



# 13th International Symposium on Avian Endocrinology 2024

March 17-22, 2024

Department of Zoology, Chaudhary Charan Singh University, Meerut, U.P., India  
(Accredited A++ by NAAC)

## Details of Symposia

### SYMPOSIA 1

<b>Symposia title</b>	<b>Impact of light characteristics on the somatic and reproductive axes.</b>
Chair Person 1 Name, affiliation and email address	Dr. Grégoy Bédécarrats University of Guelph gbedecar@uoguelph.ca
Chair Person 2 Name, affiliation and email address	Dr. Israel Rozenboim (Rully) The Hebrew University of Jerusalem rully.r@mail.huji.ac.il
Brief description of symposia (~100 words)	Light characteristics (photoschedule, intensity and spectrum) are known to influence growth and reproduction in avian species. As a result, artificial lighting is extensively used in commercial settings to control and optimize both growth in boiler chickens, and egg production in layers and breeders. More recently, it was also reported that illumination during embryonic development can impact chick quality and thus subsequent growth. Thus, this symposium intends to review the latest research findings on the impact of light on the somatic and reproductive axis.
Proposed speaker 1 Proposed subject Name, affiliation and email address	Clara Ziezold (PhD student), University of Guelph, <a href="mailto:cziezold@uoguelph.ca">cziezold@uoguelph.ca</a> Subject: Impact of light spectrum and intensity of the reproductive capacity of turkey breeder hens
Proposed speaker 2 Proposed subject Name, affiliation and email address	Joanna Bartman (PhD student), The Hebrew University of Jerusalem, <a href="mailto:Yoanna.Bartman@mail.huji.ac.il">Yoanna.Bartman@mail.huji.ac.il</a> Subject: Impact of embryonic illumination on the epigenetic control of the somatic axis
Proposed speaker 3 Proposed subject Name, affiliation and email address	To be determined at this stage OR Dr. Israel Rozenboim, The Hebrew University of Jerusalem, <a href="mailto:rully.r@mail.huji.ac.il">rully.r@mail.huji.ac.il</a> (Overview of the impact of lighting during embryonic development).
Proposed speaker 4 Proposed subject Name, affiliation and email address	To be determined at this stage OR Dr. Grégoy Bédécarrats, University of Guelph, <a href="mailto:gbedecar@uoguelph.ca">gbedecar@uoguelph.ca</a> (Overview of deep brain photoreception and the control of reproduction)

## SYMPOSIA 2

<b>Symposia title</b>	<b>Multifunctional Roles of Glucocorticoids</b>
Chair Person 1 Name, affiliation and email address	Laura E. Ellestad, Associate Professor University of Georgia, Athens, GA, USA <a href="mailto:lellestad@uga.edu">lellestad@uga.edu</a>
Chair Person 2 Name, affiliation and email address	Gregory S. Fraley, Endowed Chair or Poultry Science Purdue University, West Lafayette, IN, USA <a href="mailto:gfraley@purdue.edu">gfraley@purdue.edu</a>
Brief description of symposia (~100 words)	In addition to their role in mediating the response to acute and chronic stressors, glucocorticoids have pleiotropic effects that can influence avian development, growth, and metabolism. This symposium will highlight recent advances in canonical and non-canonical actions of glucocorticoids in birds. Presentations will include the influence of maternal stressors on their offsprings' stress response and behavior, metabolic and non-genomic effects of glucocorticoids on growth and development, and regulation of glucocorticoid secretion and mechanisms of action.
Proposed speaker 1 Proposed subject Name, affiliation and email address	Glucocorticoid actions and control of secretion: an historical perspective  Colin Scanes, Professor Emeritus, University of Wisconsin – Milwaukee and Adjunct Professor, University of Arkansas, <a href="mailto:cgscanes@icloud.com">cgscanes@icloud.com</a>
Proposed speaker 2 Proposed subject Name, affiliation and email address	Transgenerational effects of cortisol  Gregory S. Fraley, Professor, Purdue University, <a href="mailto:gfraley@purdue.edu">gfraley@purdue.edu</a>
Proposed speaker 3 Proposed subject Name, affiliation and email address	Metabolic and developmental impacts of glucocorticoids  Laura E. Ellestad, Associate Professor, University of Georgia, <a href="mailto:lellestad@uga.edu">lellestad@uga.edu</a>
Proposed speaker 4 Proposed subject Name, affiliation and email address	TBD, Selected from general program abstract submissions. Early career investigators and speakers from Asia or Europe will be prioritized.

### SYMPOSIA 3

<b>Symposia title</b>	<b>Advances in endocrine-clock mechanisms</b>
Chair Person 1 Name, affiliation and email address	Dr Aakansha Sharma University of Lucknow <a href="mailto:sharma_aakansha@lkouniv.ac.in">sharma_aakansha@lkouniv.ac.in</a>
Chair Person 2 Name, affiliation and email address	Prof Tyler Stevenson University of Glasgow <a href="mailto:tyler.stevenson@glasgow.ac.uk">tyler.stevenson@glasgow.ac.uk</a>
Brief description of symposia (~100 words)	<p>This symposium consists of several presentations that cover the latest advances in the links between biological clocks (e.g., seasonal) and endocrine outputs. We have carefully selected 4 (+3 ‘reserve’) speakers to present on the latest advances on how the brain detects changes in light and temperature, and how these cues impact the neuroendocrine timing of endocrine systems. The suggested speakers include two ECRs, 4 new faculty, and 3 senior faculty. There is an appropriate mix of national (i.e. Indian) and international speakers (e.g., European, North American). A near 50:50 female to male (4:4)</p> <p>The topics covered range from equatorial to arctic birds, and how different environmental cues (e.g., light and temperature) impact seasonal physiology (i.e., reproduction and energy balance). The speakers use a range of cutting-edge methods and the latest technological advances to uncover the genetic, molecular and hormonal underpinnings of how birds represent ‘time’ in the brain.</p>
Proposed speaker 1 Proposed subject Name, affiliation and email address	<p>Dr Aakansha Sharma University of Lucknow <a href="mailto:sharma_aakansha@lkouniv.ac.in">sharma_aakansha@lkouniv.ac.in</a></p> <p>Topic: Mechanisms of regulation of seasonal physiology in migratory birds</p>
Proposed speaker 2 Proposed subject Name, affiliation and email address	<p>Melanie Lindner Netherlands Institute of Ornithology <a href="mailto:m.lindner@nioo.knaw.nl">m.lindner@nioo.knaw.nl</a></p> <p>Topic: Temperature effects on seasonal reproduction</p>
Proposed speaker 3 Proposed subject Name, affiliation and email address	<p>Jonathan Perez University of South Alabama <a href="mailto:jhperez@southalabama.edu">jhperez@southalabama.edu</a></p>

	Topic: Impact of climate change on neural substrates involved in seasonal physiology
Proposed speaker 4 Proposed subject Name, affiliation and email address	Jana Kalinova University of Tromso Jana.kalinova@uit.no  Topic: Molecular mechanism and timing in Arctic environments
Proposed speaker 5 Proposed subject Name, affiliation and email address	Tyler Stevenson University of Glasgow <a href="mailto:tyler.stevenson@glasgow.ac.uk">tyler.stevenson@glasgow.ac.uk</a>  Topic: Molecular basis of seasonal clocks in birds

## SYMPOSIA 4

<b>Symposia title</b>	<b>Avian mitochondrial hormones and metabolic stress: basic mechanism and practical application</b>
Chair Person 1 Name, affiliation and email address	Sami Dridi Center of Excellence for Poultry Science, University of Arkansas, Fayetteville, Arkansas, USA dridi@uark.edu
Chair Person 2 Name, affiliation and email address	Xingen Lei College of Agriculture and Life Science, Cornell University, Ithaca, NY, USA X120@cornell.edu
Brief description of symposia (~100 words)	<p>Mitochondria are known as the powerhouse of the cell because they are responsible for producing over 90% of the ATP for the cell by oxidative phosphorylation associated with the electron transport chain (ETC). They are dynamic organelles (fusion-fission) and their dysfunction is associate with ROS, stress, and metabolic disorders.</p> <p>In poultry and livestock, although mitochondrial researches are still emerging and at their beginning, studies indicated that mitochondrial hormones play key role in growth and feed efficiency. For this symposium, we invited experts in their fields and gathered outstanding and elegant presentations and breakthrough research to provide new insights into mitochondrial (dys)function and metabolic stress and efficiency in avians.</p>
Proposed speaker 1 Proposed subject Name, affiliation and email address	Masaaki Toyomizu Heat stress and avian mitochondria function Tohoku University, Japan <a href="mailto:toyomizu@bios.tohoku.ac.jp">toyomizu@bios.tohoku.ac.jp</a>
Proposed speaker 2 Proposed subject Name, affiliation and email address	Antoine Stier Mitochondria and evolution University of Turku, Finland <a href="mailto:antoine.stier@gmail.com">antoine.stier@gmail.com</a>
Proposed speaker 3 Proposed subject Name, affiliation and email address	Xiquan Zhang Growth hormone, mitochondria and muscle growth South China Agricultural University, China <a href="mailto:xqzhang@scau.edu.cn">xqzhang@scau.edu.cn</a> .
Proposed speaker 4 Proposed subject Name, affiliation and email address	Martin Hasselmann Mitochondrial haplotype diversity and function in laying hens University of Hohenheim, Germany <a href="mailto:martin.hasselmann@uni-hohenheim.de">martin.hasselmann@uni-hohenheim.de</a>
Proposed speaker 5 Proposed subject Name, affiliation and email address	Francois Criscuolo Telomere, mitochondria, ageing, and fitness in birds CNRS, Strasbourg, France <a href="mailto:francois.criscuolo@iphc.cnrs.fr">francois.criscuolo @ iphc.cnrs.fr</a>

Proposed speaker 6	Andreas Nord
Proposed subject	Avian mitochondria and thermoregulation
Name, affiliation and email address	Lund University, Sweden andreas.nord@biol.lu.se

## SYMPOSIA 5

<b>Symposia title</b>	<b>Environmental impacts on endocrine programming</b>
Chair Person 1 Name, affiliation and email address	Virginie Canoine University of Vienna, Vienna Austria Virginie.canoine@univie.ac.at
Chair Person 2 Name, affiliation and email address	Kate Buchanan Deakin University, Geelong Australia Kate.buchanan@deakin.edu.au
Brief description of symposia (~100 words)	Early environmental conditions play a fundamental role in determining avian developmental trajectories. They can have both adaptive and non-adaptive impacts, either within or across generations. Here, we discuss the importance of early life events for the ontogeny of endocrine systems, as well as drawing inferences for long term developmental trajectories. Looking across species with diversity of life histories we can highlight both species and traits which show most plasticity. Finally, we seek to infer the capacity for birds to use such developmental plasticity to respond rapidly in a changing world.
Proposed speaker 1 Proposed subject Name, affiliation and email address	Virginie Canoine Transgenerational effects of environmental stressors. Consequences or Adaptation? University of Vienna, Vienna Austria
Proposed speaker 2 Proposed subject Name, affiliation and email address	Prof Kate Buchanan Embryonic programming in the zebra finch: maternal effects may provide adaptive cues.  Deakin University, Geelong Australia Kate.buchanan@deakin.edu.au
Proposed speaker 3 Proposed subject Name, affiliation and email address	Frederic Angelier Organismal and fitness consequences of developmental exposure to corticosterone in the house sparrow. Centre d'Etudes Biologiques de Chizé, CNRS-La Rochelle University, France
Proposed speaker 4 Proposed subject Name, affiliation and email address	Victoria Coutts, Kevin Pham, Haruka Wada Auburn University, USA Developmental food restriction and its effects on the adrenocortical response and downstream glucose physiology

## SYMPOSIA 6

<b>Symposia title</b>	<b>Avian endocrinology tools for coping with global change: a discussion</b>
Chair Person 1 Name, affiliation and email address	Jamie Cornelius, Oregon State University Corvallis, Or USA <a href="mailto:cornelja@oregonstate.edu">cornelja@oregonstate.edu</a>
Chair Person 2 Name, affiliation and email address	Dongming Lee Hebei Normal University, Shijiazhuang, China <a href="mailto:lidngmng@gmail.com">lidngmng@gmail.com</a>
Chair Person 3 Name, affiliation and email address	Marilyn Ramenofsky University of California Davis, California USA <a href="mailto:mramenofs@ucdavis.edu">mramenofs@ucdavis.edu</a>
Brief description of symposia (~100 words)	Global change is pervasive and includes climate change, resource depletion, urbanization and pollution. Some populations of birds appear to adjust while others are clearly failing. Explanations for such differences are poorly known. It is possible that endocrine and neuroendocrine systems and their interactions with the environment hold clues about differences in adaptability. We invite discussions of neuroendocrine and endocrine capacities underlying these rapid changes in the environment.
Proposed speaker 1 Proposed subject Name, affiliation and email address	Thriving in extreme and changing environments of Eurasian tree sparrows ( <i>Passer montanus</i> ): behavioral and neuroendocrinological aspects.
Proposed speaker 2 Proposed subject Name, affiliation and email address	Dr. K. Buchanan Deakin University Warum Ponds, Australia
Proposed speaker 3 Proposed subject Name, affiliation and email address	Dr. Lynn Martin Ecoimmunology and Disease Ecology University of South Florida Tampa, Florida USA
Proposed speaker 4 Proposed subject Name, affiliation and email address	Dr. Suvi Ruuskanen University of Jyväskylä Evolutionary/physiological/molecular ecology and ecotoxicology Finland



## SYMPOSIA 7

<b>Symposia title</b>	<b>Reproductive (neuro)-endocrinology in songbirds</b>
Chair Person 1 Name, affiliation and email address	Gregory F. Ball University of Maryland in College Park, Department of Psychology gball@umd.edu
Chair Person 2 Name, affiliation and email address	Jacques Balthazart University of Liege, GIGA Neurosciences jbalthazart@uliege.be
Brief description of symposia (~100 words)	Songbirds are best known for the neural mechanisms controlling their vocal production and this work has focussed on two main species, zebras finches and canaries. This group that includes 40% of extant birds is however quite diverse: reproduction and singing are controlled by a variety of mechanisms. This symposium will highlight recent advances made in the understanding of endocrine and neuroendocrine mechanisms controlling reproduction and associated behaviors in this group. Four lectures will be presented illustrating this diversity. The speakers will consider environmental controls and steroid actions on behavior as well as the associated neural plasticity. All speakers have agreed to participate and originate from different parts of the world (USA, Europe and India); they include a mix of senior and younger scientists.
Proposed speaker 1 Proposed subject Name, affiliation and email address	Gregory F. Ball Neuroendocrine regulation of song in male and female songbirds University of Maryland in College Park, Department of Psychology gball@umd.edu
Proposed speaker 2 Proposed subject Name, affiliation and email address	Gaurav Majumdar Lights...Hormones... Action in neuroplasticity of songbirds University of Allahabad dr.gauravmajumdar@allduniv.ac.in
Proposed speaker 3 Proposed subject Name, affiliation and email address	Simone Meddle Environmental regulation of reproduction and the neuroendocrine system in wild song birds The University of Edinburgh, Roslin Institute simone.meddle@roslin.ed.ac.uk
Proposed speaker 4 Proposed subject Name, affiliation and email address	Jacques Balthazart Photoperiodism, steroids and adult neurogenesis in canaries University of Liege, GIGA Neurosciences jbalthazart@uliege.be

## SYMPOSIA 8

<b>Symposia title</b>	<b>Neuroendocrinology of behavioral phenotypes.</b>
Chair Person 1 Name, affiliation and email address	Farrah N. Madison University of Wisconsin, Madison fnmadison@wisc.edu
Chair Person 2 Name, affiliation and email address	Christine R. Lattin Louisiana State University christinelattin@lsu.edu
Brief description of symposia (~100 words)	Many animals, including many birds, show clear and repeatable differences in behavior within a species. These different behavioral phenotypes can be associated with mating strategies, responses to environmental perturbations, or willingness to explore novelty, to name just a few relevant social and environmental stimuli. In this symposium, speakers will connect genetic, hormonal, and neurobiological variation with individual differences in behavior. We will investigate this question utilizing different avian models to gain a better understanding of some of the possible neuroendocrine mechanisms underlying complex behaviors.
Proposed speaker 1 Proposed subject Name, affiliation and email address	Phenotypic variation in follistatin mRNA expression in Gouldian finches. Farrah N. Madison, University of Wisconsin, Madison, fnmadison@wisc.edu
Proposed speaker 2 Proposed subject Name, affiliation and email address	Individual differences in hippocampal transcriptomes in neophobic and non-neophobic house sparrows. Christine R. Lattin, Louisiana State University, christinelattin@lsu.edu
Proposed speaker 3 Proposed subject Name, affiliation and email address	Links between physiology and stress coping styles in chickens Kristen Navara, University of Georgia, <a href="mailto:knavara@uga.edu">knavara@uga.edu</a>
Proposed speaker 4 Proposed subject Name, affiliation and email address	The role of estrogen receptor alpha in aggression in a polymorphic songbird Jenny Merritt, Columbia University, jm5212@columbia.edu
Proposed speaker 5 Proposed subject Name, affiliation and email address	Neurogenomic and hormonal mechanisms associated with aggression in female birds Sara Lipshutz, Duke University, sara.lipshutz@duke.edu

## SYMPOSIA 9

<b>Symposia title</b>	<b>Avian endocrine responses to global change and their potential consequences</b>
Chair Person 1 Name, affiliation and email address	Mylene Mariette, Doñana Biological Station, Spain, and Deakin University, Australia m.mariette@deakin.edu.au
Chair Person 2 Name, affiliation and email address	Haruka Wada, Auburn University, USA hzw0024@auburn.edu
Brief description of symposia (~100 words)	Environments are changing at an unprecedented rate under anthropogenic pressure. Animals' physical environment in particular, including temperature, light and sound, is heavily altered. The endocrine system is on the frontline of animals' response to environmental changes and may be paramount to population persistence under global change. Our symposium aims to provide an overview of current knowledge on this urgent topic, by bringing together evidence on avian glucocorticoid responses to climate change, artificial lighting and noise pollution. We hope that by highlighting similarities and differences across environmental perturbations, we will bring a better understanding of species vulnerability and adaptation potential to global change.
Proposed speaker 1 Proposed subject Name, affiliation and email address	Early-life sound and noise: impact on development, glucocorticoids and fitness. Mylene Mariette, Doñana Biological Station, Spain, and Deakin University, Australia m.mariette@deakin.edu.au
Proposed speaker 2 Proposed subject Name, affiliation and email address	Swallows in a changing world: how increasingly variable temperatures influence endocrine regulation and thermoregulatory performance Maren Vitousek, Cornell University, USA mnv6@cornell.edu
Proposed speaker 3 Proposed subject Name, affiliation and email address	Can stress hormones help animals cope with a changing climate? Michael Hau, Max Planck Institute for Biological Intelligence, Germany Michaela.Hau@bi.mpg.de
Proposed speaker 4 Proposed subject Name, affiliation and email address	Circadian misalignment interrupts physiological and metabolic processes in the zebra finch Kevin Pham, Auburn University, USA kzp0071@auburn.edu
Proposed speaker 5 Proposed subject Name, affiliation and email address	Lighting ourselves sick: effects of light pollution on endocrine function and health. Jenny Ouyang, University of Nevada, USA jouyang@unr.edu

## SYMPOSIA 10

<b>Symposia title</b>	<b>Seasonality in birds: Food, movement and reproduction</b>
Chair Person 1 Name, affiliation and email address	Dr. Amit Kumar Trivedi, Dept. of Zoology, Mizoram University, Aizawl, Mizoram
Chair Person 2 Name, affiliation and email address	Dr. Ram Pratap Singh, Dept. of Life Science, Central University of South Bihar, Bodh Gaya, India
Chair Person 3 Name, affiliation and email address	Dr. Sangeeta Rani, Department of Zoology, University of Lucknow, Lucknow, India
Brief description of symposia (~100 words)	Almost every physiological event is rhythmic in nature. They follow the initiation-mature capability-regression pattern. This pattern may be annual (seasonal) or exhibits the behaviour on daily basis. Food is important for individual survival but to procure it, the time of the day and the quality/ quantity of food is important which can be fetched only by movement (locomotion). Thus, the food and movement are important behaviours in understanding the seasonal physiology. Both, the temperate and tropical birds' exhibit the seasonal breeding depending upon photic and non-photoc cues available to them. Therefore, present symposium will focus on research that explains the impact of photic and non-photoc cue on the seasonality of various biological processes in birds.
Proposed speaker 1 Proposed subject Name, affiliation and email address	Dr. Ram Pratap Singh, Department of Life Science, Central University of South Bihar, India
Proposed speaker 2 Proposed subject Name, affiliation and email address	Dr. Shalie Malik, Department of Zoology, University of Lucknow, Lucknow, India
Proposed speaker 3 Proposed subject Name, affiliation and email address	Dr. Anand S. Dixit, Department of Zoology, North Eastern Hill University, Shillong, India
Proposed speaker 4 Proposed subject Name, affiliation and email address	Dr. Amit Kumar Trivedi, Department of Zoology, Mizoram University, Aizawl, India