



BIOrhythms

Washington University Biology Department Newsletter

September 2011

"A man who has never gone to school may steal from a freight car; but if he has a university education, he may steal the whole railroad."

~Theodore Roosevelt

Helpful Links

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BIOrhythms is a publication of the Washington University Biology Department for Undergraduate Majors

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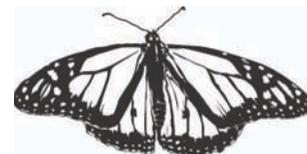
Featured in this issue:

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Student Clubs: [Biology Club](#), [IPS & Synapse](#) (previously CO-SIGN)

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Faculty Spotlight: [Joan Strassmann](#)



Dr. Joan Strassmann is originally from East Lansing, MI but grew up living all over the world, including Mexico, England and Switzerland. Her interest in science and nature sprouted early in childhood, as she believes it does with most children, whose curiosity leads them to explore and connect with their own natural surroundings. Her interest in biology was reignited by an introductory biology course, where she again discovered how much she enjoys the process of finding clear answers to the way things work. She completed her undergraduate degree at University of Michigan, Ann Arbor and PhD at University of Texas, Austin, both in Zoology.

Strassmann and her husband, Dr. David Queller, Spencer T. Olin Professor of Biology, spent more than three decades at Rice University studying and teaching social evolution before joining the faculty at Wash U this summer. They were attracted to the interdisciplinary approach of Wash U's biology department and the flexibility of the graduate student program. In addition to the exciting research environment at the university, they were enticed by Missouri's conservation ethic and excellent park system. Strassmann also happens to have been Wash U Professor Alan Templeton's first PhD student, so it is an added bonus to be working with him again on a regular basis.

The Strassmann/Queller lab's focus is social evolution, i.e. the biological basis for concepts such as altruism and cooperation. The lab has used social wasps and now the social amoeba *Dictyostelium discoideum* as models to explore how traits are selected to facilitate this cooperation. Strassmann and Queller studied social wasps in the tropics, Venezuela and Tuscany over the years and discovered many things —*cont'd on page 2*

Neuroscience

Colloquium Fall 2011

Fridays from 4:00-5:00pm,
September through October,
Location: Connor Auditorium,
Farrell Learning and Teaching
Center, Washington Univer-
sity School of Medicine

*Reception immediately following,
Farrell Atrium*

2011 Colloquium Schedule

September 30: Mabel Rice,
University of Kansas

October 7: King-Wai Yau,
Johns Hopkins University

October 14: Catherine Du-
lac, Harvard University

October 21: Lorna Role,
Stony Brook University

For more information go to:
[http://neuroscienceresearch.
wustl.edu/Pages/Neuroscience
Colloquium.aspx](http://neuroscienceresearch.wustl.edu/Pages/NeuroscienceColloquium.aspx)



Undergraduate Research Symposium in the Biological Sciences and Psychology

The symposium is a great op-
portunity for undergraduates
to present their research, all
expenses paid. The event will be
held October 28-29 at Washing-
ton University (**registration
deadline Sept. 27**). Thirteen
Universities and colleges par-
ticipate and students get high
quality interactions and feedback
during the meeting.

Register at:

<http://mathsciconsortium.org/>

Questions? Please contact Dr.
Erik Herzog, herzog@wustl.edu

Course Spotlight: New Course—Bio 4071: Developmental Biology

This new course will provide an introduction to the molecular and cell biology and bio-
mechanics of animal development. The course is divided into thirds, which cover 1) an
introduction to the major cell-cell signaling systems used during development and their
study in model organisms, 2) molecular studies of early vertebrate development, and 3)
application of the principles of solid mechanics to understanding events in tissue and
organ morphogenesis including gastrulation, cardiac looping, and brain folding. Prereq-
uisites include: Principles of Biology II (Bio 2970); Calculus II (Math 132); (Physics
117/197). Offered Spring 2012.



*Fruiting Bodies of Dictyostelium
discoideum*

Faculty Spotlight: Joan Strassmann cont'd—
about social evolution, but ultimately wanted
a microbial system that gets at the gene level
of behavior. Social amoebae prey on bacteria.
When individuals are starved, they aggregate
into a multicellular fruiting body. Eventually,
20% of the body dies so that the fruit can be
dispersed. In other words, some individu-
als voluntarily sacrifice themselves to ensure
the future of the organism. Social amoebae
serve as better models than wasps because
the genes can be manipulated to gather more
information. Strassmann and Queller study the
synergistic advantages of cooperation and this
carries over into their professional collabora-
tions with other scientists who bring different
skills and talents to the table.

The lab currently has seven undergraduate students. Strassmann stressed their phi-
losophy that undergraduate research is both important to the student's education and
integral to the research of the lab. The lab is interested in serving as many students as
possible, and especially makes an effort to reach out to underrepresented groups in
academia. She believes it is important for the student assistants to be independent and
to have authorship and feel ownership in their current projects.

Joan Strassmann will begin teaching in the biology department next year. Her teaching
philosophy, like her mentorship and work ethic, focuses on active learning with hands-
on experience in real situations. Student work may end up being published in a scien-
tific paper or public forum such as an online blog. Every student should be prepared
to revise his or her work until it meets industry standards and have fun doing it! For
example, in a previous project, Strassmann conducted Saturday Science workshops
during which undergrads had the opportunity to design and teach science programs to
high school children. Her methods are based simply in the ideas that people work best
for themselves and biology is wonderful. Guiding students to be effective researchers
and writers is a joy that makes her job fun.

Joan Strassmann is also the president of the Animal Behavior Society and keeps three
online blogs. Her latest blog, new for Wash U, is called Sociobiology [http://sociobi-
ology.wordpress.com/](http://sociobiology.wordpress.com/). It's a place for sharing research processes and results to give
people an idea of what's involved in being a scientist. Her Goodbye —*cont'd on page 3*

Faculty Spotlight: Joan Strassmann

cont'd—Houston blog <http://goodbyehouston.wordpress.com/> is more personal and eclectic, including anything from environmental writing to recipes. Her blog on slow birding <http://slowbirding.wordpress.com/> ties field observations with current research on birds, much of which is written by undergrads.



In their free time, Strassmann and Queller enjoy hiking, bird watching, cooking, and spending time with their three grown children. For more information about the Strassmann/Queller lab, visit the lab's website at: <http://strassmannandquellerlab.wordpress.com/>.

Student Clubs: Biology Club, IPS & Synapse (previously CO-SIGN)

The Bio Club is an outlet for the WU community to share its interest in biology. Our goal is to expose members to academic and career opportunities in Biology through fun and relaxing club events. For event alerts, simply send your name and email to wubioclub@gmail.com. Our next event: Cold Springs Harbor presentation about summer internships and graduate school to members (and non-members) of the Bio Club on Tuesday, November 8th at 5pm, Rebstock 322.

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International Pre-Health Society (IPS) is a new student group that promotes opportunities relevant to pre-health students, including info sessions, fundraising and service with a global perspective. Our group welcomes ALL Wash U undergrads, with some events tailored for international students (i.e. non-U.S. citizens and non Green Card holders).

Looking for a mentor for advice about getting into medical school? Want to discuss undergrad experiences with medical students? Need help with MCAT or interviews? Or are you unsure of pursuing medicine in general? If so, apply to become a part of the Pre-med Peer Mentoring Program (PPMP), hosted by the International Pre-health Society (IPS), as a mentee paired up with a WUSM medical student mentor! Key highlights include two free catered dinners in the fall and spring. If you are interested, please apply at <http://ips.wustl.edu/> under the link PPMP. Application deadline is Friday, September 30th.



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Synapse (formerly CO-SIGN) is our neuroscience student group on campus. The group organizes shadowing opportunities for undergrads with neurosurgeons, neurologists or psychiatrists. It also hosts events including: MD Panel, Grad Students Panel, Researcher Panel, journal clubs, med-school lectures, anatomy lab workshops, brain dissections, and cadaver dissections. Volunteering programs include dancing Tango with Parkinson's patients and teaching fun, interactive neuroscience-demonstration lessons to elementary schools around St. Louis.

If you want to get involved or have any questions, visit cosign.wustl.edu or email wusynapse@gmail.com!

SURF Undergraduate Research Symposium, 10/22/11

The Summer Undergraduate Research Fellows (SURF), funded by the Howard Hughes Medical Institute and various other agencies, is an opportunity for freshmen, sophomores and juniors to apply for a 10 week research project with faculty mentors, earning a \$4000 stipend. Over the past few years, the number of students receiving awards has grown, due to increased funding and interest. When the research projects are complete, the participants join students from other fields to present their projects and findings at the Fall Undergraduate Research Symposium, this year's will be on October 22, 12-4pm. Many students continue to work with their SURF mentors throughout the academic year as paid lab technicians or in work study positions.

For more information: <http://www.nslc.wustl.edu/Research/HHMI/surf.html> or you can reach Amy O'Brien at aobrien@wustl.edu or in Life Sciences 200, 935-7170.

Do You Have...

An announcement you'd like to make?

An interesting story or fun fact you'd like to share?

A professor or course you'd like to suggest for a spotlight?

We want your input! Send ideas and information to: gerrity@biology2.wustl.edu

Biology Department Calendar



Links to General Calendars and Regular Events:

Washington University Record Calendar: <http://record.wustl.edu/calendar>

Biology Department Seminars, Mondays, 4:00pm, Rebstock 322, check the website for topics/schedule:
<http://wubio.wustl.edu/events?tid=8>

Evolution, Ecology, & Population Biology Seminars, Thursdays, 4:00pm, Rebstock 322, check the website for topics/schedule: <http://wubio.wustl.edu/events?tid=3>

History & Philosophy of Science Seminar Series: <http://wubio.wustl.edu/events?tid=12>

Plant Lunches: most Tuesdays at noon (1st Tuesday of month @ DDSPC, others @ McDonnell 212):
<http://wubio.wustl.edu/events?tid=10>

Donald Danforth Plant Science Center (DDPSC), Weekly Seminar Series—Wednesdays, 3:45pm, AT&T Auditorium, check the website for topics: http://www.danforthcenter.org/the_center/events/seminars_symposia/

Division of Biology and Biomedical Sciences (DBBS), all lectures and seminars:
<http://dbbs.wustl.edu/dbbs/website.nsf/SDN>

October 2011

- 14th Fall Break, Friday, October 14th—NO CLASSES
- 21st Parent and Family Weekend, Friday, October 21st-23rd
- 22nd Summer Undergraduate Research Fellows (SURF) will present the results of their summer research from 12:00–4:00 pm in Olin Library
- 31st Advising Period Begins, October 31st—November 11th

November 2011

- 8th Cold Springs Harbor Presentation, 5:00pm, Rebstock 322
- 15th Spring 2012 Online Registration Begins—*Undergraduates 90+ Units*
- 16th Spring 2012 Online Registration—*Undergraduates 57+ Units*
- 17th Spring 2012 Online Registration—*Undergraduates 24+ Units*
- 18th Spring 2012 Online Registration—*Undergraduates <24 Units*
- 23rd Thanksgiving Break, Wednesday, November 23rd-27th—NO CLASSES

