

Physiology Section Newsletter



THE PHYSIOLOGY SECTION OF THE AMERICAN FISHERIES SOCIETY

Volume 10, Issue 2

December, 2011

FROM THE PRESIDENT



Season's greetings from a rather stormy Edinburgh!

As we slowly wind down in to Christmas and holiday mode, it's once again time to reflect on an eventful year. Members have been busy organising symposia at other meetings, such as [Alec Maule](#), [Bruce Barton](#) and [Mark Hartl](#) at the 141st Annual Meeting of the American Fisheries Society in Seattle and [Mark Hartl](#) at the World Fisheries Congress to be held in Edinburgh in 7-11th May, 2012 (details: <http://bit.ly/sJnt8E>).

I'm delighted to report that the Physiology section membership has increased from 111 in August 2010 to 156 in October 2011. It is particularly encouraging that most of the new section members are students or young professionals. This indicates that there is fresh talent interested in the physiology of fish, especially in light of new and emerging challenges, such as climate change, ocean acidification and renewable energy installations. I am therefore confident that the Physiology Section has a bright future ahead of it. A strong section membership, however, also depends on reliable means of signing up new members and renewing existing membership. For this we are dependent on the parent society website (<http://bit.ly/s8HPoj>). I am therefore particularly pleased (I made a big thing of this at the Governing Board Meeting in September, 2010) that the bugs plaguing, in particular international online membership renewal, have been sorted out, which will be important for the upcoming Xth ICBF to be held in Madison, 15-19th July.

I am also very pleased that many younger members have followed my appeal and volunteered to co-organise symposia (see page 2 for a list of current symposia).

As in previous years I invite all section members, in particular graduate students, to provide contributions of their research activities to the Newsletters. This is also an excellent medium to place job vacancies, advertise courses and profile your home institutions. You can also connect with your fellow Physiology Section members via the Section's Facebook Group Page (<http://on.fb.me/svfyWY>) or through the Physiology Section website (<http://bit.ly/vkOR60>).

There will be an excellent opportunity to get more involved in section business and stand for Treasurer (see details below).

With this I wish you a happy and peaceful Christmas holiday with your families and look forward to seeing you all in Madison.

All the best for 2012

Mark Hartl
President, AFS Physiology Section

AFS ANNUAL MEETING



The Physiology Section was represented by several members at the 141st AFS Annual Meeting held during 4-8th September in Seattle. **Chris Kennedy** gave an oral presentation on the *Endocrine Disruption in Herring Exposed to Dissolved Hydrocarbons in the Impacts of Oil Spill Disasters on the Biology of Marine Fisheries: Exxon Valdez to Deepwater Horizon*; **Alec Maule** gave an oral presentation on *Addressing Stakeholder Needs by Linking Physical and Biological Models to Predict Effects of Climate Change in the Yakima River Basin* in one of two dedicated climate change sessions and also moderated the session *Can Aquatic Resources Survive Global Climate Change and Humanity's Best Intentions?* **Bruce Barton** moderated a session on the *Biology and Management of Walleye and Sauger: Status and Needs*.

The Physiology Section teamed up with the Bioengineering section to co-sponsor a symposium on *The Effects of Renewable Energy Installations on Marine Organisms*. This came about, because **Mark Hartl** put out a call for abstracts for a symposium on the physiological impact of marine renewables on fish. This call was picked up by **Ted Castro-Santos** of the Bioengineering Section and discussion started as to how we could work together rather than poach potential speakers from each other. This turned out to be a smart move as the relative novelty of the topic manifested itself in a limited pool of relevant speakers. Through the joint efforts of **Keith Kirkendall**, **Andrea Copping** and **Brian Polagye** of the Bioengineering section and **Mark Hartl** of the

Physiology section, a day-long symposium was



The Effects of Renewable Energy Installations on Marine Organisms. Moderators (l to r): Brian Polagye, Mark Hartl, Andrea Copping, Keith Kirkendall.

put together, covering a wide variety of marine renewable engineering designs and scenarios and their potential or actual impact on marine organisms of all phyla.

Details of the joint Physiology/Bioengineering symposium can be found at <http://bit.ly/ktE3bz>.

Secretary/Treasurer

The Physiology Section Executive Committee is currently seeking candidacies for the honorary position of Secretary/Treasurer. A detailed description of this position can be found on page 8 in the Section's procedures manual which can be downloaded here (pdf; <http://bit.ly/vyE1F8>). An election will need to take place in April 2012. Please post your candidacy together with a short CV (half-page) and a half page election statement to **Mark Hartl** (m.hartl@hw.ac.uk) or President elect **Brian Small** (bcsmall@siu.edu) no later than 31st March, 2012.

Xth ICBF, Madison 2012

Most of you will be aware of next Physiology Section meeting, the Xth International Conference on the Biology of Fish, to be held at the Monona Terrace Community Convention Centre in Madison, Wisconsin, 15-19th July, 2012. **Terry Barry** and his local organising team have been busy setting the stage for what promises to be another exciting Physiology

Section meeting. Here's a taste of the symposium line up:

- Fish cell cultures as a tool for fish physiology research (Moderators: **Bruria Funkenstein and Wei Ge**)
- Fish in a Toxic World: Biomarkers and Impacts of Exposure (Moderators: **Mark Hartl, Chris Kennedy and Lynn Weber**)
- Fish living on the edge: coping with extreme environments (Moderators: **Patricia Wright and Suzie Currie**)
- Fish migration physiology and behavior (Moderators: **Christian Tudorache and Ted Castro-Santos**)
- Food Intake and Utilization in Fish (Moderators: **Brian Peterson and Brian Small**)
- Ion and acid- base regulation in fish (Moderators: **Greg Goss, Colin Brauner and Steve McCormick**)
- Parasites of fish: minor inconvenience or major influence on ecophysiology? (Moderator: **Alastair Lyndon**)
- Sensing the Environment: Molecules to Populations - A celebration of the pioneering work of Arthur D. Hasler (Moderators **Keith Tierney and Peter Sorensen**)
- Stress in fish. From genes to behavior (Moderators: **Lluís Tort and Matt Vijayan**)
- Symposium on Burbot (*Lota lota*) (Moderators: **Martin A. Stapanian and Charles P. Madenjian**)
- Zebra fish (Moderators: **Steve F. Perry and Pung-Pung Hwang**)

We are once again delighted to welcome Loligo Systems as the official sponsor of the student poster and oral presentation prizes.



Abstract submission is due to open shortly. More information and Online registration is available at <http://bit.ly/gJYyM5>. Students

wishing to have their posters and talks entered in the competition should indicate this by ticking the appropriate box when submitting their abstracts.

For more sponsorship opportunities please visit the ICBF website <http://bit.ly/gxC6dt>.

European COST Action on Conservation Physiology of Marine Fishes

The European Cooperation in the field of Scientific and Technical Research (COST) initiative funds networks of European (EU) scientists working in a common emerging research discipline. In May 2011, the European Concerted Research Action COST Action FA1004: **Conservation Physiology of Marine Fishes** started, and will run for 4 years (2011 – 2015). Follow this link for further info: http://www.cost.esf.org/domains_actions/fa/Actions/FA1004

The main objective of this Action is to coordinate European research efforts to understand the physiological mechanisms that determine distribution and abundance of marine fish species, and thereby contribute to sustainable management of biodiversity and fishery resources.

This Action is based upon a Memorandum of Understanding (MoU) that can be downloaded from the COST website at the address given above.

MoU Abstract

Marine fish are important resources in Europe but human pressures severely threaten their biodiversity and abundance. There is an urgent need to improve the knowledge-base underlying their sustainable management. Physiological research reveals how marine fish are adapted to their environment, and causal mechanisms underlying their distribution and abundance. Thus, the emerging field of conservation physiology can provide improved predictions on the impacts of environmental challenges, and refine conservation strategies. There are over 50 institutions in Europe

performing research in marine fish physiology, behaviour, ecology, and in modelling impacts of environmental challenges. This COST Action pioneers the coordination and integration of these multidisciplinary research activities across Europe.

This COST action will:

- 1) Coordinate marine fish conservation physiology research, to collate existing knowledge, reduce overlap, identify critical gaps in knowledge, and devise common approaches.
- 2) Coordinate interactions among physiologists, community ecologists and forecast modellers, to integrate physiology into models, improve their predictive power, and identify conservation priorities.
- 3) Coordinate interactions among researchers and policy makers/stakeholders, to promote integration of research outcomes into strategies and policy decisions, for sustainable management of biodiversity and resources.

This will be achieved through workshops, dedicated publications, conferences, targeted scientific exchanges, and common funding applications.

Action management structure and activities to date:

The Action is run by a Management Committee (MC), with the overall task of coordinating and organising the Action. The MC comprises scientists from all of the EU nations that have signed the MoU, two per nation. The nations that have signed the MoU, and the current composition of the MC, can be consulted here: http://www.cost.esf.org/domains_actions/fa/Actions/FA1004?management

The Action also comprises three Working Groups (WGs), whose primary objective is as described in points 1, 2 and 3, respectively, of the Abstract above. More detailed information about their specific objectives is provided in the MoU.

A 1st Conference on Conservation Physiology of Marine Fishes was held at CIIMAR, Porto (Portugal) in September 2011. A first objective of this Conference was to introduce the Action to ~ 50 invited experts in the fields of marine fish physiology, behaviour, ecology, and in

modelling impacts of environmental challenges, from EU countries and associated nations (Australia and Canada). A second objective was to form the WGs, based upon expression of interest from these attendees. The WGs each now have a set of objectives for this first Action year. An Action website is in the process of being created. In the meantime, for more information about upcoming activities, and how to join the Action if you are a European scientist from a country that has not signed the MoU, contact the Action Chair, David J. McKenzie, at david.mckenzie@univ-montp2.fr

Advertisements for member's courses



Postgraduate Programmes in Marine and Environmental Studies

A suite of multi-disciplinary 12-month Masters degree programmes is available at Heriot-Watt University, Edinburgh from September 2011.

<http://web.sls.hw.ac.uk/marinemsc>

MSc/Postgraduate Diploma Programmes:

Marine Resource Development and Protection

Marine Biodiversity & Biotechnology

Marine Spatial Planning

Climate Change: Managing the Marine Environment

Climate Change: Impacts and Mitigation

MRes programme in:

Environmental Analysis and Assessment

Scholarships are available

This suite of Masters degree programmes is constructed from a variety of core and optional taught and practical courses based at the School of Life Sciences with input from other Schools:

SEMESTER 1

Marine Resources and Sustainability

Diversity of Marine Organisms

Climate Change: Causes and Impacts

Practical Environmental Sampling and Analysis

Practical Marine Toxicology

Oceanography and Marine Ecology

SEMESTER 2

Coastal and Estuarine Monitoring and Pollution Control

Practical Skills in Marine Biotechnology

Climate Change: Mitigation and Adaptation Measures

Oilfield Chemicals: Nature and Fate in the Marine Environment

Fisheries and Bioresource Exploitation

*Scientific Diving and Consultancy
Geographical Information Systems*

The **Climate Change: Impacts and Mitigation and the Marine Spatial Planning MSc programmes** (being broader in scope) also have a range of optional **courses** from other Science, Engineering and Management Schools within the University (see website for more details).

How to apply and enquire about further details?

Follow the links:

<http://web.sls.hw.ac.uk/marinemsc>

or please contact:

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Vacancies

Assistant Professor Animal Physiologist (2 positions)
Department of Biological Sciences, Jess and Mildred Fisher College of Science & Mathematics
Towson University

Towson University invites applications for two tenure-track appointments in the Department of Biological Sciences starting August, 2012. Successful applicants are expected to possess a strong commitment to excellence in teaching and to establish a productive research/scholarly program involving undergraduate and graduate students, and to actively pursue extramural funding. A Ph.D. is required and postdoctoral experience is preferred. Start-up funds are available for both positions. Teaching responsibilities include Human Anatomy and Physiology; additional courses will include upper level undergraduate and/or graduate courses in the candidate's area of specialization. Salary will be commensurate with experience.

Founded in 1866, today Towson University is recognized by U.S. News & World Report's top public universities in the Northeast and Mid-Atlantic regions. Towson is nationally recognized for its programs in the liberal arts and sciences, business, education, communications, health sciences, and the fine and performing arts. The University places a strong emphasis on service learning and on civic engagement through such activities as internships, practica, clinical placements, course assignments, and student events. As the Baltimore area's largest university and Maryland's Metropolitan University, Towson articulates its research and scholarship mission through partnerships that link the University to the economic, educational and cultural life of the state of Maryland and the mid-Atlantic region. Towson enrolls more than 21,000 undergraduate and graduate students in 64 undergraduate majors, 35 master's programs and 4 doctoral programs. Located on a rolling 328 acres, the striking campus is eight miles north of downtown Baltimore and 45 miles from Washington, DC. The campus and its surrounding cities provide an excellent environment for teaching and supporting the academic pursuits of the 650 full-time faculty who work here.

The [Department of Biological Sciences](#) is the largest of the seven departments within the Fisher College of Science and Math (FCSM), carrying roughly 30 % of the 2200 declared majors and 38 of the 145 full-time FCSM faculty. The department is also the base of interdisciplinary programs in Molecular Biology, Biochemistry & Bioinformatics and Environmental Science & Studies that along with Biology account for 42% of the declared majors. The goals of FCSM and the Department of Biological Sciences have historically been realized by an emphasis on excellence in teaching. The commitment to teaching excellence in FCSM has been aided by its evolution from an education institution and by the continued prominence of National Science Foundation funded science education programs within the departments of the College. In addition, FCSM encourages both faculty and students to engage in scientific and educational research. For faculty hired in the past 20 years, research activity is a requirement for promotion and tenure. Student-centered research is seen as an important component of an undergraduate education in Biology at Towson and can be funded through generous intramural competitive grants to students.

Applicants should send: a CV, photo copies of transcripts from all institutions attended, a one-page

statement on teaching philosophy, a one-page statement on research interests, and three letters of reference. Submit application materials electronically to: Dr. Jay A. Nelson, Chair, Animal Physiology Search Committee; e-mail: jnelson@towson.edu. Review of applications will begin on 3 January, 2012 and continue until the position is filled. Information about the department is available at <http://www.towson.edu/biology/>.

Upon submitting your Curriculum Vitae to indicate you are an applicant for this position, please be sure to visit <http://www.towson.edu/odeo/applicantdata.asp> to complete a voluntary on-line applicant data form. The information you provide will inform the university's affirmative action plan and is for statistical purposes only and shall not be used to illegally discriminate for or against anyone.

Towson University is an equal opportunity/affirmative action employer and has a strong institutional commitment to diversity. Women, minorities, persons with disabilities, and veterans are encouraged to apply.



10th International Congress
on the Biology of Fish



University of Wisconsin ~ Madison
Madison, Wisconsin

Please mark your calendars for the
**10th International Congress
on the Biology of Fish**

to be held in Madison, Wisconsin, USA
on July 15-19, 2012.

Madison, Wisconsin
is located between
Lake Michigan and
the Mississippi River



SYMPOSIA INCLUDE:

Fish in a Toxic World:
Biomarkers and Impacts
of Exposure

Food Intake and
Utilization in Fish

Tropical Environments
& Climate Changes:
Extreme Events
Affecting Fish

Sensing the Environment:
Molecules to Populations

Symposium on Burbot

Climate Change/
Aquatic Hypoxia

Fish Living On The Edge:
Coping with Extreme
Environments

Zebrafish

Ion and Acid-Base
Regulation

Fish Cell Cultures as
a Tool for Fish
Physiology Research

Fish Parasites

Stress in Fish

Fish Migration:
Physiology and Behavior



**For more information about Madison,
the Congress venue, accommodations and travel
arrangements, please visit the Congress website:**

<http://conferencing.uwex.edu/conferences/icbf2012/>