Department of Biology Newsletter

March 3, 2016

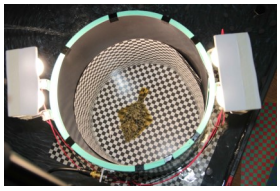
UNIVERSITY OF VICTORIA

What can fish see?
Biology and Visual Arts collaborate on flatfish camouflage response study

It started when Tom Iwanicki, a MSc candidate studying starry flounder opsin genes with Biology professor John Taylor, contacted Cliff Haman, Senior Academic Assistant in Visual Arts, with a very basic question: what is colour?

Starry flounders change the pattern on their back when they settle on a traditional black-and-white checkerboard, but what about one with red and green squares?

Opsin genes encode the light receptors in the eye, and while humans are trichromatic—we have three different types of light receptors distributed among the 'cone' cells of our retina—fish have many more. "We know that species with only two cone cell opsins, like cats and dogs, can't discriminate among as many colours as we can," says Taylor. "We want to know if the surprisingly large fish opsin gene repertoire enhances their colour vision."



A starry flounder demonstrates its camouflage response to different colour patterns

To be clear, the goal of the experiment was to see if the fish echoed the pattern, not the colour. "If we give them a red and green background, we're not expecting the fish to turn red and green," says Taylor. "Instead, we're looking to see if they adapt to a smooth, mottled or disruptive pattern; the fish can do each of those things. If it recognizes a smooth pattern, it will turn a single colour, whereas mottled or disruptive patterns will result in a stippled or big-block colours."

Tom Iwanicki (left), Cliff Haman and John Taylor study fish in UVic's Outdoor Aquatic Unit

Iwanicki is excited about how it all went. "A lot of research tends to reduce things down to their component parts, but if you can incorporate the bigger picture all in one study, that's one of the more important avenues we need to be shifting towards," he says. And while he may be speaking about his individual experiment, his thoughts clearly apply to the unexpected pairing of Biology and Visual Arts. "And that is really cool and exciting." By John Threlfall

Inside this

Upcoming Seminars. Everyone Welcome!

Biology

Dr. Sally Otto
Zoology Department, UBC

"Genomic scope of adaptive mutations in the face of an environmental challenge"

Friday, March 4, 2016
at 2:30 pm MSB 150

Forest Biology

Dr. A. Trofymow
Pacific Forestry Centre

"Ectomycorrhizal and soil fungal community establishment after fire and twenty-five years after oil sands reclamation"

Wednesday, March 9, 2016
at 1:30 pm CUN 146

Biology

Jackson Chu
PhD Candidate
Department of Biology, UVic

"Influence of Seasonally Variable Hypoxia on Epibenthic Communities in a Coastal Ecosystem, B.C., Canada"

Friday, March 11, 2016
at 2:30 pm MSB 150

Biology

Justin Suraci
PhD Candidate
Department of Biology, UVic

"Fear in Wildlife Food Webs: Large Carnivore Predation Risk Mediates Mesopredator Impacts"

Friday, March 18 , 2016
at 2:30 pm MSB 150

Lansdowne Lecture, Department of Biology

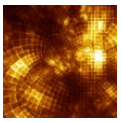
Prof. Roger Hanlon

Marine Biological Laboratory, Woods Hole, Massachusetts
"The ocean's most spectacular colour change artists"
Thursday, March 31, 2016 at 7:00 pm
Bob Wright Building Room B150

Presented by the Department of Biology
Professor Hanlon is a diving biologist who has published extensively on colour change in cephalopods and fishes. His work has appeared in many TV programs and print/internet media. Nature has evolved elegant solutions for manipulating ambient light to produce dramatic and colourful animal behaviour. These marvelous animals use rapid adaptive colouration to fight, attract mates, confuse prey and avoid predators. He will present exciting new discoveries and illustrate them with extraordinary underwater video. This research is broad-based and includes files as diverse as ecology, art and bio-inspired engineering.
See www.uvic.ca/events for details.

UVic Events: Ideafest

Change-makers: Bright minds and big ideas



March 7, 2016, 7:00 to 9:00 pm
Hickman Building Room 105
UVic is home to 38 internationally recognized Canada Research Chairs (CRC) who push the frontiers of knowledge in their fields. Join four of these scholars as they share their stories of innovation and vital impact. Be inspired by the latest in aerospace technologies, deep ocean research, ground-breaking cancer treatments and new perspectives on addictions therapy.
Presenters:
Verena Tunnicliffe—CRC in Deep Ocean Research; Fraser Hof—CRC in Supramolecular and Medicinal Chemistry; Afzal Suleman—CRC in Computational and Experimental Mechanics; Karen Urbanoski—CRC in Substance Use, Addictions and Health Services Research

Magical mushrooms! Composers to decomposers

March 9, 2016, 7:00 to 9:30 pm
MacLaurin Building Room D115
Join us for a marvellous, multimedia medley of mycological art, science and music. Take a trip through UVic's Lorenzen Ceramic Mushroom Collection while exploring the latest UVic research on fungal symbionts and pathogens. Photographs by local artists and UVic mycological music compositions are also be featured.
Presented by UVic's Centre for Forest Biology

From coral to sharks: Unravelling the coral reef food web

March 11, 2016, 5:30 to 6:30 pm
David Turpin Building Room B255
With Tens of thousands of marine species, coral reefs are amongst the most diverse ecosystems on the planet. One in four marine species , from algae to fishes to sharks, live part of their lives on coral reefs. Join graduates from Dr. Julia Baum's marine ecology lab to learn more about these undersea palaces. In a series of photographs, interactive activities and presentations , emerging researches will reveal the extraordinary science behind coral reef food webs and how it can be inform conservation efforts.

For more information on these and more events go to: www.uvic.ca/ideafest

Did you know the UVic Retirees Association puts out a quarterly newsletter? Visit their link below for more information: http://web.uvic.ca/retirees/newsletters.html

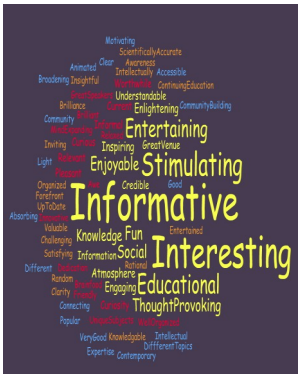
Calendar

Important Dates:

Friday , March 4	Senate meets
Friday, March 25	Good Friday
Monday, March 28	Easter Monday

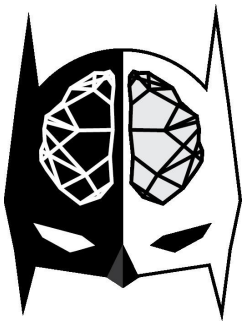
Café Scientifique

Café Scientifique Faculty of Science



Presenter: Dr. Roberta Hamme, SEOS – UVic
"Carbon in the Oceans"
Tuesday, March 8, 2016 at 6:30 pm (Doors open at 5:30)
This is a free event hosted by the Faculty of Science; seating is limited so please reserve at:
http://www.astro.uvic.ca/~pritchet/CafeSci/
This Café Scientifique takes place at Hermann's Jazz Club 753 View Street
For all Café Scientifique Series visit: http://www.uvic.ca/research/learnabout/home/news/cafe/

UVic Centre for Biomedical Research Presents:
Café Scientifique on Campus



"An Evening With Batman's Brain"
Moderated by CBC Radio Journalist and UVic Chancellor Shelagh Rogers
Panelists:
Dr. Travis Langley, Psychologist, Henderson State University
Dr. Mark D. White, Philosopher, College of Staten Island
Dr. E. Paul Zehr, Neuroscientist, University of Victoria
An authentic comic-con style panel focused on the psychology, philosophy, and neuroscience of Gotham's Dark knight with the authors of Batman and Psychology, Batman and Philosophy, and Becoming Batman.
Who is Batman and how did he come to be? What does Batman mean to us? Can Batman beat Superman?
Wednesday, March 16, 2016 7:00 to 9:00 pm
Farquhar Auditorium, University of Victoria
Free and open to all ages!
All seating is reserved; please contact the UVic Ticket Centre to book www.tickets.uvic.ca or call 250-721-8480 #BatmansBrain
Parking fees will apply and doors will open at 6:30 pm

The First UVic/French Café Scientifique
Exploration at the Large Hadron Collider

Professor Michel Lefebvre. Department of Physics and Astronomy, University of Victoria. Principal investigator, ATLAS UVic group. The recent discovery of the Higgs boson at the CERN laboratory is a historic event, shedding more light on our understanding of the Universe. This presentation will summarize our current understanding of the fundamental building blocks of the universe, introduce the ATLAS detector, the Large Hadron Collider, and some of the searches being carried out.

Glimpses into Clean Energy Research: Fuel Cells, Renewable Energy and Smart Grids
Professor Ned Djilali. Professor of Mechanical Engineering, Institute for Integrated Energy Systems, University of Victoria Canada Research Chair in Advanced Energy Systems Design and Computational Modelling. A brief overview of fuel cell technology will be presented with a glimpse into water management a critical aspect of fuel cell operation with fascinating underlying physics. The second part of the talk will discuss the challenge of renewable energy intermittency and how that can be addressed by demand response, a new paradigm in the way electricity grids operate.

Monday, March 14, 2016, 5:30 to 7:00 pm, ECS Building room 125, University of Victoria
Free, by reservation: invitations.vancouver-fslt@diplomatie.gouv.fr

Biology Graduate Oral Presentations

Jackson Chu, PhD Graduate Student
Friday, April 1
9:00 am
David Turpin Bldg A137
"Influence of Seasonally Variable Hypoxia on Epibenthic Communities in a Coastal Ecosystem, British Columbia, Canada"
Supervisor: Dr. Verena Tunnicliffe

Justin Suraci, PhD Graduate Student
Thursday, April 17
10:00 am
David Turpin Bldg A136
"Fear in Wildlife Food Webs: Large Carnivore Predation Risk Mediates the Impacts of a Mammalian Mesopredator"
Supervisors: Dr. Michael Clinchy and Dr. Brad Anholt

Job Opportunities

Funded PhD position at University of British Columbia in Nutritional Biochemistry/Cardiovascular Physiology
Applications are invited for a suitable candidate to join the PhD program in Molecular Biology/Biochemistry in University of BC-Okanagan with a focus on cardiovascular nutritional physiology starting from January 2017. Candidates must have a MSc. In Nutrition, Biochemistry Physiology or related field from a north American/European University with at least two publications in peer-reviewed journals. The position is fully funded with Teaching Assistantships and Research Assistantships for 4 years at $18,500/year. Previous experience in *in vivo* surgical technique in mice including TAC, Langendorff perfusion or working heart preparations is an asset. Deadline for applications is March 31, 2016. This opportunity is only open for permanent residents or citizens of Canada. Interested applicants are requested to email with a cover letter and a CV to Dr. Sanjoy Ghosh at sanjoy.ghosh@ubc.ca
Dr. Sanjoy Ghosh, Michael Smith Health Research Foundation Scholar, University of BC-Okanagan, Department of Biology.

Volunteer Opportunities

ARCHELON, The Sea Turtle Protection Society of Greece
For over 30 years, ARCHELON, The Sea Turtle Protection Society of Greece, has been conducting conservation projects on all major loggerhead nesting areas in Greece. You can become a volunteer if, you are 18 years of age, you have minimum 4 weeks available (6 weeks is recommended), you can communicate in English, you are prepared for physically demanding work, you can endure basic living conditions.
You will acquire fieldwork experience and enjoy interacting with volunteers from all over the world who come together to work for nature conservation. Volunteers get involved with sea turtle rehabilitation, public awareness and facilities maintenance. Basic accommodation is provided at the Centre.
Volunteers cover their own travel and food costs, as well as other personal expenses and accommodation . Research opportunities are available for undergraduate and postgraduate students.

Contact information:
ARCHALEON, the Sea Turtle Protection Society of Greece.
57 Solomou Str., GR-104 32 AHENS, Greece
Tel/Fax +30 210 523 1342 e-mail: volunteers@archelon.gr *http://www.archelon.gr/eng/volunt.php?row=row2

Workshops

Keep Calm and Carry a Pipetteman

The Michael Smith Labs present their MOLECULAR BIOLOGY WORKSHOP, 2016 Spring Session, at the University of British Columbia, Vancouver.
One week version—Molecular Biology Workshop, April 4 to 8, 2016 ($1500)
This intense 5 day workshop will focus on a myriad of different techniques used in the molecular manipulation of DNA, RNA and protein, as well as inclusion of lectures of high throughput genomic techniques. Primarily aimed at researchers who are new to the area, familiar but require a quick updating, or would like more practical bench training.

Mosses of Garry Oak Habitats

This workshop focuses on learning how to identify the most common mosses, as well as a few liverworts, found in Garry Oak ecosystems in coastal British Columbia and Washington. Both field and microscopic features will be emphasized so that the interested, the specialist, or the field biologist can learn how to identify these fascinating species. The workshop will be limited to 25 participants.
The workshop will be held at Camosun College, 3100 Foul Bay Road, Victoria, BC
Fisher Building room 244
The college is located at the corner of Lansdowne Rd. and Foul Bay Rd. (Change will be needed for parking)
March 11 to 13, 2016
Cost $150.00 (students $80.00), pre-payment is preferred.
Make cheques payable to: Terry McIntosh and mail to :
3-1175 E. 14th Ave. Vancouver, BC V5T 2P2
Contact information: ttmcintosh@shaw.ca or call 778-968-4101. What to bring: Hiking boots and weather appropriate clothing for the field session. A hand lens, Any field guides/keys you may have, and lunches.

2016 IUBMB Conference

IUBMB Conference (International Union of Biochemistry and Molecular Biology)

Signalling Pathways in Development, Disease and Aging.
Conference July 17 to 21, 2016, Vancouver, BC
The IUBMB unites biochemists and molecular biologists in 77 countries. Aims to promote research and education in biochemistry and molecular biology world-wide, especially in areas where the subject is still in its early development.
The IUBMB seeks to advance the international molecular life sciences community by:
*Promoting interactions across the diversity of endeavours in the molecular life sciences.
*Creating networks that transcend barriers of ethnicity, culture, gender and economic status.
*Creating pathways for young scientists to fulfill their potential.
*Providing evidence-based advice on public policy.
*Promoting the values, standards and ethics of science and the free and unhampered movement of scientists of all nations.
Registration and Accommodations: on-going
Abstract Submission deadline: March 4, 2016
Abstract Notifications deadline: April 1, 2016
Early Registration deadline: April 15, 2016
Regular Registration deadline: May 27, 2016
Late Breaking Abstract Submission deadline: May 27, 2016
For more information visit: IUBMB2016.ORG

If you have an event or story you would like to share in the Biology Newsletter, please e-mail: biology@uvic.ca or bioclerk@uvic.ca

Internships

Announcement: 2016 NPAFC Internship Program

The North Pacific Anadromous Fish Commission (NPAFC) invites citizens from its member countries (Canada, Japan, Republic of Korea, Russian Federation and USA) to apply for the NPAFC Internship Program. One intern will be accepted upon approval of the Commission. The intern will work at the NPAFC Secretariat office of in Vancouver, BC, Canada.
*The intern will gain experience and knowledge in operations of the NPAFC and will have the opportunity to test their interest in international governmental organizations, management, fisheries, biology, ecology, and fisheries enforcement. The intern will work under the supervision of the Executive Director and/or his designate. In general, the intern will assist in a variety of tasks.
*Internship period: September 1, 2016 for a period of a maximum of six months. Monday to Friday, 7.5 hours per day.
*Qualifications: Applicants must be a citizen of NPAFC member country, have a university degree, the ability to read, write and speak English, the ability to use computers and the internet; and demonstrated personal initiative. Applicants must currently be a part of the government or Academic sector, a resent graduate, or currently enrolled in school for an advanced degree.
*Financial Support: NPAFC will provide a stipend of @2,500 CDN per month. Travel costs to and from the intern's place of residence and the location of the Secretariat office and cost of medical insurance will be at the intern's own expense or by home country support. Travel expenses associated with the intern's work in the Secretariat will be covered by NPAFC.
*Applications—Email the following documents to secretariat@npafc.org by March 16, 2016:
Cover letter describing the applicant's interests and qualifications,
Resume showing academic and/or work experience,
Three professional letters of reference *
For complete information visit: http://www.npafc.org/new/about_internship.html and contact the NPAFC Secretariat for questions at secretariat@npafc.org

Ecosystems Technician Internship 2016

The Mayne island Conservancy Society MICS, is looking for 1-2 highly motivated, enthusiastic people to fill 14-16 week internship position (s) on Mayne Island. Applicants must be 20 years or younger and have been a registered full time student in the previous academic year and intend to return to school on a full time basis in the next year; be a Canadian citizen, permanent resident, or person with refugee status' and legally entitle to work in Canada.
MICS works with the community to preserve the ecological integrity of Mayne Island, we do this with the help of volunteers by delivering tow major stewardships programs: Mayne Island Community Stewardship and Mayne Island Shoreline Care programs.
Start date May 9, 2016
End date August 26, 2016
35 hours a week, expected to work at Saturday markets up to every other Saturday. $15.00 /hour
To apply, email cover letter, resume and three references to:
Rob Underhill (biologist@conservancyonmayne.com).
Application deadline is March 6. Interviews will be held on March 15-18 on Mayne Island. Only candidates selected for an interview will be contacted.
Visit: http://www.conservancyonmayne.com/ to learn more about MICS. Ph. Number: 250-539-5168
Address: 478 Village Bay Rd. Mayne Island, BC

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