



Annual Main Meeting
30th June – 3rd July 2010
Prague, Czech Republic

Programme and Abstract
Book

Charles Darwin House, 12 Roger Street, London, WC1N 2JU
Tel: +44 (0)207 685 2600 Fax: +44 (0)207 685 2601
www.sebiology.org

Society For Experimental Biology

Annual Main Meeting, 30th June – 3rd July 2010 Prague, Czech Republic

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SEB Prague 2010 – General Meeting Programme

Tuesday 29th June

15:00 – 18:00

Registration desk open (Conference floor exhibition area)

17:00 – 21:00

Pre-Conference Networking Event (Rooms: Taurus & Aquarius, on the conference floor)

Conferences are all about communication – presenting talks and posters but also talking to other delegates. Productive conversations can involve useful discussions about your research, lead to collaborations or even job offers. Aimed at PhD students and post-docs, this workshop is for those who would like to get the most out of the SEB conference and other future meetings. You will get a chance to meet up with some of our honorary SEB officers, find out how the SEB and other learned societies work as well as getting involved in some interactive communication exercises aimed at increasing your conference experience.

Please note this event is £15 per person and includes a buffet meal. The workshop is open to pre-paid delegates only.

Wednesday 30th June

07:30 – 19:00 Registration desk open (Conference floor exhibition area)

09:00 - 17:00 Scientific Sessions

17:30 - 18:30 Bidder Lecture (Room: Zenit and Nadir)

Ben Scheres, Utrecht University

Ben is interested in developmental mechanisms in plants, and in the extent to which these differ between the plant and animal kingdoms. His group investigates pattern formation, cell polarity and cell cycle control. Their aim is to understand at the single cell level the network logic of interacting gene products that determine cell specification, cell division rates and -planes, and organ growth. To this end the group analyzes interactions between many genes that are involved in patterning, cell polarity and cell cycle control in the *Arabidopsis* root tip.

Ben's talk is entitled 'Multilevel Signalling in Plant Development'

18:30 - 22:30 Welcome Evening and Wine Trail

This networking event is open to all conference delegates and is free to attend. The SEB Welcome evening and wine trail provides an opportunity for delegates to meet old friends and make new in an easy and relaxed environment. A buffet supper will be served. This will then be followed by the popular SEB wine trail where delegates can sample a number of local Czech wines, being served by a number of exhibitors. If you guess all the wines correctly, you win a prize!

Thursday 1st July

08:30 – 19:00 Registration desk open (Conference floor exhibition area)

09:00 - 10:00 Woolhouse Lecture (Room: Zenit and Nadir)

Don Grierson, University of Nottingham, Sutton Bonington Campus

Don received his BSc in Biological Sciences from the University of East Anglia and, after a short period in industry, studied for his PhD in Plant Sciences at Edinburgh. Don is a research professor in the School of Biosciences at the University of Nottingham's Sutton Bonington Campus, where he has been a staff member for 39 years. He was previously head of Biosciences and pro-vice-chancellor for research at Nottingham from 2003-2007. The Grierson group were the first to clone and identify a range of fruit ripening genes encoding polygalacturonase, pectinesterase, phytoene synthase, and ACC oxidase (the enzyme that converts ACC to the plant hormone ethylene) and were among the first to generate transgenic plants in which traits were altered by silencing specific genes. Recently he has been analyzing aspects of the ethylene perception and signalling chain. Don is interested in, and has experience of, successful collaboration with industry and over a dozen patents were granted for applications of this work, which was funded by BBSRC, EU, and other agencies. He has calculated that so far he has spent four years of his life writing grant applications. Don interacted with Harold Woolhouse as an examiner and fellow committee member. He joined the SEB while he was a PhD student and was elected FRS and made OBE in 2000.

Don's talk is entitled "Synthesis and Action of the Plant Hormone ethylene"

10:30 - 17:00 Scientific Sessions

10:30 – 12:40 YSAS presentations (Room: Quadrant)

The young researchers of today will be tomorrow's senior scientists guiding and leading cutting edge scientific research for the future. The SEB believes the encouragement of these young researchers is an essential part of supporting scientific endeavour. Talks by 6 young scientists will be given at this time, and the winner will be announced at the conference dinner on the 2nd of July.

17:00 - 19:00 Poster Session 1

Please see programme for further details. A cash bar will be available in the exhibition area for the duration of the poster session.

19:30 – 22:00 Women in Science Dinner

We welcome delegates (male and female) to attend our Women in Science dinner in the Clarion Hotel's beautiful bistro restaurant to experience good food and an excellent opportunity to listen and discuss the topical subject of 'networking'. As the head of a university department and vice president of an international learned society, our speaker this year, **Professor Jana Albrechtova** will give a personal perspective on the value and importance of building up an active network to enhance your visibility and improve your research profile. The talk will take place between the second and third courses after which there will be plenty of time for questions and discussion.

The dinner is available to ticket holders only.

Friday 2nd July

08:30 – 19:00 Registration desk open (Conference floor exhibition area)

09:00 - 17:00

Scientific Sessions

17:00 - 19:00

Poster Session 2

Please see programme for further details. A cash bar will be available in the exhibition area for the duration of the poster session.

20:00 - late SEB Conference Dinner and President's Medallists Presentation (Clarion Congress Hotel (same venue as the rest of the conference))

Join us for the SEB conference dinner celebration. There are networking opportunities galore, and to top this off, a sumptuous 3 course meal with wine will be served. During dinner, a presentation will be made to the Presidents Medallists.

This year's medallists are:

Animal Section - Jim Usherwood (Royal Veterinary College, University of London)

“A research career so far...”

Friday 2nd July, 12:00 (Room: Kepler)

Cell Section - Marcel Janson (Wageningen University)

“The combined action of motors and bundling proteins in regulating microtubule overlap”

Thursday 1st July, 16:00 (Room: Aquarius & Taurus)

Education Section - John Bothwell (Queens' University Belfast)

“Research careers - a personal perspective from a SEB President's Medallist”

Thursday 1st July, 13:40 (Room: Stella)

Plant Section - Kerry Franklin (University of Bristol)

“Light and temperature signal crosstalk in plant development”

Thursday 1st July, 13:20 (Room: Nadir)

The medals will be presented by the SEB President, Pat Heslop-Harrison

The dinner is followed by a disco and dancing until 3a.m.

This event is ticketed – if you have not bought your ticket please check availability at the registration desk.

Saturday 3rd July

08:30 – 17:00 Registration desk open (Conference floor exhibition area).

Please note the registration and exhibition area will close at 17:00

09:00 - 17:00 Scientific Sessions

17:00 Meeting closes

19:00 - 21:00 End of meeting social

This year's after meeting social event is a 2 hour boat cruise along the river Vltava (Moldau). A guide will point out sights and places of interest whilst you enjoy the scenes, sunset and a two course buffet dinner.

Other information

Exhibition

The exhibition area is the place meet with our many scientific exhibitors – whether you are looking for a publisher for your next paper, or an essential piece of scientific equipment. As well as housing the exhibitors, we will be using the exhibition area for refreshment breaks, as well as lunch breaks. Two dedicated poster evening will take place on the 1st and 2nd of July in the exhibition area. The exhibition will be open daily from 09:00 until 17:00, with extended opening on the 30th of June, for the welcome evening and wine trail. Please note that the exhibition area and registration desk will close at 17:00 on the 3rd of July.

Lunch

Lunch is included in the registration fee. Lunches will be served in the exhibition area.

Refreshment Breaks

Refreshments will also be served in the exhibition area. Please check your session timetables for refreshment breaks, but don't miss out – join us for positive refreshment!

Information for poster presenters

Posters can be hung when the exhibition area is open – from 09:00 on the 30th of June. The SEB will supply fastenings for your poster – please do not use any other methods of fastening for your poster. Posters entered into the Irene Manton Poster Prize will be judged during the poster session on the 1st and 2nd of July. Winners will be notified by the SEB office and posted on the SEB website.

Presenters for the second poster session, on the 2nd of July, can hang their posters from 08:30 on the 2nd of July. All posters must be removed by 16:00 on the 3rd of July.

Plenary Lectures

Plenary - Bidder Lecture

Ben Scheres (Utrecht University)

The Bidder Lecturer for 2010 is Ben Scheres from Utrecht University. Ben is interested in developmental mechanisms in plants, and in the extent to which these differ between the plant and animal kingdoms. His group investigates pattern formation, cell polarity and cell cycle control. Their aim is to understand at the single cell level the network logic of interacting gene products that determine cell specification, cell division rates and -planes, and organ growth. To this end the group analyzes interactions between many genes that are involved in patterning, cell polarity and cell cycle control in the *Arabidopsis* root tip.

17:30 Wednesday 30th June 2010
Multilevel Signaling in Plant Development

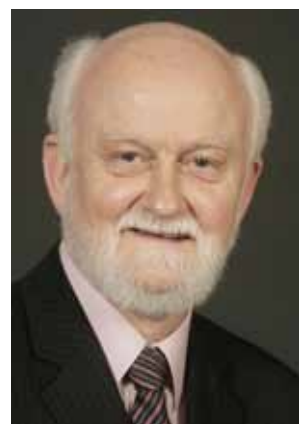


Plenary - Woolhouse Lecture

Don Grierson (University of Nottingham)

The 2010 Woolhouse Lecture will be given by Don Grierson. He received his BSc in Biological Sciences from the University of East Anglia and, after a short period in industry, studied for his PhD in Plant Sciences at Edinburgh. Don is a research professor in the School of Biosciences at the University of Nottingham's Sutton Bonington Campus, where he has been a staff member for 39 years. He was previously head of Biosciences and pro-vice-chancellor for research at Nottingham from 2003-2007. The Grierson group were the first to clone and identify a range of fruit ripening genes encoding polygalacturonase, pectinesterase, phytoene synthase, and ACC oxidase (the enzyme that converts ACC to the plant hormone ethylene) and were among the first to generate transgenic plants in which traits were altered by silencing specific genes. Recently he has been analyzing aspects of the ethylene perception and signaling chain. Don is interested in, and has experience of, successful collaboration with industry and over a dozen patents were granted for applications of this work, which was funded by BBSRC, EU, and other agencies. He has calculated that so far he has spent four years of his life writing grant applications. Don interacted with Harold Woolhouse as an examiner and fellow committee member. He joined the SEB while he was a PhD student and was elected FRS and made OBE in 2000.

09:30 Thursday 1st July 2010
Synthesis and Action of the Plant Hormone ethylene



Exhibition

The Exhibition Area is the place to be seen by our many scientific exhibitors - source that all-important piece of laboratory equipment or chat to one of the publishers about your next paper. The SEB Wine Trail and Welcome Evening on 30th June and the poster sessions on 1st and 2nd of July will also take place in the exhibition area.

Associate Sponsor

Wiley Blackwell

Wiley Blackwell is the SEB's Associate Sponsor at Prague 2010.



Wiley-Blackwell is the international scientific, technical, medical and scholarly publishing business of John Wiley & Sons, with strengths in every major academic and professional field and partnerships with many of the world's leading societies. Wiley-Blackwell publishes over 1,400 peer-reviewed journals as well as 1,500+ new books annually in print and online, as well as databases, major reference works and laboratory protocols. For more information, please visit www.wileyblackwell.com or <http://www.interscience.wiley.com>.

Wiley Blackwell will be on stand number 5 from the 30th June - 3rd of July.

Sponsors and Exhibitors

Agrisera

Agrisera is a Swedish company committed to serving the plant science community. We are developing commercial and custom antibodies. Our goal is to provide the best research tools and services. One of our products, The Plant Cell Compartment Antibody Marker Set is a collection of antibodies allowing estimation of fraction purity for a range of plant species. Your scientific success is our focus.



Agrisera are sponsoring the "Ubiquitin and plant cell signalling" session.

Annals of Botany

The Annals of Botany Company publishes original plant science in *Annals of Botany* (free of charge to authors, accessible to any reader worldwide after two years, accessible immediately to all subscribers) and in *AoB PLANTS* (online-only, initially free of charge to authors, immediate open-access worldwide).



The Annals of Botany are sponsoring "The plant cell cycle and its interaction with plant hormones" session.

CPB/Elsevier

As a global publisher of science and health information and tools, Elsevier serves more than 30 million scientists, students, and health and information professionals around the world. Our publications include titles such as *Comparative Biochemistry and Physiology, Part A, B, C and D*.



CPB/Elsevier are sponsoring "The challenge of measuring energy expenditure: current field and laboratory methods" session.

Euraxess

EURAXESS – *Researchers in Motion* is a unique initiative, launched by the European Commission to promote careers in research and facilitate the mobility of professional researchers. EURAXESS is an umbrella term for a number of initiatives addressed to researchers which brings together the following: EURAXESS Jobs, EURAXESS Services, EURAXESS Rights and EURAXESS Links.



Euraxess will be on stand T8 from the 30th June - 3rd of July.

Heinz Walz GmbH

High Quality Instrumentation for Plant Sciences

Innovation in close cooperation with leading scientists and excellence in product quality made the Walz Company one of the world's top producers of high-performance photosynthesis measuring systems. The current product line includes PAM chlorophyll fluorometers, dual-wavelength absorption analyzers, plant gas-exchange systems, gas conditioning devices and light sensors.



Heinz Walz GmbH will be on stands 12 and 13 from the 30th June - 3rd of July.

Noldus Technology

Noldus Information Technology develops, markets, and supports professional software and instrumentation for research on human and animal behavior. Our products enable the collection, analysis, management, and presentation of behavioral data. Scientists, engineers, and practitioners use our products to study behavioral processes, automate measurements, improve the quality of their data, increase productivity, and make optimal use of human or animal resources. Our product range includes a number of products developed for behavioral research, such as EthoVision, The Observer, PhenoTyper, and CatWalk. In addition, we offer complete set-ups, including mazes, trainings, and computer and video hardware.



Noldus technology will be on stand number 2 from the 30th June - 1st of July.

Oxford University Press

Oxford University Press is a leading international publisher of books and journals in the sciences and is proud to be the publisher of the *Journal of Experimental Botany*, the SEB Journal. Remember to visit the Oxford University Press booth to browse our collection, sign up for content alerts and pick up a sample copy of your favourite journal.



Oxford University Press will be on stands T11 and T12 from the 30th June - 3rd of July.

Photon Systems Instruments

Design and Manufacture of BioResearch Equipment.

PSI will be on stand number 8 from the 30th June - 3rd of July.



Qubit Systems

Accurate, affordable equipment for research and teaching in all areas of biological science. High quality gas exchange systems for respirometry and photosynthesis. Human cardiovascular fitness and electrophysiology. Chlorophyll fluorescence analyzers and imagers. LED-based growth chambers. Algal bioreactors. We also design and build custom equipment for specific applications. www.qubitsystems.com

Qubit Systems will be on stand number 1 from the 30th June - 3rd of July.



Sable Systems Europe

Sable Systems 23-year reputation in the physiological community is for insight and innovation in research-grade metabolic science. We provide the most accurate and user-friendly systems on the market for high-throughput metabolic screening, from microbes to *Drosophila*, shrews to elephants. All raw data are preserved, and all analytical steps are fully traceable and automatable.

Sable Systems will be on stand number 14 from the 30th June - 3rd of July.



Springer Science & Business Media B.V.

Springer is a leading global scientific publisher with offices in 20 countries in Europe, Asia and the USA. We publishing over 6500 new books and 2000 journals every year across all disciplines in Science and Technology. All our journals offer *open access* publishing, free online color figures and immediate online publication of articles.



Springer are sponsoring the "Chromosome Organization and Cytogenomics" session.

Taylor and Francis

Taylor & Francis is dedicated to the dissemination of scholarly information, utilising skills and expertise honed since we first began publishing learned journals in 1798. Today, we publish 1,562 scholarly journals in association with 460 societies and institutions.



The Journal of Experimental Biology

The Journal of Experimental Biology is the leading journal in comparative animal physiology, publishing papers on the form and function of living organisms at all levels of biological organisation. *JEB* is published by The Company of Biologists, a not-for-profit publisher who supports biological research through numerous grants and sponsorship.



The Journal of Experimental Biology will be on stand number T5 from the 30th June - 3rd of July.

The Journal of Experimental Botany

The JXB is owned by the SEB and publishes high quality research and review papers in all aspects of plant science. The Journal prides itself on providing an efficient and cost effective service and in promoting the role of plant science in improving the quality of life, health and welfare of both people and planet. All profits go directly into supporting the activities of the SEB. OPEN ACCESS publication is FREE for all corresponding authors from institutions with a full current subscription. Find out more at <http://jxb.oxfordjournals.org/>



The Journal of Experimental Botany will be on stand number 6 from the 30th June - 3rd July.
The Journal of Experimental Botany is also sponsoring the “Carbon Assimilation under Drought” session.

The Plant Journal

Publishing the best original research papers in all key areas of modern plant biology from the world’s leading laboratories, The Plant Journal provides a dynamic forum for this ever growing international research community.



The Plant Journal is sponsoring the “Plant Cell Biology: Cell Biology of Plant Defence” session.

The Society for Experimental Biology

The SEB aims to promote, and increase the influence of, Experimental Biology within the scientific community and Society by: developing the field of, and scientific careers in, experimental biology; developing education and public awareness in experimental biology; developing collaborative partnerships; maintaining transparency, ethical and environmental sensitivity in every sphere of activity and ensuring the financial viability of the Society.



In pursuit of its aims the **Society for Experimental Biology's** activities include: the organisation and sponsorship of experimental biology conferences, both independently and in collaboration with other life science societies; the publication and dissemination of a range of scientific literature; education, careers and policy work; the administration of travel grants for young researchers and offering membership to experimental biology researchers in academia and industry working at post-graduate level and above.

The Society for Experimental Biology will be in stands 3 and 7 from the 30th June - 3rd of July.

Journals from the following will be available on the SEB stand at the meeting:

EDP Sciences

Agronomy for Sustainable Development is an international journal for scientific research on the interactions between cropping systems and other activities in the context of sustainable development. The journal publishes original research articles that demonstrate a clear scientific breakthrough versus current knowledge. (www.agronomy-journal.org)



Environmental Biosafety Research is an interdisciplinary journal for research on GMOs and the environment. Its objective is to favor circulation of scientific information and to foster scientific debate, but also to fill the gap in scientific communication. (www.ebr-journal.org)



Science International

Since its founding in 1848, the American Association for the Advancement of Science (AAAS) and its members have worked together to advance science and serve society. As part of these efforts, AAAS publishes *Science*, a multidisciplinary peer-reviewed journal, featuring scientific research articles and reports and providing commentaries on recent news and events from around the world.

Springer Science

Springer is a leading global scientific publisher with offices in 20 countries in Europe, Asia and the USA. We publishing over 6500 new books and 2000 journals every year across all disciplines in Science and Technology. All our journals offer *open access* publishing, free online color figures and immediate online publication of articles.





Programme



Wednesday 30th June 2010

Plenary – Bidder Lecture

17:30 Ben Scheres (Utrecht University)
Multilevel Signaling in Plant Development
[PL 1.1]

A10 - General Animal Biology (Room: Zenit)

Chair: Kath Sloman

Neurobiology (Behaviour)

09:00 Dr Stefano Marras (IMC - International Marine Centre)
Do you feel full? What a risk!: Effects of gut fullness on anti-predator behaviour in fish.
[A10.1]

09:15 Dr Shaun S Killen (University of Glasgow)
The effects of hypoxia on risk-taking behaviour in individual European seabass in relation to body size and metabolic rate [A10.2]

09:30 Dr Paolo Domenici (CNR Oristano Italy)
Animal escape trajectories: where to flee?
[A10.3]

09:45 Dr Sarah Dalesman (University of Calgary)
Multiple stressors and memory: are some stressors more equal than others?
[A10.4]

10:00 Refreshment break

Chair: Jonathan Stecyk

Osmoregulation

10:30 Dr Jonathan M Wilson (CIMAR)
Revisiting the story of stomach loss in fishes. A case of déjà vu.
[A10.5]

10:45 Mr Jonathan M Whittamore (University of Exeter)
The driving forces behind fluid transport in the marine teleost intestine [A10.6]

11:00 Mr Samuel C Guffey (University of Miami RSMAS)
The importance of proton pumping in the fish intestine: osmoregulation and acid-base balance
[A10.7]

11:15 Dr Scott K Parks (Universite Nice - Sophia Antipolis University of Alberta)
Cellular mechanisms of ion transport in trout gill mitochondrion-rich cell subtypes
[A10.8]

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11:30 Dr Michele Nawata (McMaster University)

Molecular Physiology of Ammonia Excretion in the Pufferfish (*Takifugu rubripes*)
[A10.9]

11:45 Miss Audrey Fouchs (Laboratoire ORPHY Université Européenne de Bretagne Université de Brest)

Activation of the MAPKs ERK1/2 by cell swelling in turbot hepatocytes.
[A10.10]

12:00 Dr Marisa N Fernandes (Universidade Federal de São Carlos)

Mitochondria-rich cell distribution and Na⁺/K⁺-ATPase activity in the gills of freshwater stingray (Chondrichthyes: Potamotrygonidae)
[A10.11]

12:15 Mr Agusti Munoz-Garcia (Ben-Gurion University of the Negev)

Physiological adjustments of the bat *Pipistrellus kuhlii*, an inhabitant of the Negev desert
[A10.12]

12:30 Lunch break

Chair: Kath Sloman**Ecophysiology****13:30 Mr Anthony Bertucci (Centre Scientifique de Monaco)**

Characterization of a Carbonic Anhydrase involved in coral calcification [A10.13]

13:45 Prof Martin Grosell (RSMAS University of Miami)

Acquisition of Ca²⁺ and CO₃²⁻ for shell formation by the freshwater pulmonate snail, *Lymnaea stagnalis*
[A10.14]

14:00 Mr Jean-Hervé LIGNOT (Université de Strasbourg-IPHC CNRS)

Calcium metabolism in juvenile Burmese pythons. [A10.15]

14:15 Dr Todd E Gillis (University of Guelph)

The effects of temperature acclimation on the cardiac actin-myosin ATPase and cardiac proteome of Rainbow trout
[A10.17]

14:30 Dr Cléo Leite (UNESP - INCT em Fisiologia Comparada)

Why shunting?! The ablation of the cardiac shunt control do not change developmental or metabolic parameters in the South American rattlesnake, *Crotalus durissus*
[A10.18]

14:45 Miss Ida B Johansen (Department of Animal and Aquacultural Sciences UMB Norway)

Stress-sensitive fish have bigger hearts
[A10.19]

15:00 Refreshment break

Chair: Jonathan Stecyk**Ecophysiology****15:45 Dr Birgit E Obermuller (British Antarctic Survey)**

High degree of diversity in seasonal strategies in Antarctic benthic predators and scavengers
[A10.20]

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16:00 Dr Norman L Ragg (Cawthron Institute)

Physiological tools to identify commercially desirable traits in selectively bred mussels
[A10.21]

16:15 Mr Daniel B Zurek (Macquarie University)

The role of the anterior lateral eyes in the vision-based behaviour of jumping spiders
[A10.22]

A8 - General Biomechanics (Room: Kepler)

08:55 Introduction GENERAL BIOMECHANICS (P. Aerts)

Chair: Peter Aerts

09:00 Dr Fernando Montealegre-Z (University of Bristol)

Understanding wing mechanics in actively stridulating ensiferan (Orthoptera: Ensifera) using laser vibrometry and neuro-active substances
[A8.1]

09:15 Dr Coen Elemans (University of Southern Denmark)

Ultrasonic gymnastics: Motor control and neural processing constraints of echolocation in bats
[A8.2]

09:30 Mr Florian T Muijres (Lund University)

Actuator disk model and span efficiency of flapping flight of bats
[A8.3]

09:45 Dr Tatjana T Hubel (Royal Veterinary College)

The flight of the lesser short-nosed fruit bat
[A8.4]

10:00 Refreshment break

10:30 Dr Melissa S Bowlin (Lund University)

The effects of the drag and weight of geolocators on small migrants
[A8.5]

10:45 Prof Hao Liu (Chiba University)

How Can A Butterfly Take off: Integrated Modeling of Unsteady Aerodynamics and Flight Dynamics
[A8.6]

11:00 Dr Per Henningsson (Oxford University)

Time-resolved PIV and free flight performance in insects
[A8.7]

11:15 Dr Hiroto Tanaka (Harvard University)

At-scale 3-D insect wing models for functional morphology studies of insect wings
[A8.8]

11:30 Dr Timothy Higham (Clemson University)

The link between locomotor performance and ecomorphology in two desert-dwelling geckos
[A8.9]

11:45 Dr Thomas Claverie (University of Massachusetts)

Built for speed: shape, modularity and scaling in the raptorial appendage of mantis shrimp

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[A8.10]

12:00 Dr Robbie S Wilson (The University of Queensland)

How to be a great liar: physiological basis of dishonest signals of strength in males of the fiddler crab *Uca vomeris*

[A8.11]

12:15 Mr Henry C Astley (Brown University)

Measuring maximal animal performance with the celebrated jumping frogs of Calaveras County.

[A8.12]

12:30 Lunch break

Chair: Eize Stamhuis**13:30 Ms Juleen M Dickson (University of Rhode Island)**

Three dimensional escape response of white spotted ratfish, *Hydrolagus colliei*

[A8.13]

13:45 Miss Anabela Maia (University of Rhode Island)

Escape response of juvenile little skates, *Leucoraja erinacea*

[A8.14]

14:00 Dr Jonathan Cox (University of Bath)

What is the pump that drives flow through the olfactory channels of a shark?

[A8.15]

14:15 Mr Ronald Petie (Lund University)

Visually guided swimming in box jellyfish

[A8.16]

14:30 Mr Jonathan Voise (University of Tours - Institut de Recherche sur la Biologie de l'Insecte - UMR CNRS 6035)

Are whirligig beetles living colloids? Capillary forces and self-assembly in groups

[A8.17]

14:45 Refreshment break

15:30 Dr Shannon P Gerry (Wellesley College)

The effects of serotonin on leech muscle mechanics

[A8.19]

15:45 Miss Natalie C Holt (University of Leeds)

The energetic cost of *in vivo* contraction cycles

[A8.20]

16:00 Dr Rob S James (Coventry University)

Physiological concentrations of caffeine cause significant improvements in mouse soleus muscle performance during both high and low frequency activation

[A8.21]

16:15 Miss Julia P Myatt (University of Birmingham)

Distribution patterns of muscle fibre types in the triceps surae muscle of chimpanzees and orangutans

[A8.22]

16:30 Dr Christopher T Richards (Harvard University)

A novel robotic link between muscle dynamics and hydrodynamics

[A8.23]

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16:45 Mr Marinos Stavrou (Royal Veterinary college)

Scaling of moment arms relating to flight in birds.
[A8.24]

**P1 - Ubiquitin and plant cell signalling
(Room: Tycho)**

Session organiser: Ari Sadanandom

Chair: Richard Vierstra

09:30 Mr Richard Napier (University of Warwick UK)

Protein-protein interactions in the auxin signalling SCFTIR1 complex
[P1.1]

10:00 Refreshment break

10:30 Dr GENSCHIK PASCAL (Institut de Biologie Moléculaire des Plantes (CNRS))

The Arabidopsis CUL4-DDB1 complex interacts with MSI1 and is required to maintain MEDEA parental imprinting
[P1.3]

11:00 Mr Sascha Biederman (Freie Universität Berlin)

CUL4-DDB1 E3 ligases are critical for development and stress response in Arabidopsis thaliana
[P1.20]

11.30 Dr Stefan Hoth (FAU Erlangen) Ubiquitin ligase function at the plasma membrane prevents young plants from feeling old
[P1.2]

12:00 Lunch break

13:00 Mr Andreas Bachmair (Max Planck Institute for Plant Breeding Research)

Ubiquitin Conjugation in Stress Signaling and Programmed Cell Death Induction
[P1.5]

13:30 Dr Laura-Anne Brown (University of Leeds)

Functional characterisation of PEX10, an E3 ubiquitin ligase required for peroxisomal protein import
[P1.6]

14:00 Miss Prabhavathi Talloji (Dept. Biochemistry and Cell Biology MFPL Univ. of Vienna.)

Analysis of Arabidopsis mutants in N-end rule pathway
[P1.7]

14:30 Prof Claus Schwechheimer (Technische Universität München - Plant Systems Biology)

AMSH3 is a deubiquitinating enzyme required for intracellular trafficking.
[P1.8]

15:00 Refreshment break

15:30 Mike Hasegawa (Purdue University)

Arabidopsis SIZ1 SUMO E3 ligase involvement in plant stress responses
[P1.18]

16:00 Dr Lucio Conti (University of Milan)

Agrisera 

Antibodies for plant sciences

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OTS SUMO protease links plant development and salt stress responses
[P1.9]

16:30 Dr Benjamin Peret (Centre for Plant Integrative Biology)
Studying lateral root emergence using a chemical genetics approach
[P1.19]

**P2 - Redox regulation and associated signalling in photosynthesis
and respiration
(Room: Virgo)**

Chair: Mick Considine



08:20 Mr John F Allen (Queen Mary University of London)
Photosynthesis requires cytoplasmic inheritance. Chloroplast Sensor Kinase is the redox messenger
[P2.1]

09:00 Dr Hadas Zehavi (Weizmann Institute of Science)
A light regulated redox sensor in the chloroplast
[P2.2]

09:30 Prof Jean T Greenberg (University of Chicago)
Mitochondrial and chloroplast contributions to ROS and plant programmed cell death, events strongly modulated by the ACD2 protein in Arabidopsis
[P2.3]

10:10 Refreshment break

10:30 Prof Graham Noctor (Université de Paris-sud 11)
Interactions between H₂O₂ and the NADPH-glutathione system
[P2.4]

11:10 Miss Jenny Neukermans (University Paris South)
Light modulation of H₂O₂ signalling
[P2.5]

11:30 Dr Thomas Pfannschmidt (Friedrich-Schiller-University Jena)
Photosynthetic redox control integrates plant gene expression and metabolism
[P2.6]

12:10 Miss Patricia E López-Calcagno (University of Essex)
New approaches to elucidate the function of the CP12 gene family in higher plants
[P2.7]

12:35 Lunch break

13:20 Prof Stanislaw Karpinski (Department of Genetics Breeding and Plant Biotechnology Warsaw University of Life Sciences)
Can plants think? Evidence for light wavelength-specific photo-electro-physiological signaling and memory of excess light episode in *Arabidopsis*.
[P2.8]

14:00 Prof Anna M Rychter (Institute of Experimental Plant Biology University of Warsaw Warsaw Poland)
CHANGES IN MITOCHONDRIA AND ROS METABOLISM RESULTING FROM STRESS OR MITOCHONDRIAL MUTATION
[P2.9]

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14:45 Dr Michael J Considine (University of Western Australia)

Sulfur dioxide evokes large scale reprogramming of the grape berry transcriptome.
[P2.10]

15:15 Refreshment break

15:35 Ms Estelle Giraud (University of Western Australia)

Defining the Regulatory Context of Nuclear Genes Encoding Mitochondrial Proteins
[P2.11]

16:25 Dr Elke Stroehler (ARC Centre of Excellence in Plant Energy Biology)

Establishing the role of Glutaredoxins in mitochondrial redox homeostasis and associated plant cell function
[P2.12]

16:45 Miss Faezah M Salleh (Cardiff University)

SAG21: a LEA protein at the interface between stress and senescence
[P2.13]

17:05 Close of Session

A5 - Horizon scanning in Ecotoxicology - what are the future environmental concerns of natural and man-made pollutants (Room: Stella)

Chairpersons: Nic Bury and Armin Sturm

09:00 Introduction

Omics

09:10 Prof Kevin Chipman (Birmingham University)

Omic analyses in ecotoxicity risk assessment and monitoring
[A5.1]

09:40 Prof Greg G Goss (University of Alberta)

Using Quantitative Proteomics to understand the toxicology of fish exposed to Naphthenic Acids and Oils Sands Process Water
[A5.2]

10:00 Refreshment break

Chairpersons: Armin Sturm and Nic Bury

Nanoparticles

10:30 Prof Richard D Handy (University of Plymouth)

Horizon Scanning in Ecotoxicology: Einstein's Quantum Theory and the Toxicity of Engineered Nanoparticles?
[A5.3]

10:55 Dr Tyson J MacCormack (University of Alberta)

Structural and functional consequences of nanoparticle-enzyme interactions
[A5.4]

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11:15 Dr Javier García-Alonso (Zoology Natural History Museum of London)

Putative cellular uptake of silver nanoparticles in gut epithelia by *Nereis diversicolor* [A5.5]

11:35 Dr Farhan R Khan (Natural History Museum)

Biodynamic rates of silver nanoparticles in the estuarine snail, *Peringia ulvae*
[A5.6]

Fish Welfare**11:55 Dr Penny Hawkins (RSPCA)**

Harmonisation of the Care and Use of Fish in Research
[A5.7]

12:20 Lunch Break

Chairpersons: Nic Bury and Armin Sturm**MDRs and Mixtures****13:20 Dr Tvrtko Smital (Institut Ruder Boskovic)**

Uptake and efflux transporters in Ecotoxicology - identification, characterization and interaction with environmental contaminants
[A5.8]

13:50 Mr Till J Luckenbach (Helmholtz Centre for Environmental Research - UFZ)

Active cellular transport mechanisms in zebrafish embryos: toxicant defence and target for toxicants
[A5.9]

14:10 Mr Rolf Altenburger (UFZ Helmholtz Centre for Environmental Research)

How to establish cause-effect relationships in the assessment of complex exposure?
[A5.10]

14:35 Prof Mathilakath M Vijayan (University of Waterloo)

Maternal transfer of bisphenol A: long term impact on growth and stress performance in rainbow trout
[A5.11]

14:55 Dr Armin Sturm (Institute of Aquaculture University of Stirling)

Identification of ABC transporters in two emerging crustacean model species, the sea louse *Lepeophtheirus salmonis* and the porcelain crab *Petrolisthes cinctipes*
[A5.12]

15:15 Refreshment break

Chairpersons: Armin Sturm and Nic Bury**Metals****15:35 Prof Chris M Wood (McMaster University)**

Regulation and Toxicity of Metals in Aquatic Ecosystems
[A5.13]

16:05 Prof Richard D Handy (University of Plymouth)

Effect of Pollution History and Cadmium Exposure on Immunological Responses and Organ Histology in the Marine Mussel, *Mytilus edulis*.
[A5.14]

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16:25 Dr Michael P Wilkie (Department of Biology Wilfrid Laurier University)

The Influence of NOM Quality on Metal-Gill Binding and Toxicity in Fish: Implications for Determining Water Quality Guidelines for Metals. [A5.15]

16:45 Discussion and Summary

A6 - Respiratory control: strategies and mechanisms in periodic and non-periodic ventilation (Room: Leo)

09:05 Prof William K Milsom (Department of Zoology University of British Columbia)

The conditional nature of the vertebrate "Central Rhythm Generator" and the production of episodic breathing. [A6.1]

10:00 break

10:30 Dr Norman L Ragg (Cawthron Institute)

An unusual mechanism for respiratory control in the abalone: facultative circulatory isolation of the left gill [A6.2]

11:00 Ms Natalie G Schimpf (The University of Queensland)

Acclimation to low ambient humidity results in reduced rates of cuticular and respiratory water loss during discontinuous gas exchange in cockroaches *Nauphoeta cinerea* [A6.3]

11:30 Dr Philip G Matthews (The University of Queensland)

Respiratory regulation of haemolymph pH/pCO₂ and gas exchange patterns in the cockroach *Nauphoeta cinerea* [A6.4]

12:00 Lunch break

13:00 Mr Thomas D Förster (Humboldt Universität Berlin)

Spiracular fluttering during DGC in insects - Respiratory pattern generation by synchronization [A6.5]

13:30 Dr Stefan K Hetz (Humboldt University at Berlin animal physiology)

Insect respiratory patterns - an "ecomorphophysiological" interpretation [A6.6]

14:00 Prof Timothy J Bradley (University of California Irvine)

Factors Controlling Respiratory Pattern in Insects [A6.7]

15:00 Concluding remarks followed by Refreshment break

C1 - Polar adaptations and challenges (Taurus)

09:00 Prof C-H Christina Cheng (University of Illinois)

Molecular Perspectives of Adaptations to Challenges of Polar Environment [C1.1]

10:00 Refreshment break

10:30 Prof William Davison (University of Canterbury)

Antarctic fish survive increasing temperatures by acclimation of their sensitivity to hypoxia

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[C1.2]

11:00 Prof Peter Convey (British Antarctic Survey)

Adaptations to polar environments at different levels of organisation

[C1.3]

11:30 Prof Weiqun Lu (Shanghai Ocean University)

Adaptations for life in the Arctic: Reindeer disconnect the circadian clock to cope with extreme light environment

[C1.4]

11:50 Miss Axinja Stark (Alfred-Wegener-Institute)Is the Greenland smoothcockle (*Serripes groenlandicus*) sensitive to elevated CO₂ and temperature levels?

[C1.5]

12:10 Lunch break

C5 - Plant Cell Biology: Cell Biology of Plant Defence (Room: Nadir)



09:00 Mr Nick Talbot (School of Biosciences University of Exeter)Investigating the cell biology of plant infection by the rice blast fungus *Magnaporthe oryzae*

[C5.1]

10:00 Refreshment break**10:30 Prof Jonathan Jones (Sainsbury lab)**

Using Pathogen Effectors to Investigate Host Resistance Mechanisms.

[C5.2]

11:15 Prof Gary J Loake (University of Edinburgh)

S-nitrosylation: Charting the molecular landscape

[C5.3]

11:45 Dr Peter Urwin (Leeds University)

Pathogenicity genes of plant parasitic nematodes and the plant response

[C5.4]

12:15 Lunch break**13:30 Prof Gero Steinberg (University of Exeter)**

Myosin-17 in fungal plant pathology

[C5.5]

14:30 Prof Patrick J Hussey (School of Biological and Biomedical Sciences University of Durham)

The Actin Cytoskeleton: a stimulus responsive network

[C5.6]

15:00 Refreshment break**15:30 Dr Janice De Almeida Engler (INRA)**

The plant cytoskeleton: a target for plant parasitic nematodes during a susceptible interaction

[C5.7]

16:00 Dr John Love (The University of Exeter)

Perfluorodecalin substantially improves confocal depth resolution in air-filled tissues.

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[C5.8]

16:20 Dr Petra Boevink (SCRI)

The Attack on Defence: Imaging *Phytophthora infestans* RXLR effectors *in planta*

[C5.9]

16:40 Dr Martin J Cann (Durham University)

A phosphatase activity in the nucleotide binding α/β fold of a NB-ARC family protein from rice.

[C5.10]

C7 - Plant and animal circadian clocks (Room: Aquarius)

09:00 Dr Isabelle A CARRE (University of Warwick)

Genome wide analysis of transcriptional regulation by the circadian transcription factor LHY

[C7.1]

09:40 Dr Alena Sumova (Institute of Physiology Academy of Sciences of the Czech Republic)

Synchronization of the cellular clocks of the mammalian time keeping system along ontogenesis

[C7.2]

10:10 Refreshment break

11:00 Dr Nicholas R Glossop (University of Manchester)

Un-Clocking the Circadian Code

[C7.3]

11:40 Dr Alex A Webb (University of Cambridge)

Multiple light signaling pathways are associated with correct biological timing in *Arabidopsis*

[C7.4]

12:20 Lunch break

13:40 Dr Maria E Eriksson (Umea University)

EARLY BIRD INTERACTS WITH ZEITLUPE TO MODULATE THE CLOCK'S SPEED

[C7.5]

14:20 Prof Krystyna Skwarlo-Sonta (Department of Animal Physiology Faculty of Biology University of Warsaw Warsaw Poland)

Postembryonic and seasonal changes in the diurnal profile of *Hmmt* mRNA level and the enzyme activity in the chicken pineal gland

[C7.6]

15:00 Refreshment break

15:40 Prof Hugh D Piggins (University of Manchester)

Complex Organization of the Brain's Master Circadian Clock

[C7.7]

16:15 Prof Martha Merrow (University of Groningen)

The comparative approach: a circadian clock in the yeast, *Saccharomyces cerevisiae*

[C7.8]

16:55 Session Ends

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**C2 - Molecular biology of Thermal Adaptation
(Room: Taurus)****Chair: Melody Clark****13:30 Dr Cinzia Verde (National Research Council)**Globins and the oxidative stress in the cold: an overview
[C2.1]**14:05 Mr Volker Loeschcke (Aarhus University)**Finding candidate genes for thermal adaptation using *Drosophila* as a model
[C2.2]**14:40 Dr Nia Whiteley (Bangor University)**Influence of natural thermal gradients on the diversity of myosin heavy chain genes in gammarid amphipods
[C2.3]**15:00** Refreshment break**Chair: Magnus Lucassen****15:30 Dr Hourdez Stephane (Station Biologique de Roscoff)**Thermal adaptations in hydrothermal vent alvinellid polychaetes: an over-expression and functional study approach
[C2.4]**15:50 Miss Heidrun S Windisch (Alfred Wegener Institute)**Thermal acclimation in Antarctic eelpout: Transcriptomic profiling of metabolic pathways
[C2.5]**16:10 Mr Jorge Fernandes (Bodø University College)**Molecular Evolution of Zebrafish *Dnmt3* Genes and Differential Expression in Relation to Embryonic Temperature
[C2.6]**16:30 Dr Melody S Clark (British Antarctic Survey)**

Antarctic stress responses: from candidate genes to pyrosequencing [C2.7]

16:50 Concluding remarks

Thursday 1st July 2010

Plenary – Woolhouse Lecture

09:30 Don Grierson Don Grierson, University of Nottingham

Synthesis and Action of the Plant Hormone ethylene

[PL 2.1]

A10 - General Animal Biology (Room: Zenit)

Chair: Kath Sloman

Respiration

10:30 Prof Goran E Nilsson (University of Oslo)

Expression patterns of heat shock protein mRNAs suggest that cold prepares crucian carp (*Carassius carassius*) to anoxia

[A10.23]

10:45 Dr Jonathan A Stecyk (University of Oslo)

Expression of “pacemaker” channels in the turtle heart: Effects of anoxia and cold-acclimation

[A10.24]

11:00 Miss Guro K Sandvik (Department of Molecular Biosciences University of Oslo)

Ribonucleotide reductase in crucian carp - an oxygen dependent enzyme in an anoxia tolerant vertebrate

[A10.25]

11:15 Dr Frank B Jensen (Institute of Biology University of Southern Denmark Odense)

Nitric oxide metabolites in goldfish under normoxic and hypoxic conditions

[A10.26]

11:30 Dr Jeffrey G Richards (The University of British Columbia)

AMP-activated protein kinase coordinates metabolic rate suppression in goldfish hepatocytes

[A10.27]

11:45 Dr Sarah L Milton (Florida Atlantic University)

Neuroprotection by cGMP/PKG mechanisms in two anoxia tolerant animal models: fruit fly and freshwater turtle

[A10.28]

12:00 Dr Christine S Couturier (University of Oslo)

Gene expression in anoxic turtle brain, the inhibitory pathway

[A10.29]

12:15 Dr Gina L Galli (University of British Columbia)

Mitochondrial plasticity in the anoxic turtle heart

[A10.30]

12:30 Lunch break

Chair: Jonathan Stecyk

Ecophysiology and Endocrinology

13:30 Dr Christophe M LeMoine (McMaster University)

Reduced exercise blood lactate with the transition from acute to chronic hypoxia is associated with changes in HIF1 α , PDK1, and phosphorylation state and activity of pyruvate dehydrogenase

[A10.31]

Thursday 1st July 2010

13:45 Miss Karelle LEON (Laboratoire ORPHY Université Européenne de Bretagne Université de Brest)
Effect of induced mild hypothermia on oxygen transport efficiency in septic rats. [A10.32]

14:00 Dr Nina U Schaller (Senckenberg Research Institute University of Heidelberg)
Rudimentary or refined?
Reassessing structures in the *bauplan* of the ostrich
[A10.33]

14:15 Dr Armin Sturm (Institute of Aquaculture University of Stirling)
What is the functional relevance of duplicated glucocorticoid receptors in teleost fish?
[A10.34]

14:30 Miss Lucy M Turner (University of Bristol)
Crustacean Hyperglycaemic Hormone (CHH) and the control of seasonal osmoregulation: A study of the Christmas Island Blue Crab, *Discoplax hirtipes*
[A10.35]

14:45 Dr Cliff Rankin (Huddersfield University)
The role of the renin-angiotensin system in cyclostomes.
[A10.36]

15:00 Miss Patricia J Dasiewicz (Department of Biological Sciences University of Manitoba Winnipeg MB)
Potential Mechanisms for the Vasopressive Actions of Bradykinin in the Vascular Smooth Muscle of the Little Skate, *Raja erinacea*.
[A10.37]

15:15 Mr Philipp Busshardt (Christian-Albrechts-University of Kiel)
Muscle Control of Attachment Devices in Stick Insects
[A10.38]

15:15 Refreshment break

Chair: Francesca Mackenzie

Ecophysiology

15:45 Mr Daniel W Baker (University of British Columbia)
A CO₂ story: Using an ancient fish and an integrative approach to elucidate strategies and mechanisms of exceptional CO₂ tolerance in water breathing vertebrates.
[A10.39]

16:00 Miss Casey A Mueller (University of Adelaide)
The low developmental cost of the Australian lungfish compared to other fishes and amphibians
[A10.40]

16:15 Prof Jose M Icardo (University of Cantabria)
The heart, the kidney and the gut of the lungfish *Protopterus annectens*. Structural modifications during aestivation.
[A10.41]

16:30 Dr Manfred R Enstipp (IPHC-DEPE CNRS Strasbourg)
Using body acceleration to estimate energy expenditure during diving in adult green turtles (*Chelonia mydas*)
[A10.42]

Thursday 1st July 2010

A8 - General Biomechanics (Room: Kepler)

Chair: Sam VAN WASSENBERGH

10:30 Miss Karin Moll (University of Cambridge)

The Challenge of Large Loads - How Grass-Cutting Ants Maintain Stability
[A8.25]

10:45 Dr Naoe Hosoda (National Institute for Materials Science)

Characteristics of the traction force by jumping spider *Evarcha albaria* (Salticidae, Araneae) on the various surface.
[A8.26]

**11:00 Mr Carlo M Biancardi (Physiomechanics of Locomotion Laboratory Dept. of Human Physiology
University of Milan Italy)**

Biomechanical aspects of octopedal locomotion
[A8.27]

11:15 Dr Tom Weihmann (Inst. of Sport Science)

Hydraulic leg extension is not the main drive in large spiders
[A8.28]

11:30 Mr Huai-Ti Lin (Tufts University)

From crawling, inching, to rolling: *A biomechanical analysis of gait transitions in caterpillars and biomimetic soft-bodied robots*
[A8.29]

11:45 Prof Peter Aerts (University of Antwerp)

Changing pedality in primates: a case of fast 'loco-morphing'
[A8.30]

12:00 Mr Daniel Maykranz (Lauflabor Locomotion Laboratory Friedrich-Schiller University Jena)

Can energetic leg function be characterized with work-loops? [A8.31]

12:15 Mr Martin Gross (Lauflabor Locomotion Laboratory)

Strategies of three legged locomotion
[A8.32]

12:30 Lunch break

Chair: Thomas SPECK

13:30 Mr Anthony J Channon (University of Liverpool)

The Effect of Substrate Compliance on the Biomechanics of Gibbon Leaps
[A8.33]

13:45 Mr Pierre Legreneur (University of Lyon)

Forelimb roles in maximal and sub-maximal high leaping in squamates (*Anolis carolinensis*, Voigt, 1832)
[A8.34]

14:00 Miss Aleksandra V Birn-Jeffery (The Royal Veterinary College)

Stabilisation strategy varies with terrain 'roughness' in *Galliformes*
[A8.35]

14:15 Dr Samuel R Coward (University of Birmingham)

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Postural stability of human subjects on a compliant surface with a visually simulated forest environment
[A8.36]

14:30 Miss Penny E Hudson (Royal Veterinary College)

Kinetics and kinematics of galloping in cheetahs and racing greyhounds
[A8.37]

14:45 Mr Kyle Roskilly (Royal Veterinary College)

Remote Sensing of Cheetah Locomotion
[A8.38]

15:00 Refreshment break

15:30 Miss Zoe T Self (The Royal Veterinary College)

Horse racing: what's the limit?
[A8.39]

15:45 Dr Alexis M Wiktorowicz-Conroy (The Royal Veterinary College)

Scaling of postural change and joint mechanics in cats (Felidae)
[A8.40]

16:00 Dr Michael Doube (Imperial College London)

Whole-bone allometry in the avian pelvic limb: putting the cat among the pigeons
[A8.41]

16:15 Miss Carol A Hercock (The University of Liverpool)

Built for flight or built to fight: the mechanical properties of digital flexor tendons from racing Greyhounds and Staffordshire Bull Terriers
[A8.42]

16:30 Ms Marie-Christin G Klein (Christian-Albrechts University Kiel)

Material properties of ventral scales in the snake *Gongylophis colubrinus* (Squamata, Boidae)
[A8.43]

16:45 Dr Douglas S Fudge (University of Guelph)

Hagfish Slime Unraveled
[A8.44]

**YSAS - Young Scientist Award Session
(Room: Quadrant)**

Chair: TBC

10:30 Dr Quang Tri Ho (BIOSYST-MeBioS Katholieke Universiteit Leuven Willem de Croylaan 42 B-3001 Leuven Belgium)

Microscale gas exchange modelling in leaves using combined gas diffusion and photosynthesis kinetics
[YSAS.1]

10:50 Mr Huai-Ti Lin (Tufts University)

From crawling, inching, to rolling: *A biomechanical analysis of gait transitions in caterpillars and biomimetic soft-bodied robots*
[YSAS.2]

11:10 Dr Anne Osterrieder (Oxford Brookes University)

Studying interactions between Golgi tethering factors and small GTPases *in planta* by fluorescence lifetime

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imaging microscopy (FLIM)
[YSAS.3]

11:30 Mr David Labonte (IS Bionik University of applied sciences Bremen)

Hairy vs. smooth: differences in fluid-based friction and adhesion between different pad designs
[YSAS.4]

11:50 Dr Katja Graumann (Oxford Brookes University)

Plant SUN domain proteins in mitotic division
[YSAS.5]

12:10 Ms Lesley A Alton (The University of Queensland)

Changes in metabolic rate and activity explain UV-B/predation synergism in amphibians
[YSAS.6]

12:30 Discussion

12:40 Lunch break

**P3 - Plant temperature response networks
(Room: Nadir)**

Organisers: Heather Knight and Kerry Franklin

Chair: Kerry Franklin

10:30 Prof Michael F Thomashow (MSU-DOE Plant Research Laboratory)

The Low Temperature Regulatory Network of Arabidopsis
[P3.1]

11:30 Dr Steven Penfield (University of York)

SPATULA mediates a gibberellin-independent inhibition of plant growth by low daytime temperatures
[P3.2]

12:00 Dr Elaine Jensen (IBERS)

Impact of photoperiod and ambient temperature on days to flowering in *Miscanthus* species.
[P3.3]

12:15 Dr Andrija Finka (University of Lausanne)

Temperature sensing is mediated by specific calcium-permeable channels in plasma membrane of moss
Physcomitrella patens
[P3.4]

12:30 Lunch break

Chair: Heather Knight

13:20 Dr Kerry Franklin (University of Bristol)

Light and temperature signal crosstalk in plant development
[P3.5]

13:50 Dr Philip A Wigge (John Innes Centre)

Temperature sensing in plants
[P3.6]

14:20 Dr Harriet McWatters (University of Oxford)

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The role of cell membranes in the plant clock
[P3.7]

14:50 Prof Marc R Knight (Durham University)

Calcium-regulation of cold gene expression
[P3.8]

15:05 Dr Julia Foreman (University of Edinburgh)

Regulation of Biological Signalling by Temperature: ROBuST
The cryptochromes and phytochrome A regulate temperature compensation of the circadian clock [P3.9]

15:20 Refreshment break

Chair: Harriet McWatters

15:40 Dr Martijn Van Zanten (Max Planck Institute for Plant Breeding Research)

Heat-induced hyponastic growth in *Arabidopsis thaliana*
[P3.10]

16:10 Dr Monika Kavanova (John Innes Centre)

Ambient temperature perception and responses in the model grass *Brachypodium distachyon* [P3.11]

16:25 Dr Heather Knight (Durham University)

The role of SFR6 in cold-regulated gene expression and beyond
[P3.12]

16:40 Dr Peter J Dominy (University of Glasgow)

Thermotolerance studies on barley (*Hordeum Vulgare L.*) germplasm from arid and temperate regions
[P3.13]

**A2 - Ontogeny and Phylogeny of the heart
(Room: Virgo)**

10:30 Mr Antoon F Moorman (Heart Failure Research Centre Academic Medical Centre Amsterdam)

Development of the building plan of the heart
[A2.1]

11:10 Mr Brian R McMahon (Biological Sciences. The University of Calgary)

Comparative evolution and design in non-vertebrate cardiovascular systems [A2.2]

11:30 Mr David Sedmera (Institute of Physiology Academy of Sciences of the Czech Republic)

The conduction system of the vertebrate heart
[A2.3]

11:50 Prof Anthony P Farrell (University of British Columbia)

Evolution of the coronary circulation in vertebrates
[A2.4]

12:10 Dr Todd E Gillis (University of Guelph)

Evolution of the regulatory control of the vertebrate heart: the role of the contractile proteins
[A2.5]

12:30 Lunch break

13:30 Mr Bohuslav Ostadal (Centre for Cardiovascular Research Institute of Physiology Academy of Sciences Czech Republic)

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Ontogenetic development of cardiac tolerance to oxygen deprivation
[A2.6]

14:10 Prof BRUNO TOTA (UNIVERSITY OF CALABRIA)

Fish heart growth and function: from gross morphology to cell signaling and back [A2.7]

14:30 Prof Jose M Icardo (Univ. Cantabria)

The teleost heart. A morphological approach
[A2.8]

14:50 Prof James W Hicks (1Dept Ecol and Evol Biol Univ Calif Irvine Irvine CA USA)

The Functional Significance of the Reptilian Heart: New Insights into an Old Question [A2.9]

15:10 Refreshment break

15:30 Mr Bjarke Jensen (Aarhus University Department of Biological Sciences Zoophysiology)

Visualization of intraventricular blood flow patterns in reptiles and amphibians using ultrasound
[A2.10]

15:50 Dr Holly A Shiels (University of Manchester)

Volume-Regulated Cardiac Output: A question of class. [A2.11]

16.10 Mr Dane Crossley (University of North Dakota)

Comparative Baroreflex Function; Differences with Phylogeny and Ontogeny
[A2.17]

16:30 Miss Ana L Kalinin (Department of Physiological Sciences - Federal University of Sao Carlos - Brazil)

Heart contractility of Burmese python (*Python molurus*) during fasting and digestion.
[A2.12]

A7 - Swim, flap, waddle, sleep:optimising life across time and distance (A tribute to Pat Butler on his retirement) (Room: Tycho)

Chair: Peter Frappell

10:30 Prof William K Milsom (Dept. Zoology University of British Columbia)

Capacity versus Performance: Lessons from Pat Butler
[A7.1]

10:50 Dr Craig R White (University of Queensland)

Causes and consequences of variation in the metabolic rates of birds
[A7.2]

11:10 Prof Magella Guillemette (Université du Québec à Rimouski)

Metabolic demands lead to behavioural compensation in a large migratory bird
[A7.3]

11:30 Dr Steven J Portugal (University of Birmingham)

The barnacle goose as a model species: What have we learnt about the annual cycle of birds?
[A7.4]

11:50 Prof Randall W Davis (Texas AM University)

The dive response is also an exercise response
[A7.5]

Thursday 1st July 2010

12:10 Prof Tobias Wang (Department of Biological Sciences Zoophysiology)

The cardio-respiratory response to increased metabolism in reptiles and amphibians

[A7.6]

12:30 Lunch break**Chair: Kath Sloman****13:30 Prof Brian R McMahon (Biol.Sci. University of Calgary)**

Crabs in the locker room: anxiety versus activity

[A7.7]

13:50 Dr Julian D Metcalfe (Cefas)

Of plaice, cod and eels: movements, migrations & behaviour of fish in the sea

[A7.8]

14:10 Prof Edwin W Taylor (University of Birmingham)

In the swim with heavy metal

[A7.9]

14:30 Dr David J McKenzie (CNRS Montpellier)Air-breathing during aerobic exercise in the banded knifefish, *Gymnotus carapo*.

[A7.10]

14:50 Dr Timothy D Clark (University of British Columbia)

Effects of body mass on the cardiorespiratory performance of Pacific salmonids in an era of climate change

[A7.11]

15:10 Refreshment break**Chair: Peter Frappell****15:30 Dr Nigel West (University of Saskatchewan)**

What happens to, and in, the brain during underwater swimming in the rat. [A7.12]

15:50 Dr Lewis G Halsey (Roehampton University)

Diving into the unknown: combining two established methods to investigate the mysteries of prolonged submergence apnoea [A7.13]

16:10 Dr Jonathan A Green (University of Liverpool)

Dive, pant, shiver, eat: energetics and thermoregulation in the little penguin

[A7.14]

16:30 Mr Adrian C Gleiss (Swansea University)

Being most moved by that sinking feeling: implications of movement geometry for optimisation of travel in dense marine animals

[A7.15]

16:50 Prof Peter Frappell (University of Tasmania)

How do bar-headed geese manage to fly over the Himalayas?

[A7.16]

17:10 End of Session

Thursday 1st July 2010

C3 - The plant cell cycle and its interaction with plant hormones (Room: Aquarius & Taurus)



Chair: John Bryant

Sponsored by the SEB Cell Cycles Group and The Annals of Botany Company

10:35 Prof Jim A Murray (Cardiff University)

Connections to the plant cell cycle through D-type (CYCD) cyclins
[C3.1]

11:20 Mr Pete E Pascuzzi (North Carolina State University)

DNA Replication Programs in Arabidopsis and Rice
[C3.2]

12:05 Dr Alicja Ziemienowicz (University of Lethbridge Canada)

The functions of plant PCNA
[C3.3]

12:35 Lunch break

C3 The Plant Cell Cycle and its Interactions with Plant Hormones Chair: John Bryant and Dennis Francis

13:30 Dr Dennis Francis (Cardiff University)

The G2/M transition in the plant cell cycle
[C3.4]

14:10 Prof John H Doonan (John Innes Centre)

CDK targets and cell cycle progression
[C3.5]

14:50 Prof David E Evans (Oxford Brookes University)

The nuclear envelope in the plant cell cycle; structure, function and regulation.
[C3.6]

15:30 Refreshment break

16:00 Mr Marcel Janson (Laboratory of Plant Cell Biology Wageningen University)

The combined action of motors and bundling proteins in regulating microtubule overlap
[C3.7]

16:25 Prof Janusz Maszewski (Department of Cytophysiology University of 3216d378)

Beyond The Rules Of The Cell Cycle Checkpoints: An Identity Crisis Of Chromosomes Under Dna Replication Stress [C3.8]

17:05 end of session

EPA1 - Academia - Mastering a Complex Career (Room: Stella)

Chair: Dr Jeremy Pritchard

10:30 Dr Jeremy Pritchard (University of BirminghamSEB)

Academic careers - current and future perspectives
[EPA1.1]

Thursday 1st July 2010

10:50 Ms Izabela Stanislawiszyn (President of Eurodoc Doctoral Candidate Warsaw School of Economics Poland)

Survey results of "The situation of doctoral candidates within Europe" conducted by EURODOC with regard to career prospects and working conditions.

[EPA1.2]

11:20 Dr Eugen Kvasnak (Consultant Technology Transfer office Charles University Prague)

Commercialisation of Research

[EPA1.3]

11:50 –13:00 Dr Jeremy Pritchard (University of Birmingham SEB), Dr Teresa Valencak (Veterinary University of Vienna), Dr Larry Griffing (Texas AM University)

Teaching: different Perspectives from Europe, UK and USA

[EPA1.4] [EPA1.5] [EPA1.6]

13:00 – 13:40 Lunch break

13:40 Dr John Bothwell (Queen's University Belfast)

Research careers - a personal perspective from a SEB President's Medallist

[EPA1.8]

14:00 Dr Dominic Delaney (Edvotech)

Outreach - working with schools - Workshop

[EPA1.10]

15:00 Dr Irene Hames (Managing Editor The Plant Journal and author of Peer Review and Manuscript Management in Scientific)

Getting your research published - strategies, insights and ethics

[EPA1.7]

15:30-15:50 Refreshment break

15:50 Dr Carol Featherstone (Freelance Science Editor Writer and Trainer (Toulouse France))

Research funding generation

[EPA1.9]

16:50 Summary and sources of further information and resources

17:00 END

**C8 - General Thermal Biology
(Room: Leo)**

Chair: Hans-O. Pörtner

13:30 Prof Roger Seymour (University of Adelaide)

Thermoregulating flowers: precision and limits of the biochemical regulatory mechanism

[C8.1]

13:50 Mr Nishad Jayasundara (Stanford University)

Effects of steady state temperature acclimation on cardiac myocytes in Pacific bluefin tuna *Thunnus orientalis*

[C8.2]

14:10 Mr Michael Oellermann (Alfred Wegener Institute for Polar and Marine Research)

Getting to the heart(s) of cuttlefish - Thermal sensitivity and mitochondrial function of cuttlefish hearts

[C8.3]

Thursday 1st July 2010

14:30 Dr Daniela Storch (Alfred-Wegener-Institute for Polar and Marine Research)

Thermal tolerance of the first larval stage in Sub Antarctic crustaceans
[C8.4]

14:50 Miss Elizabeth A Morgan (UNIVERSITY OF BRISTOL)

Temperature dependent response to hypoxia involves haemocyanin functioning in the signal crayfish *Pacifastacus leniusculus*.
[C8.5]

15:10 Refreshment break

Chair: Daniela Storch

15:40 Ms Astrid C Wittmann (Alfred Wegener Institute for Polar and Marine Research Bremerhaven Germany)

Cold tolerance of the sub-Antarctic stone crab *Paralomis granulosa* is not limited by oxygen supply or high extracellular magnesium, but by uncompensated tissue functional capacity
[C8.6]

16:00 Prof Hans O Pörtner (Alfred-Wegener-Institute)

Oxygen versus capacity and the time limitation of thermal tolerance: a conceptual analysis
[C8.7]

16:20 Ms Ashley S Vorhees (University of California Irvine)

Physiological responses to thermal ramping in three life stages of a Tenebrionid beetle
[C8.8]

16:40 Mr Samuel P Rastrick (Bangor University)

Latitudinal variations in the metabolic rates of amphipods: a large-scale perspective.
[C8.9]

17:00 Session ends

Poster Session For Thursday, 01 July 2010

A10 General Animal Biology

Dr Dan E Warren (University of Manchester)

Effects Of Temperature On Calcium-Induced Calcium Release In Trout Cardiomyocytes
[A10.16]

Mr Vrushabendra Swamy Bhyrapur Mathad (Srinivasa Institute of Pharmaceutical Sciences Proddatur Kadapa (dist) ap India 516361)

Hepatoprotective Potential of Momordica cymbalaria Hook. F. on thioacetamide Induced Hepatotoxicity in Rats
[A10.43]

Dr Cléo Leite (UNESP - INCT em Fisiologia Comparada)

Ablation of the cardiac shunt control does not increase fasting tolerance in the South American rattlesnake, *Crotalus durissus* [A10.44]

Dr André M Almeida (IICT CIISA ITQB)

Adaptation to seasonal weight loss in domestic sheep (*Ovis aries*): a liver proteomics approach [A10.45]

Dr Steven J Portugal (The University of Birmingham)

The Eggshells View of Avian Life History: How Shell Permeability and Characteristics Fit Species Breeding Biology

Thursday 1st July 2010

[A10.46]

Dr Birgit E Obermuller (British Antarctic Survey)

Freeze or forage: Seasonal physiology of an Antarctic intertidal limpet

[A10.47]

Dr Malcolm E Forster (University of Canterbury)

Oxygen delivery to snapper myotome in hypoxia and hypothermia [A10.48]

Dr Katherine A Sloman (University of Plymouth)

Using Behaviour as an Indicator of Fish Welfare in Mixed-Species Home Aquaria [A10.49]

Miss Eyckmans Marleen (University of Antwerp)Physiological effects of waterborne Lead exposure in the spiny dogfish (*Squalus acanthias*) [A10.50]**Miss Signe Helbo (Aarhus University)**

Oxygen affinity of rainbow trout Mb is regulated by S-nitrosylation [A10.51]

Prof BRUNO TOTA (UNIVERSITY OF CALABRIA)

Nitrite contributes to the frank-startling response of eel, frog and rat hearts [A10.52]

Prof BRUNO TOTA (UNIVERSITY OF CALABRIA) β 3-adrenoceptor modulates cardiac function of the frog *Rana esculenta* [A10.53]**Dr Tommaso Angelone (University of Calabria)**

Myocardial and coronary functions of Glucagon-derived peptide-2 (GLP-2) in the rat heart [A10.54]

Dr Jonathan M Wilson (CIMAR)

Loss of the gastric proton pump in birds? [A10.55]

Mr Tommy Norin (Aarhus University)Stability and variation in standard rate of oxygen consumption in young brown trout (*Salmo trutta* L.) [A10.56]**Mr Casper K Larsen (Zoophysiology Dept. of Biology Aarhus University Denmark)**Erythrocytes from the snake *Python regius* are insensitive to pore-forming bacterial haemolysins [A10.57]**Dr Kosuke TANAKA (Kyorin University School of Medicine)**An electrophysiological and Ca²⁺ imaging analysis of serotonergic and octopaminergic excitation of the heart in the isopod crustacean, *Bathynomus doederleini*. [A10.58]**Miss Sanne Enok (Zoophysiology Aarhus University)**

Regulation of heart rate during digestion in python [A10.59]

Prof Roy E Weber (Aarhus University)Reduced enthalpy of hemoglobin-O₂ binding in regionally-endothermic oceanic fish [A10.60]**Dr Chris Lloyd Mills (Nottingham Trent University)**Sodium regulation in cave and surface living *Gammarus pulex* [A10.61]**Ms Hana Kratochvilova (University of South Bohemia)**

Effect of temperature and oxygen concentration on gill morphology and gill expression of sodium pump in crucian carp. [A10.62]

Mr Callum Scott (Heriot-Watt University)Proteomic comparisons between traditional serovar 01 biotype 1 ("Hagerman") *Yersinia ruckeri* strains and the newly emerging serovar 01 biotype 2 ("EX5 like") strains [A10.63]

Thursday 1st July 2010

Dr Nini Skovgaard (Zoophysiology Aarhus University)

Cost of ventilation in the alligator [A10.64]

Ms Lesley A Alton (The University of Queensland)

Effect of aerial oxygen partial pressure on bimodal gas exchange and air-breathing behaviour in *Trichogaster leeri* [A10.65]

Ms Sjannie Lefevre (Zoophysiology Section Dep. of Biological Sciences Aarhus University)

Nitrite effects in striped catfish *Pangasianodon hypophthalmus* [A10.66]

Miss Inge Findorf (Department of Biological Sciences Aarhus University)

High oxygen affinity in the blood of the air-breathing swamp eel, *Monopterus albus* [A10.67]

Mr Henrik Seth (University of Gothenburg)

Pharmacological studies in the bulbus arteriosus of rainbow trout (*Oncorhynchus mykiss*) [A10.68]

Dr Gina L Galli (University of British Columbia)

Turtle cardiomyocytes maintain Ca²⁺ homeostasis during anoxia [A10.69]

Mr Henrik Lauridsen (Department of Biological Sciences Aarhus University Denmark)

Advanced three-dimensional imaging reveals the arterial vasculature in the head region of the air-breathing swamp eel, *Monopterus albus* [A10.70]

Dr Glenn J Lurman (University of Bern)

Species-specific doping? Dietary docosahexaenoic acid does not alter flight and leg muscle morphology in the Japanese quail (*Coturnix japonica*) [A10.71]

Mr Henrik Lauridsen (Department of Biological Sciences Aarhus University Denmark)

Visualisation of animal anatomy using MRI and CT [A10.72]

Mr Jean-Hervé LIGNOT (Université de Strasbourg-IPHC CNRS)

Effects of geophagia on intestinal morphology and lipid absorption. [A10.73]

Dr Hans Malte (Zoophysiology Dept. of Biological Sciences Aarhus University)

Blood oxygen affinity has little effect on the predicted maximal oxygen uptake in fishes [A10.74]

Dr Lynne U Sneddon (University of Chester)

Linking physiology and behaviour: bold and shy phenotypes in rainbow trout, *Oncorhynchus mykiss*, selected for high and low stress response [A10.75]

Dr Lynne U Sneddon (University of Chester)

A genome scan for signatures of selection for the stress response in rainbow trout (*Oncorhynchus mykiss*) [A10.76]

Mr Kasper Hansen (Aarhus University Denmark)

The phenotypic flexibility of the visceral organs of pythons during digestion revealed by modern imaging techniques [A10.77]

Dr Lynne U Sneddon (University of Chester)

Is pain in the brain of fish? [A10.78]

Miss Luanne Wilkes (University of Exeter)

Effects of hypothesised enrichment on acute and chronic stress responses of zebrafish. [A10.79]

Thursday 1st July 2010

Ms Christina Sørensen (University of Oslo)

The effect of social subordination on expression of stress- and neurogenesis related genes in the rainbow trout (*Oncorhynchus mykiss*) brain [A10.80]

Miss Nina K Iversen (Zoophysiology Department of Biological Sciences Aarhus University)

The normal acid-base status of mice [A10.81]

Miss Audrey Fouchs (Laboratoire ORPHY Université Européenne de Bretagne Université de Brest)

Involvement of lipid rafts in RVD process of turbot (*Scophthalmus maximus*) hepatocytes. [A10.82]

Miss Zahra Khoshnood (Tarbiat Modares University)

Effects of Salinity and Cortisol on Branchial Na⁺, K⁺-ATPase Activity in Persian Sturgeon, *Acipenser persicus*, Fry [A10.83]

Miss Cathrine E Fagernes (University of Oslo)

Molecular characterization of ethanol production in crucian carp (*Carassius carassius*) [A10.84]

Mr Jonas L Andersen (University of Aarhus)

Fighting in the field: Cost and consequence of bearing a major weapon in Yellow clawed fiddler crab (*Uca perplexa*) [A10.85]

Miss Pil Birkefeldt M Pedersen (Aarhus university)

Osmoregulation in the Asian swamp eel: Effects of increased salinity on plasma osmolality and growth [A10.86]

Mr Anders Findsen (Aarhus university)

Blood oxygen binding and CO₂ transport in the Yellow anaconda, (*Eunectes notaeus*) [A10.87]

Dr Jonathan A Stecyk (University of Oslo)

Contractile properties of endocardial smooth muscle in the turtle heart [A10.88]

Dr Jonathan A Stecyk (University of Oslo)

Don't trust your housekeepers: Labile expression of internal reference genes in anoxic turtles [A10.89]

Dr Jonathan A Stecyk (University of Oslo)

Gill parasites inhibit hypoxic gill remodeling in the crucian carp (*Carassius carassius*) [A10.90]

Mrs Alexandra Richter (University Autonoma of Madrid)

The anatomy and ultrastructure of the gland of Leiblein of *Bolinus brandaris* and *Coralliophila meyerendorffii*, two neogastropod species with different ecology and feeding strategies [A10.91]

Miss Isabelle Lardon (University of Antwerp)

A proton NMR study of the metabolomics of anoxic crucian carp: a systems biology approach [A10.92]

Mr Jorge Fernandes (Bodø University College)

DNA and histone methyltransferases in Atlantic cod (*Gadus morhua*) and their photic-related expression changes [A10.93]

Mrs Agnieszka Dymowska (University of Alberta)

Isolation and characterization of mitochondria-rich cell types from the gill of Pacific spiny dogfish using peanut lectin labeling [A10.94]

A8 General Biomechanics

Thursday 1st July 2010

Dr Thomas Hesselberg (University of Oxford)

Scaling effects and behavioural responses to wind-loading in orb webs: a comparative study [A8.56]

Miss Carol A Hercock (The University of Liverpool)

Physical and Biochemical Evidence of Asymmetric Bone Turnover in the Distal Limb Bones of Racing Greyhounds [A8.57]

Miss Carol A Hercock (The University of Liverpool)

μ CT analysis of the trabecular structure of central tarsal bones from racing Greyhounds and Staffordshire Bull Terriers [A8.58]

Mr Tayfun Buzkan (University of Applied Sciences Bremen)

Rubber-like friction in tree frog feet [A8.59]

Mr Gert Roos (University of Antwerp)

The consequences of a long and tubular snout: a study of the hydrodynamics of suction feeding in seahorses [A8.60]

Miss Gaëlle Bimbard (Institut de Recherche sur la Biologie de l'Insecte)

Take-off kinematics in a butterfly [A8.61]

Mrs Elodie Reghem (HandiBio EA4322 France)

Do human and the gray mouse lemur share the same kinematic profile of grasping? Medical and evolutionary implications [A8.62]

Mrs Elodie Reghem (HandiBio EA4322 France)

Behavior and Kinematics of food prehension in the smallest primate (*Microcebus murinus*, Miller, 1777) [A8.63]

Dr Sam Van Wassenbergh (Universiteit Antwerpen)

The horse-like shape of seahorses improves strike distance during feeding [A8.64]

Dr Tatjana T Hubel (Royal Veterinary College)

Walking on a slope - advanced compass gait predictions and reality [A8.65]

Miss Sharon E Warner (Royal Veterinary College)

Scaling of foot impact mechanics in ungulate mammals. [A8.66]

Ms Kelly R Richards (University of Cambridge)

Biomechanical indicators of posture and locomotion in *Morganucodon watsoni*, a Mesozoic mammal [A8.67]

Mr Sebastian Möller (Bionic-Innovation-Centre Bremen University of Applied Sciences)

Hydrodynamic analysis of a model lemon shark tail fin: The role of the subterminal lobe [A8.68]

Dr Rob S James (Coventry University)

Correlative analysis of age independent locomotor performance in young male footballers [A8.69]

Mr Andreas T Rick (Bionic-Innovation-Centre Bremen University of Applied Sciences)

Coping with slopes: How do adhesive devices effect spider locomotion on inclined surfaces? [A8.70]

Mr William Thielicke (Bionic-Innovation-Centre Bremen University of Applied Sciences)

Applying bird-wing morphology to flapping-wing micro air vehicles (MAVs) [A8.71]

Mr Andrew Martin (Bionic-Innovation-Centre Bremen University of Applied Sciences)

Pitch control and flight stabilisation in the orange spotted roach (*Blaptica dubia*) [A8.72]

Thursday 1st July 2010

Dr Graham N Askew (University of Leeds)

Energetics of locomotion in Medieval armour
[A8.73]

Dr Timothy G West (Royal Veterinary College University of London)

Effect of inorganic phosphate on the rate of ADP release during ramp shortening in activated permeabilized fibers from rabbit psoas muscle. [A8.74]

Mr Florian Hoffmann (Bionic-Innovation-Centre Bremen University of Applied Sciences)

The influence of added mass on flight stabilisation and pitch control in the orange spotted roach (*Blaptica dubia*)
[A8.75]

Mr Andrew Martin (Bionic-Innovation-Centre Bremen University of Applied Sciences)

Unbreakable? - A finite element analysis of impact behaviour in insect cuticle [A8.76]

Prof Albert Baars (Hochschule Bremen)

Divergent trailing edge of dragonfly - aerodynamic characterization for gliding flight
[A8.77]

Miss Alison P Wills (The Royal Veterinary College)

The Use of GPS for the Analysis of Social Networks in Sheep [A8.78]

Dr Walter Federle (University of Cambridge)

Thin fluid films and insect adhesion - Interference reflection microscopy of the pad contact [A8.79]

Mr Lars Reinhardt (Friedrich-Schiller-University)

3D kinematics in the large labidognath spider *Cupiennius salei* running on level substrate [A8.80]

Prof Eize J Stamhuis (Univ. Appl. Sciences Bremen)

What is the mechanism behind the low body-drag of penguins? [A8.81]

Mr Sean Ng (University of Cambridge)

Aerodynamic effects of rachises in hummingbird flight [A8.82]

P1 Ubiquitin and Plant Cell Signalling**Miss Ailidh C Woodcock (Warwick HRI University of Warwick)**

Ubiquitination and Suppression of Plant Innate Immunity
[P1.10]

Dr Marco Trujillo (University of Würzburg)

An E3 Ubiquitin Ligase Triplet Negatively Regulates PAMP-Triggered Immunity in Arabidopsis [P1.11]

Dr Petra Stirnberg (Biology Department University of York)

A co-immunoprecipitation approach to identify interactors of Arabidopsis MAX2, an F-box protein required for strigolactone signalling [P1.12]

Mr Stylianos Poullos (Aristotle University of Thessaloniki, Greece)

Complexing the ethylene signaling pathway in Arabidopsis: a possible role of a histone acetyltransferase and a receptor kinase [P1.13]

Dr Stephen Jackson (Warwick HRI)

DAY NEUTRAL FLOWERING Represses CONSTANS to Prevent Arabidopsis Flowering Early in Short Days
[P1.14]

Ms Anne Bernhardt (Freie Universitaet Berlin Germany)

Arabidopsis DDB1a and DDB1b are critical for embryo development [P1.15]

Thursday 1st July 2010

Dr Julia P Vainonen (University of Helsinki)

Transcription factor interacting RCD1 protein and its role in plant stress response. [P1.16]

Ms Maryam Sarwat (I.C.G.E.B.)

Overexpression of rice calnexin functions in protecting transgenic tobacco plants from ER-stress [P1.17]

P2 Redox Regulation and Associated Signalling in Photosynthesis and Respiration

Dr Natallia L Pshybytko (Institute of Biophysics and Cell Engineering National Academy of Sciences of Belarus)

Plastoquinone redox state under heat stress [P2.14]

Miss Katarína Breznenová (Department of Plant Physiology Faculty of Natural Sciences Comenius University in Bratislava)

Accumulation of photosynthesis-related proteins in dark-grown pine seedlings [P2.15]

Dr Elena Garmash (Institute of Biology of the Komi Scientific Centre Ural Division Russian Academy of Sciences)

Growth rate of barley plants grown at different temperatures and mineral nutrition levels affects alternative respiratory pathway activity [P2.16]

Miss Ilona Juszczak (Department of Plant Sciences Heinrich-Heine University Düsseldorf Germany)

Natural genetic variation in the chloroplastic water-water cycle among *Arabidopsis thaliana* accessions. [P2.17]

Prof Stanislaw Karpinski (Department of Genetics Breeding and Plant Biotechnology Warsaw University of Life Sciences)

Can plants think? Evidence for light wavelength-specific photo-electro-physiological signaling and memory of excess light episode in *Arabidopsis*. [P2.18]

Dr Irina G Strizh (MV Lomonosov Moscow State University)

Can we capture redox signaling from chloroplast by modern technologies? [P2.19]

A5 Horizon Scanning in Ecotoxicology: What are the Future Environmental Concerns of Natural and Man-Made Pollutants

Miss Ana L Kalinin (Department of Physiological Sciences - Federal University of Sao Carlos)

Effects of the microcystin-Lr on cardiorespiratory function of Nile Tilapia [A5.16]

Ms Diana A Monteiro (Federal University of São Carlos)

Effects of sublethal concentration of mercury chloride on the cardiac contractility in matrinxã, *Brycon amazonicus*, a neotropical teleost. [A5.17]

Ms Diana A Monteiro (Federal University of São Carlos)

Cardiorespiratory responses to hypoxia in the neotropical fish matrinxã, *Brycon amazonicus*, exposed to an environmentally relevant concentration of mercury chloride. [A5.18]

Dr Paulina E Kramarz (Jagiellonian University)

Toxicity of copper to the beetle *Tribolium castaneum* in relation to the initial population size [A5.19]

Mrs Magdalena Mikowska (Institute of Environmental Sciences Jagiellonian University Gronostajowa 7 30-387 Kraków)

Bioaccumulation of heavy metals in industrial and isolated populations of bank voles [A5.20]

Dr Claudia B Martinez (Universidade Estadual de Londrina)

Thursday 1st July 2010

Biochemical biomarkers for the detection of the effects of the herbicide atrazine on a neotropical fish [A5.21]

Dr Claudia B Martinez (Universidade Estadual de Londrina)

The acute exposure to *microcystis aeruginosa* induces biochemical changes on the freshwater fish *Prochilodus lineatus* [A5.22]

A6 Respiratory Control: Strategies and Mechanisms in Periodic and Non-Periodic Ventilation

Miss Katharina Hille (Humboldt-Universität zu Berlin department of animal physiologysystems neurobiology and neural comp)

Gas exchange patterns in *Deropeltis* sp. (Insecta, Blattodea) [A6.8]

Mr Christian Moerbitz (Humboldt Universität zu Berlin Animal Physiology and Systems Neurobiology and Neural Computation)

The role of Metabolic Rate and Conductance in respiratory patterns of moth pupae. [A6.9]

Miss Kathleen Trogisch (Humboldt-Universität zu Berlin animal physiologysystems neurobiology and neural computation)

DGC - effects of body size and metabolic rate? [A6.10]

Miss Kathrin A Otte (Humboldt Universität zu Berlin)

How to split a frog - Patterns of lung and skin respiration in European water frogs of the genus *Pelophylax* [A6.11]

Ms Natalie Schimpf (The University of Queensland)

Cockroaches that breathe discontinuously survive water deprivation [A6.12]

Miss Berlize Groenewald (Stellenbosch University)

Oxygen-water trade-offs influence discontinuous gas exchange patterns of the grasshopper *Paracrinema tricolor* (Orthoptera: Acrididae) [A6.13]

C1 Polar Adaptations and Challenges

Mr Gunnar Husmann (Institute of Clinical Molecular Biology Christian-Albrechts University Kiel)

The response of the Antarctic bivalve *Laternula elliptica* to recent climate change - population dynamics, behavior, physiology and immune system [C1.6]

C5 Plant Cell Biology: Cell Biology of Plant Defence

Dr Alireza Iranbakhsh (Islamic Azad University Aliabad Katoul Branch)

The Induction and Growth of Potato's Microtuberization (*Solanum Tuberosum* L.) Variety Santa in Response to Miscellaneous Consistencies of BAP and Sucrose in Histological Tissue Culture Conditions [C5.12]

Dr Mostafa Ebadi (Islamic Azad University Damghan Branch)

The Study of Potato's Microtuberization Responses (*Solanum Tuberosum* L.) in Histological Tissue Culture Conditions to the Various Levels of Benzyl Amino Pourine [C5.13]

Ms Iaryna Sheremet (Institute of Food Biotechnology and Genomics National Academy of Sciences of Ukraine)

Plant microtubules are modified by the tyrosine phosphorylation in *Arabidopsis* root cells [C5.14]

Dr Fatima Cvrckova (Charles University in Prague Faculty of Science)

Possible vegetative role for the *Arabidopsis thaliana* ACT11 actin isoform in root hair development [C5.15]

Dr Piers A Hemsley (University of Bristol)

Thursday 1st July 2010

A novel proteomic method identifies many S-acylated/palmitoylated proteins involved in plant cell defence and cellular function and defines a new method of regulation and control for these proteins [C5.16]

Mr Hail Rihan (Plymouth University)

Cauliflower micropropagation and artificial seed production [C5.18]

Mrs Aneta Zabka (Department of Cytophysiology University of 3216d378)

Cell cycle-dependent activity of topoisomerase II in root meristems of *Allium cepa* [C5.19]

Mrs Michalina Smolarkiewicz (Adam Mickiewicz University)

Cellular Localization of Novel Plant Intermembrane Protease - Presenilin - in *Arabidopsis thaliana*. [C5.20]

Dr Doolyi Kim (Bio-crop Development Division National Academy of Agricultural Science RDA)

Expression analysis of a LIM protein gene related to rice seed development [C5.21]

Ms Weronika Wituszynska (Department of Plant Genetics Breeding and Biotechnology Warsaw University of Life Sciences Poland)

LSD1 is the Darwinian Fitness Regulator in *Arabidopsis*. [C5.22]

Dr Natalia Rodiuc (INRA)

Actin-Depolymerizing Factor2-Mediated Actin Dynamics are Essential for Root-Knot Nematode Infection of *Arabidopsis* [C5.24]

Mrs Lidia Polkowska-Kowalczyk (Institute of Biochemistry and Biophysics Polish Academy of Sciences)

Involvement of phospholipase A2 in *Solanum* species response to elicitor from *Phytophthora infestans* [C5.25]

Miss Wan Bayani Wan Omar (Heriot-Watt University)

Study of Protein-Protein Interactions in *Arabidopsis thaliana* MAP Kinase Signal Transduction Components by Yeast Two-Hybrid Analysis [C5.26]

Mr Mohammed H Abass (Heriot-Watt University)

The pathogenicity of *Magnaporthe oryzae* on Barley: the endogenous response to the attack. [C5.27]

Mrs Elzbieta Krol (UMCS Lublin Poland)

Effects of quercetin on vacuolar membranes in the liverwort *Conocephalum conicum* [C5.28]

Mrs Halina Dziubinska (UMCS Lublin Poland)

Slow Vacuolar (SV) channels in Cd and Se treated rape (*Brassica napus*) [C5.29]

Dr Marie-Cecile Caillaud (The Sainsbury Laboratory)

Functional Analysis of Plant-Pathogenic Oomycete Effectors and their Targets Inside Plant Cell (POETIC) [C5.30]

Ms Iaryna Sheremet (Institute of Food Biotechnology and Genomics National Academy of Sciences of Ukraine)

Plant microtubules are modified by the tyrosine phosphorylation in *Arabidopsis* root cells [C5.31]

Dr Jeremy Pritchard (University of Birmingham)

Combining physiological and molecular data to identify novel rice resistance genes to Brown Plant Hopper (BPH) [C5.32]

Miss Sophie J Piquerez (The Sainsbury Laboratory)

How do *Hyaloperonospora arabidopsidis* effectors promote susceptibility/resistance? [C5.33]

Dr Anna Kasproicz (Dept. of Molecular and Cellular Biology A. Mickiewicz University Umultowska 89 Poznan Poland)

Thursday 1st July 2010

Modification of the intercellular contacts in plant suspension cells through adaptation to environmental stress [C5.34]

Dr Rajarshi K Gaur (Mody Institute of Technology and Science)

Evolutionary theory of gene silencing through RNAi [C5.35]

Prof Bishimbayeva K Nazira (Institute of Plant Biology and Biotechnology)

The study of PCD cells signs in cereal embryogenic tissue culture [C5.36]

Miss Amparo Rosero (Charles University)

Effects of AtFH1 formin mutation in Arabidopsis on morphogenesis, polarity and development [C5.37]

Dr XUEBIN ZHANG (ROTHAMSTED RESEARCH)

Cross-kingdom Characterisation of Peroxisomal ABC transporters [C5.38]

Mr Salem M Rajab (Heriot-Watt University)

Investigating the role of the barley MAP kinase HvBWMK1 in tolerance to abiotic stresses [C5.39]

Dr Jaroslaw Króliczewski (Faculty of Biotechnology University of Wroc322aw)

On the mode of integration of the thylakoid membrane protein cytochrome b6 into model membranes. [C5.40]

Dr Andrei P Smertenko (Durham University)

Strategies of actin reorganisation in plant cells. [C5.41]

Dr Lawrence R Griffing (Texas AM University)

Transnuclear channels in epidermal cells of tobacco hypocotyls. [C5.42]

Dr Laura-Anne Brown (University of Leeds)

Novel chemical inhibitors provide fresh insights into peroxisome form and function [C5.43]

Dr Catherine O'Leary-Steele (University of Leeds)

Dissecting the Peroxisomal Protein Import Pathway using Novel Small Molecule Probes [C5.44]

Dr Michael J Deeks (University of Durham)

The plant formin AtFH4 interacts with both actin and microtubules, and contains a newly identified microtubule-binding domain [C5.45]

Mr Martin Kubeš (Institute of Experimental Botany ASCR Prague Czech Republic)

The herbicide 2,4-D acts on the Arabidopsis ABCB4 reversible auxin transporter by preventing reversal to export mode [C5.46]

Ms Malgorzata Piskozub (Faculty of Biotechnology University of Wroclaw)

Mechanisms for the insertion of cytochrome b6 proteins into the thylakoid membrane. [C5.48]

Dr Olga A Koroleva (University of Reading)

Development of phloem- protecting system in Arabidopsis requires apoptosis [C5.49]

Dr Vittoria Lacato (CIR Università Campus Biomedico di Roma)

Cytostatic and cytotoxic effects of ophiobolin A on TBY-2 cells [C5.50]

P3 Plant Temperature Response Networks

Miss Angela P Vitória (Universidade Estadual do Norte Fluminense (UENF))

Climate changes and vegetation: how photosynthetic process of tropical species from different successional groups would be affected by increasing temperature. [P3.14]

Thursday 1st July 2010

Mrs Amanda J Crawford (University of Bristol)

The Effects of Temperature on Stomatal Development and Function [P3.15]

Dr Jurandi G Oliveira (State University of North Fluminense)

Irreversible photoinhibition damage in young plants of coffee exposed to chilling temperature. [P3.16]

Dr Peter Štrba (Department of Botany and Genetics Constantine the Philosopher University)

Climate change and synanthropisation of habitats causes the changes of vascular plant's vertical distribution in Slovak mountains (Central Europe) [P3.17]

Prof Attila Fehér (Institute of Plant Biology Biological Research Center of the Hungarian Academy of Sciences Temesvá)

The phosphatase-inhibitor NAP-related NRP1 protein is insolubilized in heat-treated Arabidopsis cells [P3.18]

Dr Piers A Hemsley (University of Durham)

The role of Mediator tail subunits in control of gene expression in response to cold and other abiotic stress stimuli [P3.19]

Miss Joanna Maslak (Institute of Plant Physiology Polish Academy of Sciences)

Root to shoot signalling in maize under partial root chilling and different air humidity [P3.20]

Mr Indieka S Abwao (University of Glasgow)

Translational Control of Abiotic Stress Responses in Arabidopsis thaliana [P3.21]

Dr Michael R Thorpe (Forschungszentrum Jülich)

Briefly arresting: The mechanism for transient cessation of phloem transport after abrupt stimuli remains mysterious, other than in legumes where calcium triggered dispersion of forisomes is responsible [P3.22]

Dr Ersin - Polat (Akdeniz University)

The light sensitivity of broccoli (Brassica oleracea var. italica) intercropping with tomato under glasshouse conditions [P3.23]

Mr Jeffrey Harsant (University of Toronto)

Identification of QTL underlying temperature tolerance in Arabidopsis flowers: analysis reveals genomic regions controlling inhibited cell division under high temperature conditions [P3.24]

Mr Mohammed Edan Al-issawi H Al-issawi (Plymouth University)

Frost tolerance of wheat during ear emergence

Mohammed Al-Issawi, M.P. Fuller & S. Burchett

School of Biomedical & Biological Sciences, Faculty of science, University of Plymouth, UK, PL4 8AA [P3.25]

Mr Scott W Ramsay (University of Glasgow)

A MYB Transcription Factor That Confers Abiotic Stress Tolerance in Arabidopsis thaliana [P3.26]

A2 Ontogeny and Phylogeny of the Heart

Dr Zivorad Pesevski (Institute of Anatomy First Faculty of Medicine Charles University in Prague)

Molecular analysis of normal and hypoplastic chick embryonic ventricles [A2.13]

Ms Juliana M Thomaz (Universidade Federal de São Carlos - UFSCar)

Morphological studies on the heart ventricle of matrinxã (Brycon amazonicus) and trahira (Hoplias malabaricus)

Thursday 1st July 2010

[A2.14]

Dr Michael J Kelner (University of California)

Expression of microsomal and mitochondrial glutathione transferases in the heart and other tissues [A2.15]

Mr Bjarke Jensen (Aarhus University Department of Biological Sciences Zoophysiology)

Atlas of vertebrate hearts [A2.16]

EPA1 Academia, Mastering a complex career**Dr Jennifer Sneddon (Liverpool John Moores University)**

Long term matching of microclimate and air quality data at fixed points & during routine journeys along the Dee & Mersey estuaries: a tool for education & policy makers. [EPA1.11]

Mr Samuel P Rastrick (Bangor University)

Five top tips for making inclusive presentations. [EPA1.12]

Dr Peter J Lumsden (University of Central Lancashire)

Developing the skills of STEM postgraduates in a modern UK University [EPA1.13]

Ms Sarah Blackford (Society for Experimental Biology)

Personality Type: A comparison of Bioscience postdoctorals and postgraduates with the general normative population [EPA1.14]

Ms Sarah Blackford (Society for Experimental Biology)

Society for Experimental Biology Education & Public Affairs Section Strategy 2010 [EPA1.15]

Dr Lawrence R Griffing (Texas AM University)

Teaching Inquiry in an Advanced Undergraduate Cell Biology Lab: Identifying the Mystery Organelle. [EPA1.16]

C8 General Thermal Biology**Miss Teresa Morganti (Alfred-Wegener-Institute)**

The cold tolerance of successful global invader: acute response and extended acclimation. [C8.10]

Ms Zuzana Starostova (Department of Zoology Faculty of Science Charles University in Prague)Thermal influence on fitness related life-history traits in a tropical gecko *Paroedura picta* [C8.11]**Mr Barna Kasiba (University of Salzburg)**

Effects of incubation temperature on proliferation and myogenic differentiation of dermomyotome cells and their consequences on muscle growth in fish [C8.12]

Ms Zora M Zittier (Alfred-Wegener-Institute)Synergistic impacts of ocean acidification and temperature increase on the physiology of *Mytilus edulis* [C8.13]**A9 Function and Control of Elastic Systems****Miss Caragh N Kelleher (Royal Veterinary College)**

Do dogs adjust their virtual leg stiffness on compliant surfaces? [A9.19]

Mr René S Sonntag (Bionic-Innovation-Centre Bremen University of Applied Sciences)

Undulatory swimming: gradients in body stiffness affect propulsive force output [A9.20]

Friday 2nd July 2010

A8 - General Biomechanics (Room: Kepler)

Chair: Rob JAMES

09:00 Prof Thomas Speck (Plant Biomechanics Group Freiburg Botanic Garden University of Freiburg)
Fast underwater movements: Functional morphology and biomechanics of the trap mechanism of bladderworts (Utricularia)
[A8.45]

09:15 Dr W. Jon. P. Barnes (Glasgow University)
What can single pad forces tell us about how tree frogs adhere?
[A8.46]

09:30 Mr David Labonte (IS Bionik University of applied sciences Bremen)
Hairy vs. smooth: differences in fluid-based friction and adhesion between different pad designs
[A8.47]

09:45 Mrs Bettina Prüm (Plant Biomechanics Group Freiburg Botanic Garden Faculty of Biology University of Freiburg D)
Structuring of the Plant Cuticle and its Influence on Insect Adhesion
[A8.48]

10:00 Refreshment break

10:30 Mr James Bullock (University of Cambridge)
How sticky is a single beetle hair? Measuring *in vivo* attachment forces from individual adhesive setae
[A8.49]

10:45 Dr Elena V Gorb (University of Kiel)
Reduction of the beetle attachment force on nano-porous substrates
[A8.50]

11:00 Mr Marc Thielen (Plant Biomechanics Group Freiburg Botanic Garden University of Freiburg)
Biomechanics and functional morphology of the pummelo (*Citrus maxima*) and impact performance of its peel
[A8.51]

11:15 Mr Felix Flues (Plant Biomechanics Group Freiburg Botanic Garden University of Freiburg Germany)
Rapid self-healing processes in plants as concept generators for self-repairing technical membranes for pneumatic structures
[A8.52]

11:30 Mr Tobias Haushahn (Plant Biomechanics Group Botanic Garden University of Freiburg)
Optimisation of technical fibre-reinforced composites by using branched plant stems as concept generators
[A8.53]

11:45 Mr Simon Poppinga (Plant Biomechanics Group Freiburg Botanic Garden University of Freiburg)
Perching birds and twisted petals - Plant movements as concept generators for deployable technical systems
[A8.54]

12:00 Dr Jim Usherwood (Structure and Motion Lab. The Royal Veterinary College)
A research career so far...
[A8.55]

12:30 Lunch break

Friday 2nd July 2010

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**P6 - Carbon Assimilation under Drought
(Room: Leo)****Chair: Christine Raines****08:50 Prof Susanne Von Caemmerer (Australian National University)**Carbon isotope discrimination, water use efficiency and CO₂ diffusion inside leaves.

[P6.1]

09:25 Dr Tracy Lawson (University of Essex)

Fluctuations in stomatal behaviour impact on photosynthesis and water use efficiency

[P6.2]

09:55 Miss Maud Viger (University of southampton)

NATURAL VARIATION OF CARBON ISOTOPE DISCRIMINATION OBSERVED IN BLACK POPLARS FROM DIFFERENT ORIGINS IN EUROPE UNDER DROUGHT STRESS [P6.3]

10:15 Refreshment break**10:40 Mr BERTRAND MULLER (INRA)**

A role for carbon metabolism in plant growth response to soil water deficit ? An integrated perspective [P6.4]

11:10 Prof Martin A. J Parry (Rothamsted Research)Photosynthesis and photorespiration in wheat and C₄ grasses

[P6.5]

11:40 Dr Samuel H Taylor (University of Sheffield)Drought limitation of photosynthesis differs between C₃ and C₄ grass species: a comparative experiment

[P6.6]

12:00 Lunch break**Chair: Martin Parry****13:10 Dr Robert T Furbank (High Resolution Plant Phenomics Centre CSIRO Plant Industry GPO Box 1600
Canberra ACT 2601 AUSTRALI)**

Phenotyping Drought Responses in Cereals at the High Resolution Plant Phenomics Centre

[P6.7]

13:45 Dr Adam Price (Universtiy of Aberdeen)

Genetic mapping drought avoidance and stable isotopes in rice

[P6.8]

14:15 Dr Ulrike Bechtold (University of Essex)Over-expression of Arabidopsis *Heat Shock Transcription Factor A1b* increases drought tolerance and water productivity

[P6.9]

14:40 Mrs Charlotte Wendelboe-Nelson (Heriot Watt University)Proteomic analysis of drought stress in barley (*Hordeum vulgare* L.) [P6.10]**15:00** Refreshment break**15:20 Dr James Hartwell (University of Liverpool)**How do CAM plants fix carbon whilst avoiding drought? Using RNA-seq to decipher the molecular basis for high water-use efficiency in *Kalanchoë fedtschenkoi* [P6.11]

Friday 2nd July 2010

15:50 Dr Xin-Guang Zhu (Partner Institute for Computational Biology)

Dissecting the contribution of anatomical and enzymatic factors in controlling photosynthesis -- a mechanistic modeling approach

[P6.12]

16:20 Dr Christine Raines (Department of Biological Sciences University of Essex)

Calvin cycle responses to drought

[P6.13]

16:50 Mr Roland Meszter (University of Liverpool)

Molecular and computational analysis of a bZIP transcription factor in Crassulacean Acid Metabolism - the evolutionary adaptation to arid environments

[P6.14]

17:10 Session close

C3 - The plant cell cycle and its interaction with plant hormones (Room: Aquarius & Taurus)

Sponsored by the SEB Cell Cycles Group and the Annals of Botany Company



Chair: Tom Rost

08:30 Dr Christian Chevalier (INRA Bordeaux)

Elucidating the functional role of endoreduplication in tomato fruit development

[C3.9]

09:10 Dr Linda Hanley-Bowdoin (North Carolina State University)

Geminivirus infection – Two pathways to the endocycle

[C3.10]

09:50 Prof Marina Dermastia (National Institute of Biology)

Endoreduplication in cereal plants

[C3.11]

10:30 Refreshment break

11:00 Prof John A Bryant (University of Exeter)

S-phase and endoreduplication

[C3.12]

11:30 Prof Dénes Dudits (Biological Research Center HAS Szeged Hungary)

Role of Phosphorylation in the Retinoblastoma Related Pathway and Perception of Calcium Signals [C3.13]

12:15 Mr Pascal Genschik (Institut de Biologie Moléculaire des Plantes du CNRS)

The UPS: an engine that modulates plant growth

[C3.14]

13:00 Lunch break

Chair: Jim Murray

14:00 Mr Hong Wang (University of Saskatchewan)

Friday 2nd July 2010

Regulation and functions of Arabidopsis ICK/KRP cyclin-dependent kinase inhibitors [C3.15]

14:40 Prof Thomas L Rost (University of California Davis)

Cellular patterns in the root apex of dicotyledonous plants and the control of the cell cycle.
[C3.16]

15:15 Dr Helena Lipavská (Department of Experimental Plant Biology Faculty of Science Charles University Vinicna 5 128 44)

Yeast mitotic activator cdc25 induces cytokinin-like effects in tobacco morphogenesis
[C3.17]

15:50 Refreshment break

16:15 Dr Benjamin Péret (Centre for Plant Integrative Biology)

Studying lateral root emergence using a chemical genetics approach
[C3.18]

16:55 end of session 16.55

P4 - Young Scientists in Plant Biology (Room: Tycho)

08:30 Dr Nira Muttucumaru (Rothamsted Research)

Genes and processes controlling amino acid and sugar metabolism in potato: implications for acrylamide forming potential
[P4.1]

08:50 Mr Adam S Hayes (University of Sheffield)

The Oxidative Pentose Phosphate Pathway: A gateway between primary and secondary metabolism
[P4.2]

09:10 Miss Adrienne C Payne (University of Southampton)

Molecular breeding in watercress – A new programme for enhanced anti-cancer properties and improved growth form
[P4.3]

09:30 Dr Linda Jeanguenin (Horticultural Sciences Department University of Florida Gainesville Florida 32611)

An alternative pathway for 5-formyltetrahydrofolate metabolism
[P4.4]

09:50 Ms Csaba Eva (Eötvös Loránd University Budapest Hungary)

Stress-protecting function of an Arabidopsis aldo-keto reductase enzyme in transgenic barley
[P4.5]

10:10 Refreshment break

10:30 Dr Imogen A Sparkes (Oxford Brookes University)

The higher plant cortical ER; movers and shapers [P4.6]

10:50 Mr Vaidurya P Sahi (Ehime university)

Spatial Expression of MKRN gene in early germination stages of pea (*Pisum sativum*. L. Var. Alaska) [P4.7]

11:10 Dr Ali Mohammad Banaei Moghaddam (Leibniz Institute of Plant Genetics and Crop Plant Research (IPK))

Additive inheritance of histone modifications after intraspecific hybridization in Arabidopsis thaliana

Friday 2nd July 2010

[P4.8]

11:30 Dr Katja Graumann (Oxford Brookes University)

Plant SUN domain proteins in mitotic division

[P4.9]

11:50 Mr Adam Craig (Warwick HRI)

The targeting of multiple effectors from *Hyaloperonospora arabidopsidis* towards a common host complex to suppress plant immunity

[P4.10]

12:10 Miss Chloe Steels (The University of Sheffield)

Axillary bud activation in tomato

[P4.11]

12:30 Lunch break

13:30 Mr HOE HAN GOH (UNIVERSITY OF SHEFFIELD)

Expansins: Tapping into the expanding leaf primordia

[P4.12]

13:50 Dr Margaret L Pullen (University of Durham)

A role for sterols in vascular differentiation in *Arabidopsis*

[P4.13]

14:10 Dr Quang Tri Ho (BIOSYST-MeBioS Katholieke Universiteit Leuven Willem de Croylaan 42 B-3001 Leuven Belgium)

MICROSCALE GAS EXCHANGE MODELLING IN LEAVES USING COMBINED GAS DIFFUSION AND PHOTOSYNTHESIS KINETICS

[P4.14]

14:30 Miss Yunan Lin (University of Southampton)

Delayed autumnal senescence in elevated carbon dioxide world

[P4.15]

14:50 Miss Demelza Carne (University of Plymouth)

Carbon Sequestration Potential of the Evergreen *Quercus ilex*, and the Deciduous *Quercus robur* at Urban and Rural locations within the Southwest UK.

[P4.16]

15:10 Refreshment break

15:40 Miss Catherine Keeling (Writtle College Chelmsford Essex CM1 3RR UK)

Does supplementary silicon enhance the saline tolerance of tomatoes beyond the enhancement provided by naturally occurring background silicon? [P4.17]

16:00 Dr Gracie E Barrett (SCRI)

The importance of being a little myco-centric - How do direct temperature responses by arbuscular mycorrhizal fungi influence plant growth and nutrition?

[P4.18]

16:20 Dr Hosam O Elansary (Faculty of Agriculture Elshatby Alexandria University Egypt)

High organellar diversity within natural population of *Silene vulgaris*

[P4.19]

16:40 Miss Susanne P Pfeifer (University of Oxford)

In Silico Detection of Molecular Markers in Plant Genomes

[P4.20]

Friday 2nd July 2010

17:00 End

P5 - Small GTPases their regulators and effectors (Room: Stella)

09:00 Welcome and opening Remarks

09:10 Prof Marino Zerial (MPI-CBG)

Rab and SNARE core machinery of membrane fusion reconstituted in synthetic endosomes [P5.1]

10:00 Refreshment break

Chair: Ian Moore and Viktor Zarsky

10:30 Prof Mark C Field (University of Cambridge)

Evolution of specificity in membrane trafficking by Rab proteins
[P5.2]

11:00 Dr Marek Elias (Charles University in Prague Faculty of Science)

Sculpting the endomembrane system through evolution of RAB proteins
[P5.3]

11:20 Mr Ian Moore (University of Oxford UK)

Rab GTPases in post Golgi and endocytic trafficking in Arabidopsis roots
[P5.4]

11:50 Dr Anne Osterrieder (Oxford Brookes University)

Studying interactions between Golgi tethering factors and small GTPases *in planta* by fluorescence lifetime imaging microscopy (FLIM)
[P5.5]

12:10 Ms Sandra Richter (Universität Tübingen)

ARF-GEFs - regulators of membrane traffic in Arabidopsis development
[P5.6]

12:30 Lunch break

Chair: Shaul Yalovsky

13:30 Prof Suzanne Pfeffer (Stanford University)

Rab GTPase control of Golgi Function
[P5.7]

14:20 Prof Wei Guo (Department of Biology University of Pennsylvania)

The Functions of small GTP-binding Proteins and the Exocyst in Polarized Exocytosis
[P5.8]

15:10 Refreshment break

Chair: Ian Moore

15:40 Prof Shaul Yalovsky (Department of Molecular Biology and Ecology of Plants Tel Aviv University)

ROP membrane dynamics cell polarity and pattern formation
[P5.9]

Friday 2nd July 2010

16:10 Miss Edita Drdová (UEB AV CR)

Exocyst is involved in the regulation of polarized PIN auxin efflux carrier localization
[P5.10]

16:30 Prof Attila Fehér (Institute of Plant Biology Biological Research Center of the Hungarian Academy of Sciences Temesvá)

Links between Rho GTPases and kinase signaling in plants
[P5.11]

16:50 Closing remarks

A3 - Evolutionary and ecological physiology (Room: Zenit)

Chair: Pawel Koteja

08:55 Dr William H Karasov (University of Wisconsin-Madison)

Phenotypic flexibility in the feeding ecology of animals
[A3.1]

09:40 Dr Pawel Brzek (University of Bialystok Poland)

Nature or nurture - developmental flexibility of digestive physiology in altricial birds
[A3.2]

10:00 Dr Sylvain Giroud (Fiwi)

Season-Dependent Strategies of Fat or Protein Sparing in Food-Deprived Grey Mouse Lemurs
[A3.3]

10:20 Refreshment break

Chair: Michael Berenbrink

10:45 Prof Jay A Nelson (Towson University)

Phenotypic plasticity of performance capacity and thermal tolerance in blacknose dace (Cyprinidae) from different populations
[A3.4]

11:05 Prof Patricia M Schulte (The University of British Columbia)

Intraspecific variation in the thermal plasticity of mitochondria in killifish
[A3.5]

11:25 Dr David J McKenzie (CNRS Montpellier)

Is there a physiological basis to competitive exclusion in African killifish (*Aphyosemion* spp)?
[A3.6]

11:45 Dr Susana Clusella-Trullas (Centre for Invasion Biology Stellenbosch University)

Global patterns of thermal physiology in reptiles: from small to large scales
[A3.7]

12:05 Dr Christopher Turbill (Research Institute for Wildlife Ecology)

High survival permits hibernating mammals to evolve slow life histories
[A3.8]

12:25 Lunch break

Chair: David McKenzie

Friday 2nd July 2010

13:35 Prof Theodore Garland (University of California Riverside)

Selection Experiments and Experimental Evolution as Tools in Comparative, Ecological, and Evolutionary Physiology
[A3.9]

14:15 Dr Andrzej K Gebczynski (University of Bialystok)

Basal metabolic rate of mothers is positively correlated with postnatal growth rate in laboratory mice [A3.10]

14:35 Ms Julita Sadowska (University of Bialystok)

Milk composition of mice divergently selected for Basal Metabolic Rate (BMR)
[A3.11]

14:55 Dr Pawel Koteja (Institute of Environmental Sciences Jagiellonian University Kraków Poland)

Correlated responses to a multi-directional selection in bank voles (*Myodes glareolus*): reproductive parameters
[A3.12]

15:15 Refreshment break

Chair: Pawel Koteja**15:40 Dr Luis E Castañeda (Universidad Austral de Chile)**

Ethanol effects on the G-matrix of physiological and life-history traits in *Drosophila melanogaster*
[A3.13]

16:00 Dr Karol Zub (Mammal Research Institute PAS Bialowieza Poland)

The effect of body mass and metabolic rate variation on winter mortality of the root vole *Microtus oeconomus*
[A3.14]

16:20 Ms Paulina A Szafranska (Mammal Research Institute Polish Academy of Sciences)

The influence of metabolic rate on lifespan and reproduction success in free living root vole *Microtus oeconomus*
[A3.15]

16:40 Mrs Marie-Ange Gravel (Carleton University)

Parental energetic consequences of nest predation pressure: a test using paternal caring fish
[A3.16]

**A11 - Conservation Physiology
(Room: Nadir)****Chair: Prof Craig Franklin****09:00 Dr Michael Kearney (University of Melbourne)**

Spatially explicit conservation physiology
[A11.1]

09:25 Prof Frank Seebacher (University of Sydney)

Is active range expansion of invasive species facilitated by physiological plasticity?
[A11.2]

09:40 Dr Julian D Metcalfe (Centre for Environment Fisheries Aquaculture Science)

THERMAL ECOLOGY OF ATLANTIC COD IN THE NORTH-EAST ATLANTIC
[A11.3]

09:55 Dr Mark I McCormick (James Cook University)

Damsels in distress - stress and population regulation
[A11.4]

Friday 2nd July 2010

10:10 Refreshment break

Chair: Prof Frank Seebacher

10:30 Prof Anthony P Farrell (University of British Columbia)

Using aerobic scope to inform Pacific salmon conservation in British Columbia, Canada
[A11.5]

10:50 Ms Erika J Eliason (University of British Columbia)

Tailoring physiology to the environment: the story of migrating sockeye salmon populations
[A11.7]

11:05 Mr Michael R Donaldson (University of British Columbia)

Conservation physiology case studies on the consequences of predator and fisheries encounters on adult migrating Pacific salmon using biologging, biotelemetry, and blood physiology indices
[A11.6]

11:20 Dr Colin J Brauner (Department of Zoology University of British Columbia)

Physiological impacts of sea lice on juvenile pink salmon: Implications for aquaculture and salmon management in the Broughton Archipelago, British Columbia.
[A11.8]

11:35 Prof Michael Axelsson (Dept. Zoology Zoophysiology University of Gothenburg Gothenburg Sweden)

Cardiac scope in Arctic fish: using Greenland as a field laboratory to study the effects of ongoing climate change.
[A11.9]

11:50 Dr Catharina Olsson (Department of Zoology University of Gothenburg)

Feeding in a warmer climate - effects of temperature on gastrointestinal activity in Arctic sculpins
[A11.10]

12:05 Ms Lesley A Alton (The University of Queensland)

Changes in metabolic rate and activity explain UV-B/predation synergism in amphibians
[A11.11]

12:20 Ms Karen M Young (The University of Queensland)

Elevated temperatures during dormancy in burrowing frogs: implications for muscle wasting?
[A11.12]

12:35 Lunch break

Chair: Dr Michael Kearney

14:00 Prof L Michael Romero (Tufts University)

Stress Physiology as an Important Tool in Conservation
[A11.13]

14:25 Dr W. Gary Anderson (University of Manitoba)

Effects of temperature and substrate on the development of the stress response in larval Lake Sturgeon, *Acipenser fulvescens*
[A11.14]

14:40 Mr Brian A Chow (Department of Biology University of Waterloo)

Serum Corticosteroid-binding Globulin in Bears: A Potential Biomarker of Health Status for Wildlife Monitoring
[A11.15]

Friday 2nd July 2010

14:55 Miss Constance M O'Connor (Carleton University)

Fitness-linked consequences of stress in teleost fish: basic and applied perspectives [A11.16]

15:10 Refreshment break

Chair: Prof Michael Romero**15:40 Dr Rod W Wilson (University of Exeter UK)**

The implications of fishing and climate change for gut carbonate production by marine teleost fish and the global inorganic carbon cycle

[A11.17]

15:55 Ms Edyta T Sadowska (Institute of Environmental Sciences Jagiellonian University)Physiological performance in the small rodent *Myodes glareolus* from isolated and heavily polluted populations

[A11.18]

16:10 Dr Johannes Overgaard (Aarhus University)Phenotypic plasticity of thermal tolerance in temperate and tropical *Drosophila*

[A11.19]

16:25 Mr Anil K Shrestha (Resource Ecology Group Wageningen University The Netherlands)

Thermal physiological plasticity among South African ungulates

[A11.20]

16:40 Prof Craig E Franklin (The University of Queensland)

Diving in Ectotherms: Implications of a Warming World

[A11.21]

**A9 - Function and control of elastic systems
(Room: Virgo)****Chair: Thomas Roberts****13:30 Prof Thomas J Roberts (Brown University)**

Function and control of elastic mechanisms: An introduction

[A9.1]

13:50 Mr Roger C Woledge (Imperial College London)

Muscle springs: comparing the crossbridge, filament and tendon elasticity.

[A9.2]

14:30 Dr Manny Azizi (Brown University)

Influence of elasticity on muscle operating lengths

[A9.3]

15:00 Dr Bertrand C.W. Tanner (University of Vermont)Probing strain dependent crossbridge kinetics in Ca^{2+} -activated insect flight muscle fibers via white-noise length perturbations

[A9.4]

15:20 Refreshment break

15:40 Prof Kiisa Nishikawa (Northern Arizona University)

Is titin an exponential spring in active muscle? [A9.5]

Friday 2nd July 2010

16:10 Dr Andrew J Spence (Royal Veterinary College)

Is virtual leg stiffness a task variable for running that generalizes across posture and leg number?

[A9.6]

16:30 Mrs Susanne Lipfert (Lauflabor Locomotion Lab Friedrich-Schiller-Universität Jena Germany)

Leg swing powered by the ankle joint in human walking

[A9.7]

16:50 Session ends

C6 - Chromosome organization and cytogenomics (Room: Kepler)

13:20 Introduction: Dr Trude Schwarzacher and Dr Jaroslav Dolezel



Chair: Dr Trude Schwarzacher

13:25 Prof Thomas Cremer (Ludwig Maximilians University Munich Germany)

Nuclear architecture and the topography of nuclear functions

[C6.1]

14:05 Prof Giorgio Bernardi (Laboratory of Molecular Evolution Stazione Zoologica Anton Dohrn)

Human chromosomal bands: nested structure, high-definition map and molecular basis

[C6.2]

14:45 Prof Kiichi Fukui (Osaka University)

Approaching to the chromosome higher-order structure

[C6.3]

15:10 Refreshment break

15:40 Dr Paul Fransz (University of Amsterdam)

Molecular and evolutionary aspects of a paracentric inversion in *Arabidopsis thaliana*

[C6.4]

16:15 Dr Nobuko Ohmido (Kobe University)

Chromosome analysis based the synteny in legumes

[C6.5]

16:30 Dr Hanna Schneeweiss (Dept. of Systematic and Evolutionary Botany University of Vienna)

Extent, origin and evolution of remarkable chromosomal variation in *Prospero autumnale* Speta (= *Scilla autumnalis* L.; Hyacinthaceae): an interdisciplinary approach

[C6.6]

16:45 Mr Fernando Roa (Universidade Federal de Pernambuco)

Trends on the distribution of the 45S ribosomal DNA in plants

[C6.7]

We thank Chromosome Research for financial support of the Chromosome Organization and Cytogenomics Session

Poster Session For Friday, 02 July 2010

Friday 2nd July 2010

P6 Carbon Assimilation Under Drought

Mr ADEL M Elmaghrabi (Biosciences School - Cardiff University)

Characterization of somatic embryogenesis and cell suspensions of *Medicago truncatula* after long-term exposure to abiotic stress [P6.15]

Mr Jiri Santrucek (University of South Bohemia)

Stomatal density linked to leaf internal CO₂ concentration [P6.16]

Dr Maria Leonor Osório (IBB-CGB University of Algarve FCT Ed. 8 Campus de Gambelas 8005-139 Faro Portugal)

Influence of temperature on photosynthesis, oxidative damage and antioxidative protection in *Ceratonia siliqua* L. subjected to water deficit and re-watering [P6.17]

Dr Anna Gogoláková (Department of Botany and Genetics Constantine the Philosopher University)

Photosynthetic potential of *chrysanthemum* under water stress [P6.18]

Mr Jiri Santrucek (Univ. South Bohemia)

Stomatal development linked to leaf internal CO₂ concentration [P6.19]

Dr Richard J Webster (Aberystwyth University)

Improving Drought Tolerance In *Miscanthus* Genotypes [P6.20]

Prof Jana Albrechtová (Charles University in Prague Faculty of Science Department of Experimental Plant Biology)

The effect of long-term CO₂ enrichment on sun and shade needles of Norway spruce: structural mesophyll parameters using stereological methods and confocal microscopy [P6.21]

Mrs Marie Hronkova (Biology Centre AS CR v.v.i. University of South Bohemia Ceske Budejovice)

Discrimination of ¹³C and water use efficiency as markers of drought resistance of wheat and barley cultivars. [P6.22]

C3 The Plant Cell Cycle and its Interaction with Plant Hormones

Prof Christine H Foyer (University of Leeds)

Redox homeostasis and regulation during cell proliferation [C3.23]

Miss Gemma S Cook (Cardiff University)

Post-Translational Regulation of WEE1 by Protein-Protein Interactions [C3.24]

Dr Hilary J Rogers (Cardiff University)

Arath;CDC25 plays a role in the DNA replication but not the DNA damage checkpoint. [C3.25]

Miss Lara Perrotta (1Dept. of Botanical Ecological and Geological Sciences University of Sassari Via Piandanna 4 07)

Overexpression of the carrot DcE2F transcription factor in *arabidopsis* plants promotes cell proliferation and affects embryo and plant development [C3.26]

Dr Raheleh Karimi Ashtiyani (Institute of Plant Genetics and Crop Plant Research (IPK))

Arabidopsis Haspin, a histone H3-specific kinase with potential role in meristem development? [C3.27]

Mrs Vered Irihimovitch (The Institute of Plant Sciences ARO-Volcani Center Bet-Dagan Israel)

Cloning of distinct cell proliferation-related genes from avocado and molecular characterization of their expression, as related to small and normal-'Hass' fruit phenotype development [C3.28]



Friday 2nd July 2010

Dr Katerina Bisova (Institute of Microbiology ASCR)

DNA damage protecting effect of caffeine in green alga *Scenedesmus quadricauda* [C3.29]

Dr Helena Lipavská (Department of Experimental Plant Biology Faculty of Science Charles University Vinicna 5 128 44)

Root development is restricted in tobacco expressing fission yeast mitotic activator Spcdc25 [C3.30]

Miss Hana Sevcikova (Department of Experimental Plant Biology Faculty of Science Charles University Vinicna 5 128 44)

Potato transformation with fission yeast mitotic activator Spcdc25: effect on tuberization [C3.31]

Mrs Petra Vojvodová (Department of Experimental Plant Biology Faculty of Science Charles University Vinicna 5 128 44)

Precocious flowering in tobacco expressing yeast mitotic activator, Spcdc25, is connected with earlier apical meristem ability to respond to floral stimulus. [C3.32]

Miss GOLNAZ RAFIEI (Cardiff University)

Interaction between WEE1 and a glutathione-S transferase, implications for the regulation of cell division under stress [C3.33]

Mrs Petra Vojvodová (Department of Experimental Plant Biology Faculty of Science Charles University Vinicna 5 128 44)

Synergistic effect of fission yeast mitotic activator Spcdc25 expression and sucrose on precocious flowering of tobacco in vitro [C3.34]

Mrs Petra Maskova (Department of Experimental Plant Biology Faculty of Science Charles University Vinicna 5 128 44)

Morphology, growth characteristics and carbohydrate status of tobacco cells expressing fission yeast Spcdc25 can be mimicked in WT by cytokinin treatment [C3.35]

P4 Young Scientists in Plant Biology

Dr Elvira Leksinaj (Agricultural University of Tirana - Albania)

The organic farming -as an opportunity for the Albanian agriculture [P4.21]

Ms Sofia Moriam (Khulna University)

Vectors For Genetically Modified Crop Development [P4.22]

Mr Md. Ariful Haque Mollik (Peoples Integrated Alliance)

Observations on the traditional phytotherapy among the inhabitants of Raipur Upazila in Lakshmipur district, Bangladesh [P4.23]

Miss Songsri - Kaewsuwan (Prince of Songkla University)

High level production of adrenic acid (ADA) in transgenic moss *Physcomitrella patens* [P4.24]

Dr Stuart D Lane (University of Plymouth)

Brownfield or Greenfield? An Ecological Assessment of a Vulnerable Greenfield Site [P4.25]

Dr Marina P Macukanovic-Jocic (Faculty of agriculture)

Leaf anatomical characteristics of *Acer Negundo L.* and *A. Pseudoplatanus l.* grown in air polluted urban conditions [P4.26]

Mr Fazal Hadi (School of Biomedical and Biological Sciences University of Plymouth UK)

Identification and expression analysis of CBF/DREB1 and COR15a in dehydration stress resistant mutants of cauliflower (*Brassica oleracea v. botrytis*) [P4.27]

Mr Ting Lu (Oxford Brookes University)

Friday 2nd July 2010

Studies on the interaction partners of Arabidopsis SUN-domain proteins [P4.28]

Dr Maria G Maleva (M. Gorky Ural State University Russia)

Physiological responses of *Elodea canadensis* to nickel: differences in short- and long-term exposure [P4.29]

Dr Nadezhda V Chukina (M. Gorky Ural State University)

Antioxidant responses of aquatic macrophytes to water pollution [P4.30]

Mr Piotr Gawronski (Department of Genetics Breeding and Plant Biotechnology Warsaw University of Life Sciences)

Genome-wide analysis of ABRE, DRE and ERE cis-regulatory elements revealed Darwinian fitness mechanisms in higher plants.

[P4.31]

Mr Liviu A Vescan (University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca Romania)

The influence of plant growth regulators on in vitro culture for three berry fruit species [P4.32]

Mr Ralf C Dietrich (Scottish Crop Research Institute)

Can root system size be estimated from root electrical capacitance? [P4.33]

Mr Sakshi Issar (MITS University Laxmangarh India)

Physiochemical Characterization of PGPR isolates of Rhizobial strains from Shekhawati region in India

[P4.34]

Mr Liam E O'Hara (University College London)

The role of trehalose 6-phosphate as a signalling molecule in the regulation of plant development. [P4.35]

Dr Cecilia Vasquez-Robinet (Ludwig-Maximilians-Universität München)

Characterization of metabolite transporters in the outer envelope of plastids

[P4.36]

Miss Marina Mellenthin (Plant Sciences Heinrich-Heine-University Düsseldorf)

Identification of light-responsive cis-acting elements in *Arabidopsis thaliana* [P4.37]

Mr Afsar Raza Naqvi (Plant Molecular Biology Group International Center For Genetic Engineering and Biotechnology)

MicroRNA profiling of Tomato leaf curl New Delhi virus (ToLCNDV) infected tomato leaves indicates that dysregulation of miR159/319 and miR172 might be linked with leaf curl disease [P4.38]

Mr Semsettin KULAC (Karadeniz Technical University)

Seasonal Changes In Scotch's Pine Physiological Characteristics Under Hoophouse Conditions [P4.39]

Mr Deniz GUNEY (Karadeniz Technical University)

Seasonal Changings of Proline Amount in Scotch Pine Seedlings under Water Stress [P4.40]

Dr Gürkan Semiz (Pamukkale University)

Genotype-specific resistance of *Pinus Brutia* Ten. To pine processionary moth (*Thaumetopoea Wilkinsoni* Tams.) Attacks: a case study [P4.41]

Mr Ivan Kulich (Charles University in Prague)

Arabidopsis exocyst subunits SEC8 and EXO70A1 and exocyst interactor ROH1 are involved in the localized deposition of seed coat pectin. [P4.42]

Dr Linda Jeanguenin (Horticultural Sciences Department University of Florida Gainesville Florida 32611)

AtKC1 is a general regulator of *Arabidopsis* inward Shaker channel activity [P4.43]

Ms Inga C Blecher (Plant Biomechanics Group Freiburg Botanic Garden University of Freiburg)

Friday 2nd July 2010

Comparison of different methods to detect silica depositions in plants [P4.44]

Ms Melanie Binkert (University of Freiburg)

HY5 chromatin association in UV-B-specific signalling in *Arabidopsis thaliana* [P4.45]

Mr Roman Pleskot (Institute of Experimental Botany AS CR v.v.i. Rozvojová 263 Prague Czech Republic)

Mutual regulation of plant phospholipase D and actin cytoskeleton [P4.46]

Miss Angela Bell (Heriot Watt University)

Analysis of the Barley Grain Protease Spectrum [P4.47]

P5 Small Gtpases Their Regulators and Effectors

Mr Adam M Tyler (University of Nottingham)

Manipulating Rab GTPase activity in wheat to improve gluten quality for breadmaking [P5.12]

Mr Kunal M Saini (University of Nottingham)

Investigation of role of Rab GTPases in tomato fruit ripening [P5.13]

Ms Hana Toupalova (Institute of Experimental Botany)

The exocyst as an effector of Rab GTPases in plants [P5.14]

Dr Viktor Zarsky (Charles University)

Recycling Domains in Plant Cells - Is Exocyst a GTPases Effector also in Plant Exocytosis? [P5.15]

Mrs Lucie Brejšková (Institute of Experimental Botany Academy of Sciences of the Czech Republic 165 02 Prague 6 Czech)

Growth and gravitropic response in *Physcomitrella patens* sec6 mutants [P5.16]

Miss Pavlina Brettlova (Institute of Experimental Botany)

SEC3, a subunit of the exocyst complex, in *Arabidopsis* and maize [P5.17]

Mr Lukas Synek (Institute of Experimental Botany)

Arabidopsis RAB geranylgeranyl transferase β -subunit mutant is constitutively photomorphogenic [P5.18]

Mr Matyas Fendrych (Institute of Experimental Botany)

Arabidopsis Exocyst complex and its EXO84 subunit [P5.19]

Dr Martin Potocký (Institute of Experimental Botany ASCR Prague Czech Republic)

Intersection of signalling pathways in tobacco pollen tubes: crosstalk of phospholipids, NADPH oxidase and ROP GTPases regulates plant tip growth [P5.20]

A3 Evolutionary and Ecological Physiology

Miss Astrid S Willener (Roehampton University)

The biomechanics and energetics of a common behaviour in poorly-adapted species: analyse of pedestrian locomotion in penguins [A3.25]

Dr Lumir Gvozdik (Institute of Vertebrate Biology AS CR Brno)

Thermal acclimation under constant temperatures: Exercise in ecological fantasy? [A3.26]

Mr Radovan Smolinský (Institute of Vertebrate Biology AS CR Brno)

Role of predator cues in developmental acclimatization of locomotor capacity [A3.27]

Mr Albin Gräns (University of Gothenburg)

Friday 2nd July 2010

Is temperature an issue when living “on the rocks”? Metabolic scope and common resource competition in sculpin inhabiting Arctic waters [A3.28]

Mr Lukas Kubicka (Faculty of Science Charles University in Prague)

Hormones and the evolution of mating strategies in eublepharid lizards [A3.29]

Ms Marie-Pierre Schippers (McMaster University)

Carbohydrates at altitude: the old oxygen-saving hypothesis finds support in Andean mice [A3.30]

Miss Amparo Hidalgo Galiana (Institute of Evolutive Biology (CSIC-UPF))

Thermal tolerance and distributional range size evolution in sister species of aquatic Coleoptera. [A3.31]

Ms Anete Dudele (Zoophysiology Department of Biological Sciences University of Aarhus)

Correlation between gut size and metabolic rate in mice fed diets of different protein composition [A3.32]

Dr Vanessa M Kellermann (Århus University)

Evolution of temperature and dehydration tolerance in Drosophilids [A3.33]

Dr Christopher Turbill (Research Institute for Wildlife Ecology)

Ageing outside of a selection shadow in long-lived mammals [A3.34]

Miss Elizabeth Kleynhans (Department of Conservation Ecology and Entomology Stellenbosch University)

Biophysical model simulation and the physiological life-history responses of a major African disease vector under climate change scenarios [A3.35]

Ms Monika Wieczorek (Mammal Research Institute Polish Academy of Sciences)

The effect of silica in plants on population dynamics of the root vole, *Microtus oeconomus* [A3.36]

A11 Conservation Physiology

Dr Monica J Costa (Federal University of Sao Carlos)

Heart function of bullfrog tadpoles exposed to an environmental relevant concentration of Roundup Transorb® (glyphosate) [A11.22]

Miss Karlina Ozolina (Zoophysiology Department of Biological Sciences University of Aarhus)

The effect of acclimation on the aerobic scope of amphibians [A11.24]

Dr Monica J Costa (Federal University of Sao Carlos)

Heart function of bullfrog tadpoles exposed to a cadmium concentration considered environmentally safe [A11.25]

Mrs JUSTYNA MORAWSKA-PLOSKONKA (JAGIELLONIAN UNIVERSITY)

The effect of temperature and drought on microbial biomass and activity in heavy metal polluted soils. [A11.26]

Mr Athamena Ahmed (Université Claude Bernard Lyon 1)

Salinity activates phosphatidylethanolamine N-methylation pathway in crustacean hepatopancreas. A new physiological role for phosphatidylcholine biosynthesis in osmoregulation? [A11.27]

C6 Chromosome Organization and Cytogenomics

Prof Masoud Sheidaei (Shahid Beheshti University)

Cytogenetics, morphometry and molecular study of the genus *Silene* L. Section *Auriculatae* (Caryophyllaceae) [C6.21]

Miss Susanne Päsold (Plant Cell and Molecular Biology TU Dresden)

Development of a FISH-karyotype for sugar beet based on BAC markers and repetitive DNA [C6.22]

Friday 2nd July 2010

Dr Eduard Kejnovsky (Institute of Biophysics)

Expansion of microsatellites on evolutionary young Y chromosomes [C6.23]

Dr Lu Ma (Leibniz Institute of Plant Genetics and Crop Plant Research)

Characterisation of barley chromosomes by fluorescent in situ hybridization [C6.24]

Miss Maryam Sanei (Leibniz Institute of Plant Genetics and Crop Plant Research (IPK))

Analysis of uniparental elimination of chromosome in wide crosses [C6.25]

Dr Chee How Teo (IPK Gatersleben)

Construction of engineered minichromosomes in barley (*Hordeum vulgare*) [C6.26]

Mr Manuel Jamilena (University of Almería)

Molecular cloning, characterisation and expression of the flower-specific gene RaFEMALE32 from *Rumex acetosa* [C6.27]

Dr Ana P Moraes (UNICAMP)

Chromosome evolution in maxillariinae and the importance of robertsonian fusion/fission in orchidaceae [C6.28]

Dr Petra Musilova (Veterinary Research Institute)

Defining configuration of fusions that occurred during karyotype evolution in Equidae [C6.29]

Ms Dominika Idziak (Department of Plant Anatomy and Cytology University of Silesia)

Chromosome painting comes of age in the model grass *Brachypodium distachyon* [C6.30]

Dr István Molnár (Agricultural Research Institute of the Hungarian Academy of Sciences H-2462 Martonvásár POB 19)

Chromosome isolation by flow sorting in *Aegilops umbellulata* and *Ae. comosa* and their allotetraploid hybrids *Ae. biuncialis* and *Ae. geniculata* [C6.31]

Mr Faisal Nouroz (1Molecular Cytogenetics Laboratory Department of Biology University of Leicester LE1 7RH UK.)

Molecular Characterization and Evolutionary Activity of Transposable Elements in Diploid and Polyploid *Musa* and *Brassica* Genomes [C6.32]

Dr Karine Bouilly (Institute for Biotechnology and Bioengineering Centre of Genomics and Biotechnology UTAD)

Physical chromosome mapping of histone H3 and ribosomal DNA genes, SSRs and LINE-1 in *Crassostrea gigas* by fluorescence in situ hybridization [C6.33]

Mrs Justyna Tarwacka (Institute of Biochemistry and Biophysics Polish Academy of Sciences)

Cytological and molecular analysis of interspecific somatic hybrids between *S. tuberosum* and wild *Solanum* species [C6.34]

Miss Martina Pokorna (Faculty of Science Charles University in Prague Czech Republic)

Comparative painting reveals strong conservation between bird sex chromosomes and chromosomes in several lizard families [C6.35]

Dr Anath B Das (Dept. of Agril. Biotech. Orissa University of Agriculture Technology Bhubaneswar Orissa India)

Genetic and chromosomal organization and biodiversity in Indian and other genotypes of banana [C6.36]

Dr Ana Araujo (EmbrapaUniversity of Leicester)

Physical mapping of BAC anchors to explore genome and chromosome evolution in peanuts [C6.37]

Friday 2nd July 2010

Dr David Kopecký (Institute of Experimental Botany)

Efficiency of fish protocols with different probes [C6.38]

Ms Jana Cizkova (Institute of Experimental Botany)Physical mapping of the banana (*Musa spp.*) genome using microdissected chromosomes [C6.39]**Dr Eduard Kejnovsky (Institute of Biophysics Brno)**

Expansion of microsatellites on evolutionary young Y chromosomes [C6.40]

Dr Bozena Kolano (Dept. of Plant Anatomy and Cytology University of Silesia Jagiellonska 28 Katowice Poland)Distribution of rRNA gene loci in the genus *Chenopodium L.* [C6.41]**Dr Jaroslav Dolezel (Institute of Experimental Botany)**

Chromosome genomics in the Triticeae [C6.42]

Mr Niaz Ali (University of Leicester)

Repetitive DNA diversity and chromatin structure of wheat breeding lines incorporating alien chromatin segments [C6.43]

P7 Plant Responses to Belowground Stresses**Mrs Dragana V Rancic (Faculty of Agriculture University of Belgrade)**

How does deficit irrigation affect root growth in tomato? [P7.16]

Mrs Sofija V Pekic Quarrie (Faculty of Agriculture University of Belgrade)

Effects of deficit irrigation on phenological growth stages in ABA-deficient tomato mutants [P7.17]

Dr Margaret L Pullen (University of Durham)

OX11 kinase mediates ionic stress tolerance during Arabidopsis germination and seedling establishment [P7.18]

Ms Alexandra A Erkoeva (Russian Academy of Science)

Influence of ambient acidity on growth and biomass partitioning of Scots pine seedling of different geographical origin [P7.19]

Dr Ewa Janik (Department of Plant Physiology Maria Curie-Skłodowska University Akademicka 19 20-033 Lublin Poland)The adaptive mechanism of *Secale cereale* plants to high light condition [P7.20]**Dr Malgorzata Wojcik (Dept of Plant Physiology Maria Curie-Skłodowska University Lublin Poland)**Effect of cadmium on growth and mineral composition of *Dianthus carthusianorum* plants [P7.21]**Dr Agnieszka Hanaka (Dept of Plant Physiology Maria Curie-Skłodowska University Lublin Poland)**Adaptation of photosynthetic apparatus of *Dianthus carthusianorum* under Zn, Pb or Cd stress conditions [P7.22]**Mrs Lawrie K Brown (SCRI)**What are the implications of variation in root hair length on P-limited yield in barley (*Hordeum vulgare L.*)? [P7.23]**Dr Alireza Dadkhah (Ferdowsi University of Mashhad)**

Effect of Salinity on Germination and Seedling Growth of Four Medicinal Plants [P7.24]

Mr Fabian Kellermeier (University of Glasgow)

Plasticity of root architecture in response to external nutrients [P7.25]

Dr Timothy S George (SCRI)

Genotypic variation in the ability of barley to tolerate multiple abiotic stresses [P7.26]

Friday 2nd July 2010

Dr Bulent Uzun (Akdeniz University)

Genetic architecture of phenotypic traits in world sesame collection regenerated in Mediterranean climate [P7.27]

Ms Viktoriya V Lavrova (Russian Academy of Science)

Effect of temperature drop on potato plant responses to biotrophic pathogens [P7.28]

Prof Anabela Romano (IBB-CGB University of Algarve FCT Ed. 8 Campus de Gambelas 8005-139 Faro Portugal)

Aluminium and low pH induced physiological changes in the antioxidative response system of *Plantago algarbiensis* and *P. almogravensis* [P7.29]

Dr Eva Darko (Agricultural Research Institute of the Hungarian Academy of Sciences)

Aluminum tolerance in wheat/barley introgression lines and in their parental genotypes [P7.30]

Ms Sylvie Renault (Department of Biological Sciences University of Manitoba)

Photosynthetic rate, elemental analysis, and antioxidant activities of ascorbate peroxidase and glutathione reductase in salt-stressed *Echinacea pupurea*, *E. pallida* and *E. angustifolia* [P7.31]

Prof Deri Tomos (Bangor University)

Mapping rhizosphere solutions using glass microcapillaries. [P7.32]

Mr Marek Vaculik (Dept. of Plant Physiology Faculty of Natural Sciences Comenius University in Bratislava)

Potential of arsenic accumulation in plants growing on old mining sites [P7.33]

Miss Catherine Keeling (Writtle College Chelmsford Essex CM1 3RR UK)

Does supplementary silicon enhance the saline tolerance of tomatoes beyond the enhancement provided by naturally occurring background silicon?
[P7.34]

Dr Michael R Thorpe (Forschungszentrum Jülich)

Defensive redistribution of photoassimilate, and changes in root growth, after attacks on roots or shoots by herbivores and soil pathogens [P7.35]

Dr Katrin Kahlen (Leibniz Universität Hannover Germany)

Effects of salinity on architectural traits of tomato [P7.36]

Mr Marisol Castrillo (Departamento de Biología de Organismos)

Cadmium Tolerance Mechanism in *Wedelia trilobata* (L.) Hitchc. (Asteraceae) plants [P7.37]

P8 Dna Repair and Recombination

Miss Rebecca S Lewis (University of Bristol)

Investigating MSH2 copy number in hexaploid bread wheat [P8.13]

Dr Jiri Siroky (Institute of Biophysics Czech Academy of Sciences)

Cytogenetics for the study of genome stability in *Arabidopsis* [P8.14]

Ms Lucie Najdekrova (Institute of Biophysics Czech Academy of Sciences)

Nibrin in plants [P8.15]

Dr Koichi Watanabe (Leibniz Institute of Plant Genetics and Crop Plant Research)

Gene targeting and recombination repair in barley using I-SceI endonuclease [P8.16]

Mr Annika K Weimer (IBMP du CNRS)

A novel pattern of cell cycle regulation at DNA damage conditions
[P8.17]

Friday 2nd July 2010

P9 Alternative Splicing and its Impact on Gene Regulation in Plants

Dr Naeem H Syed (Division of Plant Sciences University of Dundee@SCRI Dundee DD2 5DA Scotland)
Alternative Splicing in the Arabidopsis Core Clock Genes [P9.13]

Dr Mark Spensley (Division of Plant Sciences University of Dundee@SCRI Dundee DD2 5DA Scotland)
Arabidopsis snoR146 affects alternative splicing and expression of multiple mRNAs [P9.14]

Ms Raquel Carvalho (Instituto Gulbenkian de Ciência)
The SR45 plant-specific splicing factor is a negative regulator of sugar signaling during early growth in Arabidopsis [P9.15]

Dr Vinciane Tillemans (University of Liège)
Study of the subcellular localization and shuttling properties of RSZp22, an Arabidopsis SR splicing factor, and role of its RNA-binding domains [P9.16]

Dr Katarzyna D Raczynska (Institute of Molecular Biology and Biotechnology Adam Mickiewicz University 61-614 Poznan Poland)
Regulation of alternative splicing in Arabidopsis thaliana [P9.18]

A1 The Challenge Of Measuring Energy Expenditure: Current Field And Laboratory Methods

Dr Lewis G Halsey (Roehampton University)
The accelerometry technique for amphibian ecophysiology: Describing energy expenditure in an important invasive species, the cane toad [A1.13]

Ms Jane W Behrens (Technical University of Denmark National Institute of Aquatic Resources)
Time matters: post-surgical recovery of gastric evacuation rate in Atlantic cod [A1.14]

Mr Nicholas Payne (Southern Seas Ecology Laboratories University of Adelaide)
Accelerometry reveals diel patterns in field metabolic rate of giant Australian cuttlefish *Sepia apama* during breeding [A1.15]

Prof Nancy Curtin (Imperial College London)
Energy turnover in muscles from mice over-expressing Uncoupling Protein-3 [A1.16]

Dr Manfred Enstipp (IPHC-DEPE CNRS Strasbourg)
Using body acceleration to estimate energy expenditure during diving in adult green turtles (*Chelonia mydas*) [A1.17]

C4 Immunity Across the Kingdoms

Ms Hana Bainova (Faculty of Science Charles University in Prague)
Evolution of Toll-like receptor 4 in passerine birds [C4.9]

Dr Oldrich Tomasek (Department of Zoology Faculty of Science Charles University in Prague)
Identification of Toll-like receptor genes in Grey Partridge (*Perdix perdix*) [C4.10]

Dr Tamara Pecenkova (Institute of Experimental Botany AS CR)
The role of the exocyst complex in the innate immunity of plants [C4.11]

Dr Adam M Benham (Durham University)
A comparison of the assembly of HLA-DP, HLA-DQ and HLA-DR molecules [C4.12]

Miss Zuzana Bainová (Faculty of Science Charles University in Prague)
Polymorphism of murine Toll-like receptor 1 in wild-derived inbred strains [C4.13]

Friday 2nd July 2010

Dr Eva E Philipp (Institute of Clinical Molecular Biology Christian-Albrechts University Kiel)

Systematic immunotranscriptomics in *Mytilus edulis* using massively parallel RNA sequencing [C4.14]

Miss Julia Saphörster (Institute for Clinical Molecular Biology Christian-Albrechts-University Kiel)

Insights into innate immunity from marine invertebrates: Molecular and functional analysis of NOX-family NADPH oxidases in the blue mussel, *Mytilus edulis*. [C4.15]

Dr Pawel M Majewski (Department of Animal Physiology Faculty of Biology University of Warsaw Warsaw Poland)

Peritonitis inhibits the chicken pineal biosynthetic activity through the AA-NAT gene expression down regulation [C4.16]

Dr Magdalena Markowska (Department of Animal Physiology Faculty of Biology University of Warsaw Warsaw Poland)

Peritoneal leukocytes modulate biosynthetic activity of the chicken (*Gallus domesticus*) pineal glands in vitro [C4.17]

Saturday 3rd July 2010

**C3 - The plant cell cycle and its interaction with plant hormones
(Room: Meridien)**

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Chair: Marina Dermastia

09:00 Ms Dörte Müller (University of York)

Analysis of auxin-cytokinin cross-talk in shoot branching
[C3.19]

09:30 Dr Wendy A Peer (Purdue University)

APM1 regulates cell cycle progression and auxin transport components
[C3.20]

10:00 Prof Maria Beatrice BITONTI (University of Calabria)

Interfacing between cytokinin and auxin distribution and cell cycle gene expression in root apical meristems
[C3.21]

10:40 Refreshment break

11:10 Dr Natasha D Spadafora (University of Calabria)

Using *WEE1* and *Spcdc25* as tools to probe the interactions between plant growth regulators and the cell cycle.
[C3.22]

11:40 General discussion and summing up led by Dennis Francis

12:00 End of session

**A3 - Evolutionary and ecological physiology
(Room: Zenit)**

Chair: David McKenzie

09:00 Dr Kevin L Campbell (University of Manitoba)

Breathing new life into (c)old blood: resurrection of authentic mammoth hemoglobin reveals novel adaptive physiochemistry for cold tolerance
[A3.17]

09:40 Mr Scott Mirceta (The University of Liverpool)

Adaptive evolution of myoglobin in mammalian divers?
[A3.18]

10:00 Dr Michael Berenbrink (Liverpool University)

Atmospheric O₂ and the evolution of vertebrate blood gas transport mechanisms
[A3.19]

10:20 Refreshment break

Chair: Michael Berenbrink

10:45 Miss Katharina Bremer (Queen's University)

Origins of variation in muscle mitochondrial content within and between fish species
[A3.20]

Saturday 3rd July 2010

11:05 Ms Lotta Leveelahti (Centre of Excellence in Evolutionary Genetics and Physiology University of Turku)

Hypoxia responses of three-spine sticklebacks
[A3.21]

11:25 Prof Francisco T Rantin (Federal University of São Carlos)

Cardiorespiratory responses to hypoxia in the African catfish *Clarias gariepinus*, an air-breathing fish
[A3.22]

11:45 Miss Jyuan-Ru Tsai (Department of Life Science Tunghai University Taiwan)

The Role of the Extra-branchial Organs in a Semi-Terrestrial Crab, *Ocypode stimpsoni*
[A3.23]

12:05 Prof François H LALLIER (Station Biologique de Roscoff)

Eating sulphide or methane: how do deep-sea hydrothermal vent mussels accommodate symbiotic bacteria ?
[A3.24]

12:25 Lunch break

A9 - Function and control of elastic systems (Room: Virgo)

Chair: Alan Wilson

09:00 Prof Herr M Herr (MIT)

The Importance of Neuromechanical Leg Models in the Design of Powered Prostheses
[A9.14]

09:40 Dr Dominic J Farris (UNC-Chapel Hill NC State University)

Differential strain of the human Achilles free tendon and aponeurosis in-vivo
[A9.12]

10:00 Refreshment break

10:30 Prof Alan M Wilson (The Royal Veterinary College)

Muscle tendon interaction in locomotion
[A9.10]

11:00 Miss Rebecca A Snarey (The Royal Veterinary College)

The utilisation of a compliant environment by Grey Squirrels
[A9.11]

11:20 Dr Nicolai Konow (Brown University EEB)

Limb muscle-tendon unit function in power-attenuation during rapid energy absorption
[A9.13]

11:40 Mr René S Sonntag (Bionic-Innovation-Centre Bremen University of Applied Sciences)

Undulatory swimming: Can models reproduce fish like kinematics exclusively passive?
[A9.9]

12:00 Lunch break

13:30 Prof Friedrich G BARTH (University of Vienna)

Viscoelastic properties of arthropod cuticle for the fine tuning of vibration and flow sensors
[A9.15]

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14:10 Prof Sheila Patek (University of Massachusetts Amherst)

The power of piercing, pounding shrimp
[A9.16]

14:40 Caragh N Kelleher (Royal Veterinary College)

Do dogs adjust their virtual leg stiffness on compliant surfaces?
[A9.19]

15:00 Refreshment break

15:40 Dr Gregory P Sutton (University of Cambridge)

Controlling energy release: two strategies insects use to direct jumping
[A9.17]

16:00 Dr Markus Rüggeberg (Max Planck Institute of Colloids and Interfaces)

Flower heliotropism: Elucidating mechanical principles of plant stem movement
[A9.18]

16:30 Session Ends

**C6 - Chromosome organization and cytogenomics
(Room: Kepler)**

Chair: Dr Jaroslav Dolezel

09:00 Prof Jennifer A Marshall Graves (Research School of Biological Sciences)

Weird animal genomes and sex chromosome evolution
[C6.8]

09:40 Dr Lukas Kratochvil (Charles University in Prague)

Evolution of sex-determining systems in squamate reptiles: macroevolutionary pattern and a case study in eye-lid geckos (Gekkota: Eublepharidae) [C6.9]

10:00 Refreshment break

10:30 Prof Boris Vyskot (Institute of Biophysics Brno)

Plant sex chromosomes: early steps in sex chromosome evolution
[C6.10]

11:05 Dr Jiri Macas (Biology Centre ASCR)

A next-generation view of repetitive DNA composition in plant genomes
[C6.11]

11:40 Dr Nevenka Mestrovic (Rudjer Boskovic Institute Bijenicka 54 HR-10000 Zagreb Croatia)

How satellite DNAs in the "library" are created?
[C6.12]

11:55 Dr Alexander V Vershinin (Institute of Chemical Biology and Fundamental Medicine Novosibirsk Russia)

The genomics of the most abundant tandem repeat DNA families in the rye heterochromatin
[C6.13]

12:10 Lunch break

Chair: Prof Hans de Jong

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13:15 Prof Raquel Chaves (IBBCGB-UTAD)

Satellite DNA: Patterns of Chromosome Evolution and Genome Remodelling
[C6.14]

13:50 Dr Miroslav Plohl (Ruder Boskovic Institute)

Contrasting patterns in genomic composition of satellite DNA repeats
[C6.15]

14:25 Miss Dóra Szinay (Wageningen Univeristy)

BAC FISH painting reveals chromosomal evolution in Solanum
[C6.16]

14:40 Mrs Fernanda Ferrari (University of Campinas - UNICAMP - Brazil)

Mapping chromosomes of Sugarcane by FISH
[C6.17]

14:55 Dr Daryna Dechyeva (Dresden University of Technology)

Integration of genetic linkage and chromosomal maps of sugar beet by high-resolution molecular cytogenetics
[C6.18]

15:10 Refreshment break

15:40 Dr Andreas Houben (IPK Gatersleben)

Mechanisms of uniparental genome elimination in wide hybrids
[C6.19]

16:15 Prof Andrew R Leitch (Queen Mary University of London)

Evolution of hybrids and allopolyploids in genus *Nicotiana*
[C6.20]

16:50 Concluding remarks: Prof Hans de Jong

We thank Chromosome Research for financial support of the Chromosome Organization and Cytogenomics Session

P7 - Plant responses to Belowground Stresses (Room: Aquarius & Taurus)

Sponsored by Journal of Experimental Botany

Session organised by Glyn Bengough and Philip J White

Chair: Glyn Bengough

09:00 Introduction

09:05 Prof Timothy D Colmer (University of Western Australia)

Root adaptations to waterlogged soils: internal aeration and nutrient acquisition
[P7.1]

09:35 Mr Claude Doussan (INRA - EMMAH)

Drought and water stress of crops: a look at the soil-root system interplay
[P7.2]

10:00 Refreshment break

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10:30 Dr Anthony G Bengough (Scottish Crop Research Institute)

Pushing through hard soil - do root hairs grip the soil and aid root penetration?

[P7.3]

10:55 Dr Alex Levine (The Hebrew University of Jerusalem)

Inositol-Phospholipid signaling coordinates plants adaptation to environmental stress: from stress perception in plasma membrane to gene expression in the nucleus

[P7.4]

11:15 Dr Rana Munns (CSIRO Plant Industry)

A new screening method identifies genetic variation in root response to salt and water stress

[P7.5]

11:35 Miss Nadia Bazihizina (The University of Western Australia)Response of the halophyte *Atriplex nummularia* to non-uniform root zone salinity

[P7.6]

11:50 Mrs Claire M King (University of Reading)

Can drought adapted Mediterranean plants acclimate against anoxia?

[P7.7]

12:05 Dr Eric S Ober (Rothamsted Research)

Wheat genotypes differ in ability to extract soil water from deep soil layers

[P7.8]

12:25 Lunch break

Chair: Philip J. White**13:40 Dr Peter R Ryan (CSIRO Plant Industry)**

Physiology and evolution of aluminium resistance in plants.

[P7.9]

14:25 Prof Alexander Lux (Comenius University in Bratislava Faculty of Natural Sciences Dept. Plant Physiology)

Root cells react to cadmium toxicity to reduce the radial transport of ions

[P7.10]

14:50 Dr Kosala M Ranathunge (Institute of Cellular and Molecular Botany University of Bonn Germany)Stagnant deoxygenated growth conditions reduce the overall permeability of rice (*Oryza sativa* L.) roots for solutes but not for water.

[P7.11]

15:10 Refreshment break

15:40 Prof Philip J White (SCRI)

Root Phenotypes for Infertile or Hostile Soils

[P7.12]

16:05 Dr Eric J.W. Visser (Experimental Plant Ecology Radboud University Nijmegen)

Exploring roots - selective root placement in nutrient-rich hotspots

[P7.13]

16:30 Dr Rattan S Yadav (IBERS Aberystwyth University UK)

Progress and prospects of increasing drought tolerance in pearl millet using genetics and genomics approaches

[P7.14]

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16:45 Prof Cengiz Toker (Akdeniz University)

Improvement of drought and heat tolerance in chickpea (*Cicer arietinum* L.) by induced mutation
[P7.15]

17:00 Close of Session

P8 - DNA Repair and Recombination (Room: Tycho)

Chair: Dr. Andrew C Cuming

09:10 Dr Stephen West (Cancer Research UK)

Alternative pathways for Holliday junction resolution during DNA repair
[P8.1]

10:00 Refreshment break

10:30 Dr Charles I White (CNRS-Clermont Université. France)

Recombination pathways and genome stability in Arabidopsis.
[P8.2]

11:00 Prof Holger Puchta (Karlsruhe Institute of Technology)

Defining the role of RAD5a in DNA repair and recombination in Arabidopsis
[P8.3]

11:30 Dr Karel J Angelis (Institute of Experimental Botany AS CR Na Karlovce 1 160 00 Praha 6 Czech Republic)

Rapid repair of DNA double strand breaks (DSBs) is a common feature of higher and lower plants, as well as mammalian cells.
[P8.4]

11:50 Dr Gertrud Wiedemann (Department of Plant Biotechnology Faculty of Biology University of Freiburg)

The centrin gene family and its potential contribution to gene targeting efficiency in *Physcomitrella patens* [P8.5]

12:10 Lunch break

Chair: Dr. Karel J. Angelis

13:30 Dr Michael Lisby (University of Copenhagen)

Controlling homologous recombination at repetitive DNA sequences
[P8.6]

14:20 Dr Philippe Duchateau (Cellestis SA)

Engineering Meganucleases for Genome Engineering Purposes
[P8.7]

14:40 Dr Wanda M Waterworth (University of Leeds)

The novel DNA ligase 6 is an important determinant of seed longevity
[P8.8]

15:00 Refreshment break

Chair: Dr. Andrew C. Cuming

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15:30 Mr Sascha Biedermann (Freie Universität Berlin)

The DDB1a interacting proteins ATCSA-1 and DDB2 are critical factors for UV-B tolerance and genomic integrity in *Arabidopsis thaliana*.

[P8.9]

15:50 Prof Chris Franklin (University of Birmingham)

Coordination of meiotic recombination in *Arabidopsis thaliana*: the role of the chromosome axes.

[P8.10]

16:20 Dr Karel Riha (Gregor Mendel Institute of Molecular Plant Biology)

Arabidopsis telomeres: evidence for chromosome end protection by two distinct telomere architectures

[P8.11]

16:50 Concluding Remarks**P9 - Alternative splicing and its impact on gene regulation in plants
(Room: Leo)****Chair: Prof. John W. S. Brown**

09:00 Welcome - Prof. John W. S. Brown

09:10 Prof Anireddy S Reddy (Colorado State University USA)

Alternative splicing of pre-mRNAs in plants in the post-genomic era

[P9.1]

10:00 Refreshment break

Chair: Dr. Gordon Simpson**10:30 Dr Mariya Kalyna (Max F. Perutz Laboratories Medical University of Vienna A-1030 Vienna Austria)**

The impact of SR proteins on alternative splicing in *Arabidopsis*

[P9.2]

10:50 Dr Craig G Simpson (Scottish Crop Research Institute Dundee, UK)

Alternative splicing and nonsense mediated decay in *Arabidopsis*

[P9.3]

11:10 Dr Allan James (University of Glasgow)

Alternative Splicing Mediates the Adaptation of the *Arabidopsis* Circadian Clock to Temperature Changes

[P9.10]

11:30 Dr Motoaki Seki (RIKEN Plant Science Centre)

Genome-wide analysis of RNA regulation in plant abiotic stress responses

[P9.5]

12:00 Lunch break

Chair: Prof. Artur Jarmolowski**13:30 Prof Chris Smith (University of Cambridge)**

Mechanisms and logic of alternative splicing in animals

[P9.6]

14:10 Dr Andreas Wachter (University of Tübingen Germany)

Impact of structured mRNA motifs on alternative splicing in plants

[P9.7]

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14:40 Dr Gordon G Simpson (University of Dundee UK)

The Spn Family Protein FPA can control RNA 3' end Formation Within Introns and This Can Explain its Role in Flowering
[P9.8]

15:10 Refreshment break

Chair: Prof. Andrea Barta

15:40 Mrs Eva Stauffer (University of Tübingen)

Auto- and cross-regulation of polypyrimidine tract-binding protein homologues from Arabidopsis
[P9.9]

16:00 Mr Dawid Bielewicz (Institute of Molecular Biology and Biotechnology Adam Mickiewicz University 61-614 Poznan Poland)

Complex processing of *Arabidopsis thaliana* pri-miRNAs
[P9.11]

16:20 Dr Olga A Koroleva (University of Reading)

Does Exon Junction Complex protein eIF4A-III in animal heart cells show the same dynamics in response to hypoxia as in plant cells?
[P9.12]

16:40 Yamile Marquez (Max F. Perutz Laboratories Medical University of Vienna Austria)

Massive sequencing reveals an unexpected high level of alternative splicing in Arabidopsis
[P9.17]

17:00 Closing remarks - Prof. Andrea Barta

A1 - The challenge of measuring energy expenditure: current field and laboratory methods (Room:Nadir)

Sponsored by Comparative Biochemistry and Physiology, published by Elsevier

Organised by Dr Lewis Halsey (Roehampton University, London)

Chair: Lewis Halsey

08:50 Introduction

09:00 Dr John Lighton (University of Nevada at Las Vegas)

The past, present and future of real-time metabolic measurement using flow-through respirometry
[A1.1]

09:40 Dr Kenneth Welch (University of Toronto Scarborough)

Feeder-mask based respirometry in hummingbirds
[A1.2]

10:10 Dr Graham N Askew (University of Leeds)

Linking the mechanical and metabolic power requirements of flight in the cockatiel
[A1.3]

10:30 Refreshment break



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11:00 Dr Emily L Shepard (Swansea University)

Acceleration as a proxy for energy expenditure: what it is, what it is not and what we still need to know
[A1.4]

11:30 Dr Jayson M Semmens (University of Tasmania)

Movement patterns, swimming speed and metabolic rate of a vulnerable temperate rocky-reef fish, *cheilodactylus spectabilis* during the spawning season
[A1.5]

11:50 Dr Steven J Portugal (University of Birmingham)

Measuring body mass loss to estimate daily energy expenditure
[A1.6]

12:10 Lunch break

13:20 Dr Craig R White (University of Queensland)

Allometric estimation of metabolic rates in animals
[A1.7]

13:45 Dr Jorg Welcker (Norwegian Polar Institute)

Using the doubly labelled water method to measure energy expenditure in free-ranging birds: some concerns and recent progress
[A1.8]

14:15 Dr Jonathan A Green (University of Liverpool)

The heart rate method: review and recommendations
[A1.9]

15:00 Refreshment break

15:30 Dr Shannon P Gerry (Wellesley College)

Regional patterns of muscle blood flow during steady swimming in trout
[A1.10]

15:50 Dr Dominic J McCafferty (University of Glasgow Scotland UK)

Thermal imaging and heat transfer analysis in birds: estimating energy costs in emperor penguins
[A1.11]

16:20 Prof Roger Seymour (University of Adelaide)

Estimating metabolic rate by direct calorimetry and infrared thermography
[A1.12]

16:50 Session end

**C4 - Immunity across the kingdoms
(Room: Stella)****Chairs: Adam Benham and Angus Murphy****09:00 Prof Jim Kaufman (University of Cambridge)**

The birth of the adaptive immune system of jawed vertebrates: a bird's eye view
[C4.1]

10:00 Refreshment break

10:30 Prof Thomas Boehm (Max-Planck Institute of Immunobiology)

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Evolution of adaptive immunity in vertebrates
[C4.2]

11:10 Dr CYRIL ZIPFEL (THE SAINSBURY LABORATORY)

Deciphering receptor kinase-mediated innate immunity in Arabidopsis
C4.3]

11:50 Dr Eva E Philipp (Institute of Clinical Molecular Biology Christian-Albrechts University Kiel)

Systematic immunotranscriptomics in *Mytilus edulis* using massively parallel RNA sequencing
[C4.4]

12:05 Lunch break

13:30 Prof Steve Huber (US. Department of Agriculture Agricultural Research Service and University of Illinois)

Tyrosine phosphorylation of the receptor kinase BAK1 is involved in brassinosteroid signaling and expression of basal defense genes
[C4.5]

14:30 Prof Pete Kaiser (The Roslin Institute and R(D)SVS University of Edinburgh Easter Bush Veterinary Centre)

The chicken's immune system - what we know, what we don't know and what other bird genomes tell us.
[C4.6]

15:10 Refreshment break

15:40 Dr Delphine Chinchilla (Botanical Institute University of Basel)

RAPID HETEROMERIZATION AND PHOSPHORYLATION OF LIGAND-ACTIVATED PLANT TRANSMEMBRANE RECEPTORS AND THEIR ASSOCIATED KINASE BAK1
[C4.7]

16:20 Prof Angus S Murphy (Purdue University)

Functional conservation of FKBP38-like immunophilins across kingdoms
[C4.8]

A4 - The scaling of metabolic rate with body size in organisms: its causes and ecological relevance (Room: Zenit)

Chair: Shaun Killen

13:40 Mr Brian K McNab (University of Florida)

Ecological and behavioral complications in the scaling of BMR in birds and mammals.
[A4.1]

14:25 Dr Douglas S Glazier (Juniata College)

Ecological and Physiological Influences on Metabolic Scaling: Diversity within Boundary Limits
[A4.2]

15:10 Refreshment break

15:40 Mr Jan Kozlowski (Institute of Environmental Sciences Jagiellonian University Kraków Poland)

Scaling of metabolic rate. Enigma or a trivial problem?
[A4.3]

16:00 Dr Craig R White (University of Queensland)

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The mechanistic basis of metabolic allometry in colonial animals
[A4.4]

16:20 Mr Edward Snelling (University of Adelaide)

Design of the Insect Respiratory System
[A4.5]

Floor Plan

