College of Education

Meet the Leadership Team - We are Whitaker!

Kristy Csavina
Bioengineering
Assistant Professor
Whitaker College of Engineering
Meet the Leadership Team - We are Whitaker!

Tanya Kunberger

Env. and Civil Engineering
Assistant Professor
Whitaker College of Engineering

Nora Demers

Biology
Associate Professor
College of Arts and Sciences
Meet the Leadership Team - We are Whitaker!

Environmental Science Instructor II
College of Arts and Sciences

Neil Wilkinson

Upcoming Events

Exploring the Legacy of Rachel Carson
50 Years after the Publication of SILENT SPRING

Film and Lecture Series: Evenings Sept. 24-27
Saturday, September 29 1-6PM
Afternoon Lecture Series
“Ask the Experts” Panel
CBS - Rachel Carson Interview

Saturday Events First Floor Whitaker Hall
Conversations with the Director
Friday, October 5, 11-1PM WH 101

Writing Inquiry-based Activities for Your Classroom
Laura Frost, Ph.D.

In-class group work has many forms. How can you be sure you are effectively getting your message across? This interactive session will discuss the use of guided inquiry in the classroom and the structure of an effective activity. Faculty are encouraged to think about a concept to develop into an activity. Time will be given to development of your activity.

Regional Fall Events

October 11-13 HENAAC
Great Minds in STEM Student Conference
Disney Coronado Resort
• UG Research Poster Competition
• Grad. School Fair
• College Bowl
• Networking Session
• Travel grants available

Pick up a flyer at the table!
Regional Fall Events  FACULTY Event

October 19-20  Statewide Symposium
Engagement in UG Research Student
University of Central Florida

See billy Gunnels for more information

Regional Fall Events  FACULTY Event

December 6-8  Statewide Symposium for K-12 STEM Teachers
St. Petersburg Hilton
  Abstracts open until 9/14/12

See Laura Frost for more information
Meet the Affiliates
We are Whitaker!

Amy K. Benvie, M.A.
College of Arts and Sciences
Department of Chemistry and Mathematics
Mathematics Instructor II

- I teach undergraduate mathematics courses at FGCU.
- I coordinate all sections of College Algebra.
- I teach the Math Workshop for the summer Step Ahead program.
- I help organize the annual FGCU Mathematics Competition.
- I am a member of the Whitaker Center Leadership Team.
- I am the faculty advisor for Circle K International (CKI).
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FGCU Invitational Mathematics Competition

- Fifty-two schools from as far away as Gainesville competed in last year's competition!
- This year's competition will be held on Wednesday, December 5th on the FGCU campus.

Come out and witness hundreds of middle and high school students fired up about mathematics!

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FGCU STEM Competition

- The first ever FGCU STEM Competition was held on March 8, 2012.
- Individual and team tests were administered to middle and high school students in nine categories:
  - Life Science
  - Earth and Space Science
  - Physical Science
  - Math & Engineering
  - Chemistry
  - Biology
  - Physics
  - Math
  - Engineering

The second annual event is scheduled for March 5, 2013!
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Mary Kay Cassani, Ed.D.
College of Arts and Sciences
Department of Marine and Ecological Sciences

Environmental Studies Internship Coordinator and Instructor II
Faculty Associate, Whitaker Center for STEM Education
Faculty Associate, Center for Environmental and Sustainability Education

• Coordinate Internship Program for Environmental Studies majors
• Coordinate Gen Ed Science Teaching Cell
• Teach undergraduate classes at FGCU
  • Environmental Biology BSC 1051C
  • Environmental Health EVR 2264
  • Current Topics EVR 4920
  • Senior Internship EVR 4940
  • Scientific Process ISC 3120
  • The University Colloquium IDS 3920

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Mary Kay Cassani, Ed.D.
Kristine Csavina
Bioengineering, U.A. Whitaker College of Engineering
Assistant Professor
Recruitment & Retention Committee, WCE
Whitaker Center Leadership Team

- Design & teach undergraduate classes in the growing engineering program
- Research in biomechanics & engineering education
- Campus and community service

ENGINEERING COURSES
- Engineering Mechanics
- Biomechanics
- Design for Manufacturing
- Bioengineering Product Design
- Bioengineering Senior Design

Design & Testing
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2012 Engineering Extravaganza Summer Challenge

Civil Engr – Environmental Engr – Bioengineering – Software Engr

Colossal Design Challenge
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Previous STEM Initiatives
supported by the Whitaker Center

2011 ASEE Annual Conference Paper & Presentation
Work It Baby, Work It! Reworking the Worksheet in Camtasia

Summer 2010 GPSA HS Educational Program in Calhuitz, Guatemala
2011 ASEE Annual Conference Paper & Presentation

2010 BMES Conference Presentation
Teaming Bioengineering Students & Graduate PT Students: A Case Study

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Susan Cooper, College of Education
Assistant Professor, Science & Math Methods
Whitaker Center Leadership Team

30+ years teaching science and math at LaBelle High School
Curricular Interests:
- Science Education
- Science and Literacy

Outreach to K-12 schools:
- Lee County Super Science Saturday
- Hendry and Glades Counties
- Heartland Educational Consortium
- Thomas Alva Edison Regional Science Fair

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Alva Elementary School
Math & Science Night
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Create reading materials for ChemMatters, an ACS publication for high school students.

Susan Cooper with Glenn Seaborg at Lawrence Berkeley National Lab, 1990

Member of FGCU’s SENCER team working to:
• Incorporate service learning & civic engagement in FGCU STEM courses.
• Implement SENCER SALG Survey in classes.

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Nora Demers, College of Arts and Sciences
Department of Biological Sciences
Associate Professor of Biology and Interdisciplinary Studies
Whitaker Center Leadership Team

• Teach undergraduate classes at FGCU
• Campus and Community Service
• Research on Learning
  • The University Colloquium IDS 3920
  • Scientific Process ISC 3120
  • General Biology I
  • Current Topics in Biology BSC 4920—Environmental Endocrine Disruptors
  • Issues in Science and Technology IDS 3143
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Nora Egan Demers

Habitat Restoration and Service Learning

Fundamental and Powerful Concepts
Let's talk!
Chemical bonding properties of water
Assess students understanding of concept
• in Biology courses:
  Gen Bio I (incoming)
  Cell Biology (intermediate)
  Sr. Research (capstone assessment)
• Adding in Chemistry, Biochemistry in an electronic format
• in Geology courses:
  Env. Geo (incoming)
  Engineering (upper-division-new this year)

Protein Structure levels --new study

Outreach and Community Education:

“An Obligation to Endure”
Commemoration of 50th Anniversary of Publication of Silent Spring Sept 23-29, 2012 at FGCU
- Mining Impacts on Human and Natural Environments
- Economic Values of Conservation Lands

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David Green, College of Arts and Sciences
Department of Marine and Ecological Sciences
Instructor II
SENCER Team
Course Designer and Emerging Technologies

• Multiple SENCER course redesigns and implementation of hierarchical civic engagement strategies
• Flip classrooms using emerging technologies in curricula redesigns
• Multiple publications and awards received as a result of SENCER-related activities

"I think that this class is a class of the future and the way it is presented helps students of today’s generation learn in a more convenient and realistic way."
anonymous feedback from a student in my Marine Systems Fall 2011 class
Charles (billy) Gunnels,
College of Arts and Sciences
Department of Marine and Ecological Sciences
Assistant Professor of Animal Behavior
Director of Undergraduate Research
CREW Land and Water Trustee
Biology BA Program Director

- The University Colloquium IDS 3920
- Natural Selection in the Galapagos BSC 4930
- Animal Behavior 4513C
- Senior Research & Presentation Biol. BSC 4910
- Behavioral Ecology PCB 3414C

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billY Gunnels
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**Marguerite Forest, Assistant Professor**
Edith and Edward Andrew Endowed Chair in Environmental Education
Department of Marine and Ecological Sciences
Joint Position with the Conservancy of Southwest Florida

- Teach undergraduate and classes at FGCU
  - Environmental Biology of SW Florida; North American Environments
  - Environmental GIS; Spatial Analysis; & GIS Research Project
  - Honors Conservation; Senior Internship; and University Colloquium
- Campus and Community Service
  - GIS & GPS Exercises for EE
- Regional Environmental Education Coordination and Outreach
  - SW Florida EE Locations & Provider Contacts Map
  - EE Programs Database
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Sharon Isern, PhD
College of Arts and Sciences
Department of Biological Sciences
Professor

• Teach Cell Biology, Virology, Biology
• Mentor undergraduates, K-12 students in research
• Run a dengue virus research laboratory
• Review grant proposals for NSF, NIH
• Serve on the Honors Executive Board

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Eric Jackson,
Environmental Education Resource Teacher,
School District of Lee County

Courtesy Faculty
Department of Marine and Ecological Sciences, FGCU

• Teach the Mosquito Education Outreach Program in Lee County Public Schools
  Grades 5, 7, high school biology and chemistry
• Coordinate the Aquatic Systems Mosquito Education Internship Program at FGCU
• Manage the FGCU Kindergarten Mosquito Outreach Program for local schools

Affiliations:
• Lee County Mosquito Control District
• Florida Mosquito Control Association
• American Mosquito Control Association

Funded by an external grant from the Lee County Mosquito Control District
Tanya Kunberger, U. A. Whitaker College of Engineering
Department of Environmental and Civil Engineering
Assistant Professor of Civil Engineering
Whitaker Center Leadership Team

- Travel support through Whitaker Center for presentation at 5th Pan-American Conference on Teaching and Learning of Geotechnical Engineering (Canada, October 2011)
- Presented at International Shaking the Foundations of Geo-Engineering Education Conference (Ireland, July 2012)
- Co-coordinator of Engineering Extravaganza 2012 Summer Challenge ~ week-long summer camp for high school students
- Assistant Coordinator for ASCE ExCEEd Teaching Workshop and ExCEEd II Teaching Workshop (June 2012)
- Teaching freshman through senior level engineering courses

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Jamie MacDonald, College of Arts and Sciences
Department of Marine and Ecological Sciences
Associate Professor of Geology, Earth and Space Science Coordinator, Rabble rouser

Geochemistry  Tectonics  Earth Science Education
Scott Michael, PhD
College of Arts and Sciences
Professor, Department of Biological Sciences

- Teach Introductory Biology, Cell Biology, Virology, Independent Study
- Mentor students in a research lab focusing on dengue virus
- Local and international professional service

Brian Murphy,
Environmental Education Resource Teacher,
School District of Lee County

- Teach the Mosquito Education Outreach Program in Lee County Public Schools
  Grades 5, 7, high school biology and chemistry
- Manage Materials and Equipment for the Mosquito Education Outreach Program
- Liaison between the Lee County School District and FGCU

Affiliations:
- Lee County Mosquito Control District
- Florida Mosquito Control Association
- Lee Science Education Association (LeeSEA)

Funded by an external grant from the Lee County Mosquito Control District
Tony Planas, Ed.D. - College of Arts and Sciences - Mathematics

- Metric System (International System of Units, SI) Expert
- Lifetime member, Florida Two-Year College Mathematics Association
- Teach undergraduate Math courses at FGCU

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Help propagating Metric System knowledge to our community and they will be better prepared going deep into the 21st Century. Interested? Contact Whitaker Center.
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Dr. Halcyon St. Hill, Professor
College of Health Professions and Social Work
Office of the Dean
Professor of Interdisciplinary Health Sciences
Faculty Associate, Center for Environmental & Sustainability Education
Faculty Affiliate, Whitaker Center

FGCU undergraduate teachings include:
IHS 4504 Research Methods in Health… IHS 4938 Senior Seminar - with a service learning component that requires scientific based solutions to real-world problems in SW FL Healthcare Agencies

- Contributor, Author and Advisor for Clinical Laboratory Science Institute (CLSI); Document Development on Point of Care In Vitro Diagnostics (IVD) Testing
- Chair, Generalist and Public Health Scientific Assembly, American Society for Clinical Laboratory Science
- Presentations include HIV Update - mandatory CEUs for FL Licensure renewals for CLS & others

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Mark Simpson
Curriculum, Inst. & Culture
College of Education

Sheila Bolduc-Simpson
Language & Literature
College of Arts & Sciences
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Sheila Bolduc-Simpson
Mark Simpson

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Jim Sweeney, U.A. Whitaker College of Engineering, Department of Bioengineering & Software Engineering
Professor (Bioengineering) and Chair
Interim Dean, WCE

• Teach undergraduate Bioengineering classes at FGCU
• Research in collaboration with CAS faculty and others nationally
• Campus, Regional, and National Service

Current and recent courses -
• Physiology for Engineers I and II BME3403C & 3404C
• Bioengineering Senior Design I and II BME4884 and 4885
• Bioelectricity BME4504C
• Bioengineering Product Design BME4800C
• Global Healthcare Engineering EGN4930
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Jim Sweeney

- Chair, Education & Workforce Development Committee for the Southwest Florida Chapter of BioFlorida
- Please talk with me to learn more about BioFlorida regional and state educational and STEM efforts!

First BioFlorida event at FGCU was held on 2/23/12 with over 100 FGCU, Edison, Hodges, and FIU students & faculty participating!

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Jim Sweeney

- Four Year Leadership Term with the Biomedical Engineering Division (BED) of the American Society for Engineering Education (ASEE), 2008-2012
- American Institute for Medical & Biological Engineering (AIMBE), Fellows Selection Sub-Committee (Education Category)
- Grand Awards Judge, Thomas Alva Edison Regional Science and Inventors Fair

Thomas Alva Edison Regional Science and Inventors Fairs
Neil Wilkinson, **College of Arts and Sciences**
**Department of Marine and Ecological Sciences**
Environmental Education Liaison and Instructor Level II
Whitaker Center Leadership Team
Senior Faculty Associate, Center for Environmental & Sustainability Education
Vice President, Florida Mosquito Control Association

- Oversee the Mosquito Education Outreach Program in Lee County Public Schools
- Teach undergraduate classes at FGCU
- Campus and Community Service
  - The University Colloquium IDS 3920
  - Environmental Biology BSC 1051C
  - Senior Internship EVR 4940
  - Current Topics EVR 4920

Funded by an external grant from the Lee County Mosquito Control District

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**Eric Jackson**
**Brian Murphy**
**Neil Wilkinson**

Funded by an external grant from the Lee County Mosquito Control District
Jo Ann Wilson,
College of Arts and Sciences
Department of Biological Sciences
Professor
Director, Professional Programs

- Direct the Accelerated Medical Education Programs at FGCU
- Serve as faculty advisor for student organizations:
  - CHAD (Community Health Aid Development)
  - PATCH (Project Art Therapy for Children's Health)
- Co-Direct GEMS (Girls in Engineering, Math and Science)
- Teach undergraduate classes at FGCU
  - BSC 1930L, 2930L, 3930L Seminars in Medicine I, II, III
  - PCB 2336 Human Genetics
  - BSC 4910 Senior Research in Biology

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GEMS
Girls in Engineering, Math & Science

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Jo Ann Wilson

CHAD in Dominican Republic

Accelerated program students