

SRBR 2016

SOCIETY FOR RESEARCH ON BIOLOGICAL RHYTHMS
May 21–25, Palm Harbor, FL



Welcome, Society for Research of Biological Rhythms!
May 21-25, 2016

Sessions and Registration in **Stirling Hall**
 Breakfast, Lunch and Dinner Available in **Edinburgh Hall**
 Poster Sessions and Closing Banquet in **Inverness Hall**

Inverness Ballroom
 Poster Sessions
 Closing Banquet

Stirling & Edinburgh Halls
 Main Conference Area
 Parking Available

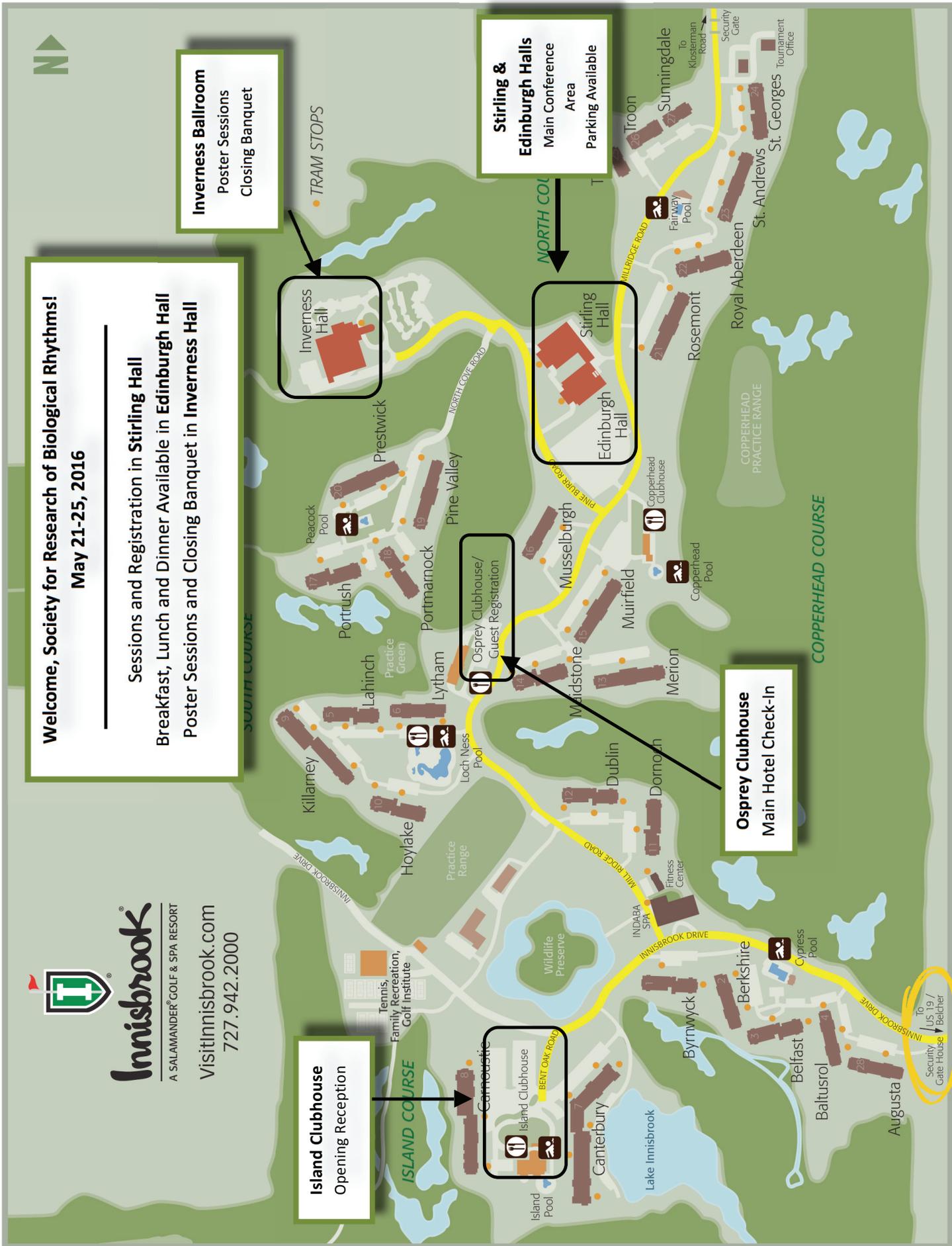
Osprey Clubhouse
 Main Hotel Check-in

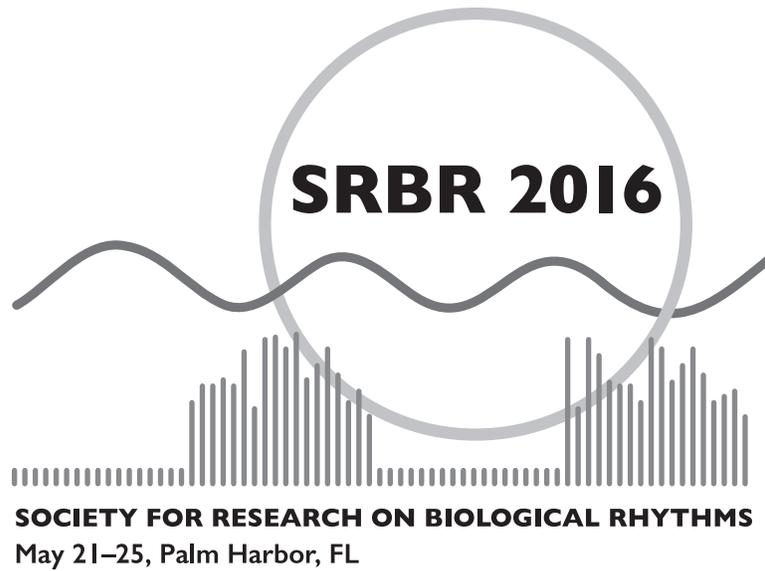
Island Clubhouse
 Opening Reception

Osprey Clubhouse/
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Conference center floor plans can be found in the inside of the back cover.





15th Biennial Meeting
Conference Program

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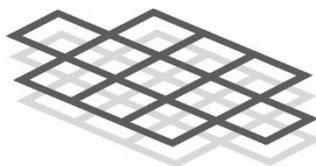
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SRBR would like to acknowledge the generosity of the following companies whose unrestricted educational grants have contributed to the overall quality of this meeting:



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President's Welcome to SRBR 2016

It is my pleasure to welcome you back to warm, sunny Florida for the 2016 Biennial SRBR Conference! The Society for Research on Biological Rhythms was established 30 years ago, assembled by a group of visionaries whose commitment to research, education, and scientific exchange laid the foundation for SRBR to become a leading voice in propelling the biological rhythms field into the forefront of life science and medicine. To further this remarkable progress, SRBR 2016 promises to be an exceptional forum for hearing the latest cutting-edge research, reengaging with colleagues from years past, and exchanging ideas that will shape the future of the field with a talented and diverse group of chronobiologists from around the globe. Between scientific sessions be sure to take advantage of the hiking trails, golf courses, swimming pools, tennis courts, gym equipment and other amenities at Innisbrook Resort, as well as nearby beaches and beautiful Tampa Bay.

All the scientific discourse, personal interactions and leisure activities that you will soon experience would not be possible without many people working behind the scenes who helped organize this meeting. I wish to sincerely thank the SRBR 2016 Program Chair, Nicolas Cermakian, and our Professional Development Committee Chair, Karen Gamble, our Junior Faculty Workshop Chair, Iliia Karatsoreos, and the Professional Development Committees for kicking off the meeting with terrific educational and career development events, Kelli Tometich and the Parthenon Management Group team for their meticulous planning to keep this meeting running smoothly, and our Fundraising Chair, Erik Herzog, who raised a record level of support from many generous government, corporate and individual sponsors. In addition to planning SRBR 2016, your SRBR Board of Directors made quiet progress on multiple fronts including hiring a new management firm to handle our Society and meeting activities, initiating a Governmental Affairs Committee to advocate for circadian biology and sleep, appointing committees to choose and confer the first Directors' Awards and Junior Faculty Research Awards, and enhancing diversity at biennial meetings by establishing the SRBR Diversity Travel Awards and SRBR International Travel Fellowships. I am forever grateful for the time and hard work that all SRBR committees devoted to strengthening our Society and advancing the biological rhythms field.

Finally, I want to thank all of you for being here and sharing your insights, energy and passion for biological rhythms – which is really what makes this meeting such a success. These are exciting times in the biological rhythms field, and I hope you will take full advantage of the opportunities that await you at SRBR 2016.

Best wishes for a great meeting!

Paul E. Hardin
SRBR President, 2014-2016

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Exhibitors

Exhibitor tables will be set up in the Stirling Hall Foyer throughout the entire meeting. Please take some time to visit our exhibitors, as they have provided generous support for the meeting.



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General Information

Headquarters are at the Stirling Hall in the Ballroom Foyer.

SRBR Information Desk will be in the Osprey Club House main hotel lobby on Friday, May 20 and in the Stirling Hall Foyer all other days. The Message Center will be in the Stirling Hall Foyer.

The desk hours are as follows:

Friday, May 20		3:00 pm – 7:00 pm
Saturday, May 21	8:00 am – 12:00 pm	2:00 pm – 8:00 pm
Sunday, May 22	7:00 am – 11:30 am	3:15 pm – 6:30 pm
Monday, May 23	7:00 am – 11:30 am	3:15 pm – 6:30 pm
Tuesday, May 24	7:00 am – 11:30 am	3:15 pm – 6:30 pm
Wednesday, May 25		7:00 am – 11:30 am

Messages can be left on the SRBR message board next to the registration desk. Meeting participants are asked to check the message board routinely for mail, notes, and messages.

Hotel check-in will be at the Osprey Club House.

Shuttle service will be available on Sunday-Tuesday from 12:30 pm to 4:30 pm and again from 6:30 pm to 8:00 pm. On Wednesday, the shuttle will be available from 12:30 pm – 4:30 pm. The shuttles will pick up and drop off from the parking lot at Edinburgh Hall and run on a continuous loop to Tarpon Springs during operation hours. Tarpon Springs has shopping, restaurants, and a grocery store.

Meals: Cash concessions will be available for breakfast, lunch and dinner in the Edinburgh Ballroom East. Weather permitting there will be seating each day on Stirling Lawn and Garden Lawn starting Sunday, May 22 thru Wednesday, May 25. Additionally, a variety of restaurants are located on the Innisbrook Resort premises and available to SRBR attendees. See below for a list of outlets scheduled to be open during meal periods. Each outlet will offer special menus and pricing for SRBR attendees.

Breakfast: Market Salamander Grille, Turnberry Pub, Packard’s Steakhouse, In Suite Dining

Lunch: Market Salamander Grille, Osprey Sports Bar, The Grille at Loch Ness, Turnberry Pub, Packard’s Steakhouse, In Suite Dining

Dinner: Market Salamander Grille, Osprey Sports Bar, Packard’s Steakhouse, In Suite Dining

The SRBR Mobile App is now available in the App Store for iPhones and in the Google Play Store for Androids. Search SRBR and download today. View the latest schedule, attendee list and abstracts!



Follow SRBR on social media! Find us on Facebook and follow us on Twitter @SRBR2016.

Meeting Components

Professional Development

Trainee Professional Development Day

Saturday, May 21, 9:00 am – 5:00 pm

The Trainee Professional Development Day is an entire day devoted to scientific and career development activities for trainees. The day consists of a keynote address, an activity consisting of one-on-one blitz discussions, and a series of workshops on various topics. The goal of the Trainee Professional Development Day is to allow the next generation of biological rhythm researchers to learn from and interact with faculty members in a more informal and intimate setting than that allowed by the main conference.

Junior Faculty Workshops

Saturday, May 21, 1:00 pm – 4:40 pm

The goal of the Junior Faculty Workshops, which are open to investigators within 8 years of obtaining a faculty position, is to foster the growth and success rate of the next generation of biological rhythm researchers by learning from and interacting with established faculty members in a more informal and intimate setting than that allowed by the main conference. A panel of experienced members of the field will participate in each meeting, to provide tips and advice to junior faculty members and answer questions.

Meet the Professors

Sunday, May 22 – Wednesday, May 25, 10:30 am – 11:00 am

Meet the Professor Sessions are meant to provide trainees (students and postdocs) the opportunity to interact with experienced faculty members in the field and to foster scholarly conversation. Each day a number of faculty researchers will be available to talk with trainees. Any trainee interested in meeting these investigators can go to the Salon IJK and take part in this informal gathering.

Actigraphy Workshop

Wednesday, May 25, 1:15 pm - 2:15 pm

Condor Instruments will be offering a workshop on the use of actimeters and analysis of actimetry data.

Scientific Sessions

Symposia

Sunday, May 22 – Wednesday, May 25, 8:15 am - 10:30 am

Sunday, May 22 and Tuesday, May 24, 4:15 pm - 6:30 pm

Sessions of talks from guest speakers, designed by the Program Committee.

Slide Sessions

Sunday, May 22 – Wednesday, May 25, 11:00 am - 12:30 pm

Sessions of short talks selected by the Program Committee among the abstracts submitted for the meeting.

Workshops

Monday, May 23 and Tuesday May 24, 3:15 pm – 4:15 pm,
Wednesday, May 25, 3:30 pm – 4:30 pm

The aim of the workshops is to provide a forum to discuss emerging topics, big picture issues and controversies. The chair will introduce the topic and the questions to address and panelists will do a very brief presentation addressing the questions. This will be followed by an open discussion, with participation of the panelists and the audience.

Presidential Special Symposium

Monday, May 23, 4:30 pm – 6:30 pm

The Presidential Symposium is a session of two talks from special guests of the SRBR President.

Pittendrigh/Aschoff Lecture

Wednesday, May 25, 4:30 pm – 6:00 pm

The Pittendrigh/Aschoff Lecture is a keynote lecture presented by a prominent researcher in the field of chronobiology. This year's lecturer is Dr. Susan Golden. In addition to presenting the latest research from her team, she will give a summary of her history in the field, go over some of the major highlights from the meeting from her own perspective, and provide some outlook on future directions of the field of chronobiology.

Datablitz

Sunday, May 22 – Tuesday, May 24, 8:00 pm – 8:30 pm

Datablitz will showcase the research of some of the trainees presenting posters, including many of the Award recipients. Each speaker will have one minute and one slide to introduce data that they will later present in the poster session taking place immediately after.

Poster Sessions

Sunday, May 22 – Tuesday, May 24

Posters will be available for viewing in the Inverness Ballroom and Foyer starting at 10:00 am each day until 10:30 pm. All posters will remain up from May 22 – May 24. Poster setup will be from 3:00 pm to 7:00 pm on Saturday, May 21 and from 10:00 am to 4:00 pm on Sunday, May 22. Poster takedown will be on Tuesday, May 24, before 11:00 pm. Each poster will be scheduled to be presented on a certain day:

Sunday, May 22, 8:30 pm – 10:30 pm

Poster numbers S1-S113

Monday, May 23, 8:30 pm – 10:30 pm

Poster numbers M1-M112

Tuesday, May 24, 8:30 pm – 10:30 pm

Poster numbers T1-T113

Lunchtime Table Discussions

Sunday, May 22 – Wednesday, May 25, starting at 12:45 pm

Lunchtime Table Discussions will be informal discussions of selected chronobiology topics nominated from the membership. These tables are meant to bring together researchers with common interests for informal introductions and discussions. To prepare for a lunchtime table, think about questions that you would like to ask or resources you would like to share with your colleagues. Pick up your lunch in the Edinburgh Ballroom East and go to Edinburgh Ballroom West where tables have been reserved for lunchtime chat participants. Seats are limited at each table.

Special Meetings

JBR Editors Meeting, SAGE Publishers

Monday, May 23, 2:00 pm – 3:00 pm

SRBR Board of Directors Meeting

Tuesday, May 24, 12:45 pm – 2:45 pm

SRBR Governmental Affairs Meeting

Tuesday, May 24, 6:45 pm – 7:45 pm

General Meeting of SRBR Members

Wednesday, May 25, 2:30 pm – 3:30 pm

This is the biennial meeting gathering the members of the Society. **All SRBR members are welcome to attend.** Members of the outgoing Board of Directors and representatives of the meeting organization team will do a brief report, and the new Board of Directors will be presented. Members will also be invited to comment and give ideas on the future of the Society.

Social Events and Ceremonies

Welcome Reception

Saturday, May 21, 7:00 pm – 9:00 pm

Come and meet other meeting participants and old friends in this official opening event of the meeting! Drinks and small bites will be served.

Cocktail Reception

Wednesday, May 25, 6:15 pm – 7:30 pm

Closing Banquet and Awards Ceremony

Wednesday, May 25, 7:30 pm

Regular meeting registration includes participation in the banquet. For accompanying guests, banquet tickets need to be purchased in advance at the SRBR registration desk.

Meeting at a Glance

All sessions of talks will take place in the Stirling Hall. Meals will be available in the Edinburgh Hall. Poster sessions will be in the Inverness Hall.

Saturday, May 21

9:00 am – 5:00 pm	Trainee Professional Development Day <i>Stirling Hall</i>
1:00 pm – 4:40 pm	Junior Faculty Workshops <i>Stirling Ballroom West</i>
3:00 pm – 7:00 pm	Poster Session Setup <i>Inverness Ballroom and Foyer</i>
7:00 pm – 9:00 pm	Opening Reception <i>Island Clubhouse</i>

Sunday, May 22

8:00 am – 4:00 pm	Poster Session Setup <i>Inverness Ballroom and Foyer</i>
8:15 am – 10:30 am	Symposium 1: Konopka Symposium: Frontiers of Molecular Chronobiology <i>Stirling Ballroom East</i> Symposium 2: Clock Flexibility and Plasticity: Genes, Neurons and Behavior <i>Stirling Ballroom West</i> Symposium 3: Chronopharmacology in Cancer, Shift Work Sleep Disorder and Beyond <i>Stirling Salon OPQ</i>
10:30 am – 11:00 am	Refreshment Break <i>Stirling Hall Foyer</i> Exhibits <i>Stirling Hall Foyer</i> Meet the Professors <i>Stirling Salon IJK</i>
11:00 am – 12:30 pm	Slide Sessions A: Clocks, Feeding and Metabolism <i>Stirling Ballroom East</i> B: Circadian Rhythms Across the Cell <i>Stirling Ballroom West</i> C: Light, Brain Function and Mental Health <i>Stirling Salon OPQ</i> D: Temperature and Cellular Stress <i>Stirling Salon LMN</i>
12:45 pm – 1:45 pm	Lunchtime Table Discussions <i>Edinburgh Ballroom West</i>
4:15 pm – 6:30 pm	Symposium 4: SRS-SRBR Symposium: Sleep and Circadian Rhythms <i>Stirling Ballroom East</i> Symposium 5: Circadian Rhythms in Natural Environments <i>Stirling Ballroom West</i> Symposium 6: Time Perception and Non-Circadian Timers <i>Stirling Salon OPQ</i>
8:00 pm – 8:30 pm	Datablitz I <i>Stirling Ballroom East</i>
8:30 pm – 10:30 pm	Poster Session I (S1 – S113) <i>Inverness Ballroom and Foyer</i>

Monday, May 23

- 8:15 am – 10:30 am** **Symposium 7: *Epigenetics and Transcription Networks in Circadian Clocks*** | *Stirling Ballroom East*
Symposium 8: *New Facets of Microbiology in Chronobiology: From Microbiota-Host Interactions to Natural Populations* | *Stirling Ballroom West*
Symposium 9: *Role of the Circadian System in Cardiovascular Health and Disease* | *Stirling Salon OPQ*
- 10:30 am – 11:00 am** **Refreshment Break** | *Stirling Hall Foyer*
Exhibits | *Stirling Hall Foyer*
Meet the Professors | *Stirling Salon IJK*
- 11:00 am – 12:30 pm** **Slide Sessions**
E: *Clocks and Immunity* | *Stirling Salon LMN*
F: *Post-Transcriptional Regulation in the Clock* | *Stirling Ballroom East*
G: *Photoreception and Physiology* | *Stirling Salon OPQ*
H: *Neurotransmitters, Channels and Neuronal Networks* | *Stirling Ballroom West*
- 12:45 pm – 1:45 pm** **Lunchtime Table Discussions** | *Edinburgh Ballroom West*
- 2:00 pm – 3:00 pm** **JBR Editors Meeting, SAGE Publishers** | *Stirling Salon DEF*
- 3:15 pm – 4:15 pm** **Workshop I | *Is it Possible to Translate Chronobiology Findings to Real Life, Health and Society?*** | *Stirling Ballroom*
- 4:30 pm – 6:30 pm** **Presidential Symposium: *Circuits, Genes and Behavior*** | *Stirling Ballroom*
- 8:00 pm – 8:30 pm** **Datablitz II** | *Stirling Ballroom*
- 8:30 pm – 10:30 pm** **Poster Session II (M1 – M112)** | *Inverness Ballroom and Foyer*

Tuesday, May 24

- 8:15 am – 10:30 am** **Symposium 10: *Biological Rhythms in Immune Responses and Infectious Diseases*** | *Stirling Ballroom East*
Symposium 11: *Systems Chronobiology* | *Stirling Ballroom West*
Symposium 12: *Rhythms Over the Lifespan* | *Stirling Salon OPQ*
- 10:30 am – 11:00 am** **Refreshment Break** | *Stirling Hall Foyer*
Exhibits | *Stirling Hall Foyer*
Meet the Professors | *Stirling Salon IJK*
- 11:00 am – 12:30 pm** **Slide Sessions**
I: *Consequences of Circadian Disturbance* | *Stirling Ballroom East*
J: *Evolution, Synthetic Biology, Environment and Circadian Clocks* | *Stirling Salon LMN*
K: *Clocks and Neuropeptides* | *Stirling Salon OPQ*
L: *Sleep* | *Stirling Ballroom West*
- 12:45 pm – 1:45 pm** **Lunchtime Table Discussions** | *Edinburgh Ballroom West*
- 12:45 pm – 2:45 pm** **SRBR Board of Directors Meeting** | *Stirling Salon DEF*
- 3:15 pm – 4:15 pm** **Workshop II | *Big Data Sets: How Useful Are They and How to Mine for Gold?*** | *Stirling Ballroom East*
- 4:15 pm – 6:30 pm** **Symposium 13: *Neuronal Networks and Central Clock Function*** | *Stirling Ballroom East*
Symposium 14: *Circadian Rhythms in Metabolism, Diabetes and Obesity* | *Stirling Ballroom West*
Symposium 15: *Non-traditional Models: What Do They Teach Us About Biological Rhythms?* | *Stirling Salon OPQ*
- 8:00 pm – 8:30 pm** **Datablitz III** | *Stirling Ballroom East*
- 8:30 pm – 10:30 pm** **Poster Session III (T1 – T113)** | *Inverness Ballroom and Foyer*

Wednesday, May 25

- 8:15 am – 10:30 am** **Symposium 16: *Post-Transcriptional/Translational Circadian Mechanisms*** | *Stirling Ballroom East*
Symposium 17: *Non-visual Effects of Light and Other Zeitgebers* | *Stirling Ballroom West*
Symposium 18: *Circadian Rhythms in the Context of Addiction, Mood and Neurodegenerative Disorders* | *Stirling Salon OPQ*
- 10:30 am – 11:00 am** **Refreshment Break** | *Stirling Hall Foyer*
Exhibits | *Stirling Hall Foyer*
Meet the Professors | *Stirling Salon IJK*
- 11:00 am – 12:30 pm** **Slide Sessions**
M: *Micro-organisms, Cancer and Cell Cycle* | *Stirling Ballroom West*
N: *Clock Outputs* | *Stirling Ballroom East*
O: *Light and Neuronal Networks* | *Stirling Salon OPQ*
P: *Human Health, Behavior and Society* | *Stirling Salon LMN*
- 12:45 pm – 1:45 pm** **Lunchtime Table Discussions** | *Edinburgh Ballroom West*
- 1:15 pm – 2:15 pm** **Actigraphy Workshop** | *Stirling Salon DEF*
- 2:30 pm – 3:30 pm** **General Meeting of SRBR Members** | *Stirling Ballroom*
- 3:30 pm – 4:30 pm** **Workshop III | *Are Circadian Clocks Therapeutic Targets?*** | *Stirling Ballroom*
- 4:30 pm – 6:00 pm** **Pittendrigh/Aschoff Lecture** | *Stirling Ballroom*
- 6:15 pm – 7:30 pm** **Cocktail Reception** | *Inverness Ballroom Foyer*
- 7:30 pm** **Closing Banquet and Awards Ceremony** | *Inverness Ballroom*

Trainee Professional Development Day

Saturday, May 21

The Trainee Professional Development Day is an entire day devoted to scientific and career development activities for trainees. The day consists of a keynote address, an activity consisting of one-on-one blitz discussions, and a series of workshops on various topics. The goal of the Trainee Professional Development Day is to allow the next generation of biological rhythm researchers to learn from and interact with faculty members in a more informal and intimate setting than that allowed by the main conference.

Only those who have pre-registered will be allowed to participate. Registered trainees should attend the workshops they selected when registering. This information will be posted on the message board in the conference center prior to the first session.

9:00 am – 9:20 am **Welcome and Orientation** | *Stirling Ballroom East*
Karen Gamble, The University of Alabama at Birmingham
Paul Hardin, Texas A&M University

9:20 am – 10:00 am **Keynote Address** | *Stirling Ballroom East*
Joseph Takahashi, University of Texas Southwestern

10:10 am – 11:00 am **Session 1**

Asking the Right Questions & Designing the Right Experiments in a Biological Rhythms Project | *Stirling Salon IJK*

Eric Bittman, University of Massachusetts Amherst

Michael Menaker, University of Virginia

Part of the scientific pursuit is having the wisdom to ask the right questions. This workshop will focus on the process of identifying and refining a research question, and optimizing experimental design to fit a hypothesis pertinent to rhythms research. Discussion of selecting appropriate controls, lighting conditions (light-dark cycle vs. skeleton photoperiod vs constant conditions), the number of time points, and the means of measurement (behavioral vs physiological vs molecular) will also take place.

Circadian Physiological and Behavioral Methods in Rodents | *Stirling Salon DEF*

Johanna Meijer, Leiden University

This workshop will describe experimental setups for the monitoring of circadian physiology in rodent models (mouse, rat, hamster, and diurnal rodents). Basic physiological and behavioral parameters and underlying protocols will be presented and discussed. At least 10 minutes will be saved for discussion and questions.

Smart-technology and Circadian Rhythms? | *Stirling Salon LMN*

Satchidananda Panda, Salk Institute for Biological Sciences

This workshop delves into emerging mobile technology, and presents smart mobile devices, applications, and sensors which allow collection of big data on various behaviors and physiological variables. Besides highlighting opportunities associated with those novel approaches, it will also discuss limitations, especially with regards to circadian rhythm research.

Basic Molecular Clocks (Definition and Current Theory) | *Stirling Salon GH*

Hanzpeter Herzel, Humboldt University of Berlin

For those that are new to the field, this workshop will give an overview of the up-to-date model of “transcriptional/translational feedback loops” in cellular clocks and review major discoveries that lead to the formation of this model. Focus will be placed on the mammalian system but a brief comparison with the *Drosophila* system will also be included. The presentation will be ~30-40 minutes, followed by a discussion of ~10-20 minutes.

Advanced Molecular Clocks (Current Open Questions and New Technical Strategies) | *Stirling Salon OPQ*

Carrie Partch, University of California, Santa Cruz

This workshop will review our current understanding of the biochemical principles underlying molecular clocks by making a comparative analysis of new advances in different systems. We will discuss commonalities and highlight new technical approaches that might be taken to answer some of the most pressing questions. It will be a mix of lecture, ~30-40 minutes and discussion, ~10-20 minutes, about how to attack these new areas of research.

What Makes up the SCN? | *Stirling Salon BC*

Martha Gillette, University of Illinois at Urbana–Champaign

What are the components that make the master clock tick? This introduction is designed as a brief background before the meeting so that new trainees will better understand new findings in SCN anatomy, inputs/ outputs and interconnections. The presentation will be ~30-40 minutes, followed by a discussion of ~10-20 minutes.

11:15 am – 12:05 pm

Session 2

Developing and Maintaining Records of Research | *Stirling Salon GH*

Horacio de la Iglesia, University of Washington

Multiple funding agencies require a plan for proper documentation of research that is not limited to the laboratory notebook. This session will stress the importance of data organization, storage, and sharing of research products; focusing on new electronic formats for record keeping. At least 10 minutes will be saved for discussion and questions.

Teaching Chronobiology | Stirling Salon BC

Martha Merrow, Ludwig Maximilian University of Munich

A common challenge for chronobiologists at the beginning of their careers is organising teaching. If you expect to teach chronobiology as a part of your future career, consider joining us to discuss some of the methods and models that have been developed and applied. Topics will include curricula, format and resources. If you sign up for this workshop, your 'homework' is to come with an example of a Chronobiology course curriculum that has been taught at the University or post-graduate level.

Mathematical Modeling | Stirling Salon DEF

Daniel Forger, University of Michigan

Decades of experimental research have revealed the immense complexity of the molecular and circuit-level construction of the circadian clock system. It is now difficult to appreciate the system in full without mathematical modeling. In this 50-minute workshop, we will discuss the basics of mathematical concepts and techniques relevant to various levels of physiology and molecular biology that make up the circadian clock system.

Zeitgebers: Entrainment of the Circadian Clock | Stirling Salon IJK

Jennifer Evans, Marquette University

The internal circadian clock synchronizes with the daily environmental cycles. This 50-minute workshop will introduce the basic concepts and theories of entrainment of the circadian clock as well as the common methodology that are used to study entrainment in bacteria, fungi, plants, flies, and rodents. The general principles will be the main focus, but we will also cover other aspects such as photoperiodic entrainment and non-photoc entrainment.

Circadian Rhythms and Disease | Stirling Salon LMN

Florian Storch, Douglas Mental Health University Institute

Kenneth Wright, University of Colorado

The interplay between circadian rhythms and disease states is becoming more evident thanks to both animal and human research. This workshop is geared towards beginners in the field of chronobiology and will provide a brief background of recent findings from both the animal and human literature to help prepare the trainee for the meeting. At least 10 minutes will be saved for discussion and questions.

Questions and Controversies in Chronobiology | *Stirling Salon OPQ*

Carl Johnson, Vanderbilt University

Till Roenneberg, Ludwig Maximilian University of Munich

Despite the apparent simplicity of the circadian phenomena, their interpretations at different levels of analysis are not yet congruous. At a molecular level, does the post-translational oscillator (PTO) make a fundamental circadian oscillator even in eukaryotes? Is the entire expression of circadian transcripts driven by the transcription-translation feedback loop (TTFL) of the core clock genes? In oscillatory transcription, is the source of ultrasensitivity cooperative binding or protein sequestration? How does circadian organization in individuals emerge into circadian organization of groups? And do models add predictive power and explanatory value to our understanding of rhythmicity? These are a small sample of questions we will discuss in this 50-minute workshop. Attending this workshop will make you rethink your “givens” and hopefully take your thinking outside the box - if successful, this workshop will make you leave with more questions than you had before.

12:15 pm – 1:15 pm

Lunch | *Stirling Ballroom East*

1:15 pm – 2:15 pm

“Positive Feedback Looping” | *Stirling Ballroom East*

This activity will consist of random one-on-one blitz discussions. Participants are asked to pair randomly and discuss for seven minutes, after which they are asked to pair with another participant, and so on, for ~50 minutes. The aim of this activity is to stimulate interaction and exchanges, to allow participants to meet new people, and to “break the ice” before the SRBR conference starts.

2:25 pm – 3:55 pm

Session 3

Statistical Methods for Time Series Analysis of Rhythms | *Stirling Salon OPQ*

John Hogenesch, University of Cincinnati

Tanya Leise, Amherst College

Analyses of time-series data sets, as frequently required in chronobiological research, can be challenging. This 90 minute workshop will cover various statistical methods that can be used to analyze periodic patterns in biological time-series data (e.g. rhythmicity, period, amplitude, phase, phase shifts). The respective strengths and limitations of each approach will also be discussed, including an overview of statistical software used for such analyses.

Publish or Perish: A Guide to When, Where, and How to Publish Your Work | *Stirling Salon LMN*

William Schwartz, University of Massachusetts Medical School

This 90-minute workshop will be run by the Editor-in-Chief of the *Journal of Biological Rhythms*, Bill Schwartz, to discuss a range of topics with workshop participants about to publish their work, whether senior graduate students or junior post-docs. Topics include authorship; deciding when and what to write; writing review articles; how to organize your writing; choosing a journal; engaging the attention of the editor; review, revision, and rejection; and serving as a journal referee. Come prepared with questions and problems!

Grantsmanship: General Principles | *Stirling Salon IJK*

Douglas McMahon, Vanderbilt University

Eva Schernhammer, Harvard University

Learn the ropes of how to write a competitive grant. This 90-minute session will cover general do's and don'ts applicable to all grant writing, independent of the funding mechanism and country of application. Special emphasis is paid to the description of biological rhythms research for a wide audience of potential reviewers.

Interview Skills & Preparing for the Transition From Postdoc to Independent Research | *Stirling Salon DEF*

Lance Kriegsfeld, University of California, Berkeley

Rae Silver, Columbia University

This 90-minute workshop will discuss how to prepare for independent research positions. We will outline a) how to keep a strong CV, track academic performance and outreach activities, and use professional social media to maximize your marketability, b) how to prepare for a successful job interview, and c) how to initiate and prepare for an independent project. It will also address how the change in roles may affect mentoring relationships and how to handle them. This session will also comprise a mock interview situation and will allow for ample discussion time.

4:10 pm – 5:00 pm

Session 4

Best Practices for Mentors and Mentees | *Stirling Salon GH*

Eric Mintz, Kent State University

This session will address how creating a mentoring strategy can help you effectively choose the right mentor and approach mentoring others. As a discussion based session, trainees will learn how to identify multiple mentors that they can include in their mentoring network and learn how each mentor/mentee relationship is different.

Transitioning to Non-academic Careers | Stirling Salon DEF

Tony Gotter, Merck Research Laboratories

Eric Mabery, Reset Therapeutics Inc.

This workshop will provide an overview of working in the industry following completion of your graduate/postdoc work, and a comparison of research in an industry situation vs. an academic setting. It will also cover where and how to find jobs outside of academia. In addition, insights into the work in a non-profit research institute will be provided in contrast to the industry and academia background. At least 10 minutes will be saved for a discussion.

STAR-PROM-and RT-Biolumicording: New Technologies to Find Transcriptional Regulators and to Study Circadian Gene Expression in Vivo | Stirling Salon IJK

Ueli Schibler, University of Geneva

In this workshop, Dr. Schibler will discuss two novel technologies developed during the past few years in his laboratory: STAR-PROM and RT-Biolumicording. These techniques identify transcription factors with unknown DNA-binding specificities and record circadian gene expression in peripheral organs of freely moving mice, respectively. This will be an interactive, 50-minute workshop that encourages open discussion among trainees and Dr. Schibler.

History of Chronobiology | Stirling Salon BC

Jay Dunlap, Dartmouth Medical School

This workshop will provide a brief sketch that describes the first observations and studies that pioneered the field of chronobiology. This session is tailored to introduce trainees to the people and key experiments that paved the way for research in circadian rhythms. The presentation will be ~30-40 minutes, followed by a discussion of ~10-20 minutes.

Translational Chronobiology in Humans | Stirling Salon LMN

Steven Brown, University of Zurich

Phyllis Zee, Northwestern University

Translational research has been an area of emphasis, particularly given the funding climate. However, the nature and process of conducting translational research is often amorphous. This workshop will be led by both a clinical and basic science researchers in order to provide a collaborative discourse around the models and practices of translational chronobiology research. The workshop will provide a real world behind-the-scenes perspective of translational chronobiology research, and help trainees explore ways of engaging in translational research.

Clocks and Mental Health (Rhythms & Blues) | Stirling Salon OPQ

Samer Hattar, Johns Hopkins University

Colleen McClung, University of Pittsburgh

We tend to get moody at night. We associate spring with excitement and autumn with contemplations. But it is still unclear how the rhythms of days and seasons modulate our mood states. In this 50-minute workshop, we walk through evidence for “rhythms and blues” at brain-circuit, molecular, and genetic levels. Emphasis will be placed on molecular approaches and behavioral assay methods in the rodent system.

5:00 pm

Conclusion of Trainee Professional Development Day

(Trainee Committee members will wrap-up in each workshop.)

2016 Junior Faculty Workshops

Saturday, May 21

The goal of the Junior Faculty Workshops is to foster the growth and success rate of the next generation of biological rhythm researchers by learning from and interacting with established faculty members in a more informal and intimate setting than that allowed by the main conference. A panel of experienced members of the field will participate in each meeting, to provide tips and advice to junior faculty members and answer questions.

Attendance is open to investigators within 8 years of obtaining a faculty position. Only those who have pre-registered will be allowed to participate. A list of registered faculty will be posted on the message board in the conference center prior to the first session.

1:00 pm – 2:00 pm

Panel Discussion 1 | *Stirling Ballroom West*

Managing a Successful Lab: Mentorship, Conflict Resolution, and Diversity

Moderator: Karyn Esser, University of Florida

Jake Chen, University of Texas Medical School

Stacey Harmer, University of California, Davis

Antonio (Tony) Nunez, Michigan State University

The panel will discuss the management skills needed to grow and run a successful lab, skills we are not usually formally trained in as scientists, but which are essential nonetheless.

2:20 pm – 3:20 pm

Panel Discussion 2 | *Stirling Ballroom West*

Navigating the Funding Environment: How to Optimize Your Efforts

Moderators: Iliia Karatsoreos, Washington State University and **Ryan Logan**, University of Pittsburgh

Charles Allen, Oregon Health and Sciences University

Hugh Piggins, University of Manchester

Mimi Shirasu-Hiza, Columbia University

Corinne Silva, National Institutes of Health, NIDDK

Funding is hard to come by in the best of times, and the current climate is very tough. This panel will help you learn strategies to optimize your efforts by specifically tailoring and targeting your proposals, and perhaps discover new sources of funding.

3:40 pm – 4:40 pm

Panel Discussion 3 | *Stirling Ballroom West*

***Juggling Research, Teaching, and Service Responsibilities in Academia:
Can You Really Do It All?***

Moderator: Carla Finkelstein, Virginia Tech

Carla Finkelstein, Virginia Tech

Mary Harrington, Smith College

Horacio de la Iglesia, University of Washington

Even in heavily research oriented institutions, a faculty member is expected to balance teaching, training, and research. This panel will discuss strategies to help in this balancing act. In addition, involvement of undergraduates in the research effort will be a specific focus, as they can be fantastic “junior trainees”, and when properly managed contribute greatly to the lab’s output.

SRBR 2016 Program Details

Saturday, May 21

- 9:00 am – 5:00 pm **Trainee Professional Development Day** | *Stirling Hall*
(see details on pages 21-27)
- 1:00 pm – 4:40 pm **Junior Faculty Workshops** | *Stirling Ballroom West*
(see details on pages 28-29)
- 3:00 pm – 7:00 pm **Poster Session Setup** | *Inverness Ballroom and Foyer*
- 7:00 pm – 9:00 pm **Opening Reception** | *Island Clubhouse*

Sunday, May 22

- 8:00 am – 4:00 pm **Poster Session Setup** | *Inverness Ballroom and Foyer*
- 8:15 am – 10:30 am **Symposium 1: *Konopka Symposium: Frontiers of Molecular Chronobiology*** | *Stirling Ballroom East*
Chair: Michael Rosbash, Brandeis University
- 8:15 Introduction
- 8:30 ***From Konopka's Flies to Human Sleep Behavior***
Ying-Hui Fu, University of California San Francisco
- 9:00 ***Cell Size Oscillations in the Liver***
Ueli Schibler, University of Geneva
- 9:30 ***Circadian Clock Regulation of Translation and the Ribosome Code***
Deborah Bell-Pedersen, Texas A&M University
- 10:00 ***Networks of Noisy Oscillators Make up the Drosophila Circadian Circuit***
Emi Nagoshi, University of Geneva
- Symposium 2: *Clock Flexibility and Plasticity: Genes, Neurons and Behavior*** | *Stirling Ballroom West*
Chair: Valerie Mongrain, Université de Montréal
- 8:15 Introduction
- 8:30 ***Circadian Behavior Relies on Glycinergic Transmission Onto Switching Partners***
Maria Fernanda Ceriani, Fundacion Instituto Leloir
- 9:00 ***Lessons From Microbial Circadian Systems: Regulation of Virulence, Synthetic Oscillators and Clock-Based Eidetic Memory***
Luis Larrondo, Pontifica Universidad Catolica De Chile
- 9:30 ***Plasticity in Daily Timing: About Mice and Men***
Roelof Hut, University of Groningen
- 10:00 ***Circadian Plasticity in Mammals: From Epigenetics to Synapses***
Steven Brown, University of Zurich

Symposium 3: *Chronopharmacology in Cancer, Shift Work Sleep Disorder and Beyond* | *Stirling Salon OPQ*

Chair: Francis Lévi, University of Warwick

8:15 Introduction

8:30 ***Circadian-based Anticancer Treatments***

Pasquale Innominato, University of Warwick, The Medical Centre

9:00 ***Chronopharmacology of Antitumor Drugs Focused on Biological Clock***

Shigehiro Ohdo, Kyushu University

9:30 ***Night Shift Work and Resetting of Human Circadian Clocks***

Diane B. Boivin, Douglas Mental Health University Institute, McGill University

10:00 ***Dynamical Coupling Between the Circadian Clock and the Cell Cycle Oscillators***

David Rand, University of Warwick

10:30 am – 11:00 am Refreshment Break | *Stirling Hall Foyer*

Exhibits | *Stirling Hall Foyer*

Meet the Professors | *Stirling Salon IJK*

William Schwartz (mammals, SCN, circuits, social entrainment)

Ueli Schibler (mammals, tissue clocks, metabolism, molecular mechanisms)

Martha Merrow (entrainment and rhythms in humans and Neurospora, research transitions to Europe)

Johanna Meijer (mammals, SCN, circuits, light)

Samer Hattar (rodents, retina, ipRGC subtypes, photic changes in mood, sleep, learning)

Daniel Forger (modeling, SCN circuitry, molecular to electrical mechanisms)

Alec Davidson (mammals, SCN, immune clocks, pathology)

Steven Brown (mammals, molecular mechanisms, neural mechanisms, chronotype, sleep)

* = Merit Award Winner ** = Excellence Award Winner # = Diversity Travel Award Winner

- 11:00 am – 12:30 pm** **Slide Session A: *Clocks, Feeding and Metabolism*** | *Stirling Ballroom East*
 Chair: Richa Saxena, Massachusetts General Hospital
- 11:00 **SS1 • *Morning Circadian Misalignment During Insufficient Sleep is Associated With Changes in Plasma Metabolites Linked to Metabolic Dysregulation***
 *Christopher Depner, University of Colorado Boulder
- 11:15 **SS2 • *A 5 Hour Delay in Meal Schedule Affects the Timing of the Human Circadian System***
 *Skevoulla Christou, University of Surrey, UK
- 11:30 **SS3 • *Circadian Timing and Alignment in Healthy Adults: Associations With BMI, Body Fat, Caloric Intake and Physical Activity***
 Kelly Baron, Feinberg School of Medicine, Northwestern University
- 11:45 **SS4 • *Natural Patterns of Food Intake Are a Weak Zeitgeber for the Liver***
 Matthew Butler, Oregon Health & Science University
- 12:00 **SS5 • *Measuring the Physiological Cost of Circadian Desynchrony in Mammals***
 David Bechtold, University of Manchester
- 12:15 **SS6 • *The Impact of Broad Spectrum Bright Light and Exogenous Melatonin on Plasma Glucose and Insulin in Healthy Male Participants***
 Mohammed Albreiki, University of Surrey
- 11:00 am – 12:30 pm** **Slide Session B: *Circadian Rhythms Across the Cell*** | *Stirling Ballroom West*
 Chairs: Steven Brown, University of Zurich and Gad Asher, Weizmann Institute of Science, Israel
- 11:00 **SS7 • *Around the Clock Lipidomics: Insight Into Daily Oscillations in Subcellular Compartments***
 ***Philips Group Excellence Award* • Rona Aviram, Weizmann Institute of Science
- 11:15 **SS8 • *A Non-Classical Nuclear Import Pathway for Clock Proteins***
 Achim Kramer, Charité - Universitätsmedizin Berlin
- 11:30 **SS9 • *Regulation of Second Messenger Pathways by Cryptochrome***
 *Pagkapol Yhew Pongsawakul, University of California, San Diego
- 11:45 **SS10 • *Keeping Mitochondrial Network on Time***
 Karen Schmitt, Neurobiology Lab for Brain Aging and Mental Health Transfaculty Research Platform, Molecular & Cognitive Neuroscience University of Basel
- 12:00 **SS11 • *BMAL1 Translation and Circadian Phenotypes in Mouse Models of Tuberous Sclerosis Complex***
 Jonathan Lipton, Boston Children's Hospital, Harvard Medical School
- 12:15 **SS12 • *Some Rhythm, No Cry***
 Marrit Putker, MRC Laboratory of Molecular Biology

* = Merit Award Winner ** = Excellence Award Winner # = Diversity Travel Award Winner

- 11:00 am – 12:30 pm** **Slide Session C: *Light, Brain Function and Mental Health*** | *Stirling Salon OPQ*
 Chair: Norman F. Ruby, Stanford University
- 11:00 **SS13 • *Independent Brain Circuits Mediate the Effects of Light on Mood and Learning***
 ***Vanda Pharma Excellence Award* • Diego Fernandez, Johns Hopkins University
- 11:15 **SS14 • *Melanopsin Regulates Both Sleep-Promoting and Arousal-Promoting Responses to Light***
 Stuart Peirson, University of Oxford
- 11:30 **SS15 • *Light Modulates Spatial Learning and Memory in a Diurnal Rodent, the Nile Grass Rat (Arvicanthis Niloticus)***
 #Joel Soler, Michigan State University
- 11:45 **SS16 • *Attention Deficits in Night Owls in the Morning***
 Andrea Smit, Simon Fraser University
- 12:00 **SS17 • *Effects of Exercise Training on BMAL1 Knockout Mice***
 *Sarah McLoughlin, University of Pennsylvania
- 12:15 **SS18 • *The Role of BMAL1 in Behavioral Responses to Pheromonal Stimuli***
 *Erica Schoeller, University of California, San Diego

- 11:00 am – 12:30 pm** **Slide Session D: *Temperature and Cellular Stress*** | *Stirling Salon LMN*
 Chair: Leslie Griffith, Brandeis University
- 11:00 **SS19 • *A Calcitonin Receptor DH31R Regulates Temperature Preference Rhythm in Drosophila***
 Fumika Hamada, Cincinnati Children's Hospital Medical Center
- 11:15 **SS20 • *Store-Operated Calcium Channels Stim and Orai Mediate Temperature Resetting of Circadian Clocks***
 ***Ron Konopka Excellence Award* • Ozgur Tataroglu, UMass Medical School
- 11:30 **SS21 • *Search for the Thermosensors Involved in Temperature Dependent Negative Masking Behavior in Mice***
 Wataru Ota, Nagoya University
- 11:45 **SS22 • *Endogenous Temperature Cycles Impact the Formation of Pathological Aggregates***
 *Bala Koritala, Institute of Medical Psychology, Ludwig Maximilians University, Munich
- 12:00 **SS23 • *Neurodegenerative Disease and Circadian Clock Dysfunction: Untangling the Role of Tauopathy***
 Joshua Gamsby, USF Byrd Alzheimer's Institute
- 12:15 **SS24 • *The Chondrocyte Clock Gene BMAL1 Controls Cartilage Homeostasis and Integrity***
 Qing-Jun Meng, University of Manchester

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12:45 pm – 1:45 pm

Lunchtime Table Discussions | *Edinburgh Ballroom West*

Teaching of Chronobiology

Hosts: Luis Larrondo, Mary Harrington

Can We Distinguish Circadian Regulation From Sleep Regulation?

Hosts: Stuart Peirson, Kenneth Wright

Sex Differences in Biological Rhythms: How Extensive Are They? What Are the Challenges?

Hosts: Rae Silver, Francis Lévi

The Future for Chronobiology Research Funding

Host: Corinne Silva (NIDDK/NIH)

4:15 pm – 6:30 pm

Symposium 4: *SRS-SRBR Symposium: Sleep and Circadian Rhythms* | *Stirling Ballroom East*

Chairs: Fred W. Turek, Northwestern University and Frank Scheer, Harvard Medical School

4:15 Introduction

4:30 ***Circadian Regulation of the Human Sleep-Wake Cycle: Some Recent Insights***

Derk Jan Dijk, University of Surrey

5:00 ***Sleep and Circadian Modulation of the Human Proteome***

Kenneth Wright, The University of Colorado Boulder

5:30 ***Clock Genes Regulate Cell Adhesion Molecules Shaping Sleep Amount and EEG***

Valérie Mongrain, Université de Montréal

6:00 ***Circadian Rhythms and Sleep in *Drosophila****

Ravi Allada, Northwestern University

Symposium 5: *Circadian Rhythms in Natural Environments* | *Stirling Ballroom West*

Chair: Stacey Harmer, University of California, Davis

4:15 *Introduction*

4:30 ***Quantitative Variation in the Circadian Clock Confers Adaptation to Natural and Agricultural Settings***

Cynthia Weinig, University of Wyoming

5:00 ***Econeurogenetic Features of the Fly Circadian Clock***

Rodolfo Costa, University of Padova

5:30 ***In Search of Ancestral Sleep***

Horacio de la Iglesia, University of Washington

6:00 ***Foraging Activity Pattern is Shaped by Ecological Interactions and Water Loss Rates in a Diurnal Desert Rodent***

Noga Kronfeld-Schor, Tel Aviv University

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**Symposium 6: Time Perception and Non-Circadian Timers | Stirling Salon
OPQ**

Chair: Diego Golombek, Universidad Nacional de Quilmes

4:15 Introduction

4:30 **Regulation of Arousal Rhythms**

Kai-Florian Storch, McGill University

5:00 **Functional and Neural Mechanisms of Interval Timing**

Warren Meck, Duke University

5:30 **The Impact of the Moon on Bristle Worms and the Sun on Fish –
The EMBO Young Investigator Lecture**

Kristin Tessmar-Raible, University of Vienna/ MFPL

6:00 **Neuroendocrine Mechanisms Underpinning Long-Term Timing of
Reproduction**

Valérie Simonneaux, CNRS INCI

8:00 pm – 8:30 pm

Datablitz I | Stirling Ballroom East

Chair: #Adam Contreras, University of California, Davis

**Temporal Restricted Feeding Induces Time-Dependent Behavioral
Changes in Mice (S15)**

*Victoria Acosta-Rodríguez

**Individual Differences in the Rate of Re-Entrainment to a Phase Advance
Predict Anxiety and Depression-Like Behavior (S41)**

Jeff Anyan

**Gravitational Loading at the Beginning of the Active Phase Attenuates
Muscle Loss in Unloaded Mouse Hind Limb (S58)**

*Shinya Aoyama

**Beyond Body Weight: How Impaired Leptin Signaling Can Affect Sleep
Disordered Breathing (S94)**

Deanna Arble

Cryptochrome is a Direct Neuronal Ultraviolet Light Sensor (S34)

*Lisa Soyeon Baik

Circadian Misalignment and Risk-Taking in Night Shift Workers (S21)

*Philip Cheng

**Tissue Specific Response of Clock Genes Expression in Peripheral
Oscillators in a Rat Model of Shift-Work (S71)**

*Cinthya Córdoba-Manilla

**Aging Decreases Circadian Regulation of Alcohol Sensitivity and
Increases Alcohol-Induced Tissue Injury and Mortality (S38)**

**Aliza De Nobrega

The Transcriptional Landscape Associated With Photoperiodism (S93)

*Laura Flavell

**A Role for the Cationic Leak Channel NALCN in Daily Rhythms of
Suprachiasmatic Nuclei Activity and Locomotor Behavior (S102)**

Matt Flourakis

Abnormal PDF Expression Leads to Arrhythmicity in Vrille Mutants (S11)

Kushan Gunawardhana

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Back to the Basics: A Simplified Model of Mammalian Circadian Rhythms (S84)

*Kevin Hannay

ZeitZeiger: Supervised Learning for Oscillatory Data (S98)

*Jacob Hughey

Endothelin-1 Regulates the Diurnal Variation of Sodium Excretion in Male and Female Rats (S83)

**Jermaine Johnston

Evaluation of Circadian Rhythms and Sleep in the APP/PS1 Mouse Model of Alzheimer's Disease (S40)

*Brianna Kent

CRTC Potentiates Light-Independent timeless Transcription to Sustain Circadian Rhythms in Drosophila (S6)

*Mink Yung Kim

Neuropeptide-F and Acetylcholine Mediate Photoc Phase Resetting of Drosophila Circadian Behavior (S7)

*Pallavi Lamba

Chronic Sleep Restriction Increases the Change in Systolic Blood Pressure Between Circadian Night and Day (S113)

Andrew McHill

Photoperiod Interacts with Running Wheel Availability to Modulate Circadian Food Anticipatory Activity in Mice (S14)

**Mateusz Michalik

Global and Hepatocyte-Specific Ablation of BMAL1 Induces Hyperlipidemia and Enhances Atherosclerosis (S42)

Xiaoyue Pan

Nucleotide Variation in Drosophila cryptochrome Linked to Circadian Clock Function: An Association Analysis (S12)

Mirko Pegoraro

Neural Correlates of Food Anticipatory Activity in Mice Subjected to Once or Twice-Daily Feeding Periods (S16)

**Ashutosh Rastogi

Crosstalk Signaling Between Circadian Clock Components and Iron Metabolism (S95)

*Samuel Schiffhauer

The Effect of Bmal1 Deletion in Gonadotropin-Releasing Hormone or Kisspeptin Neurons (S91)

*Karen Tonsfeldt

Circadian Regulation in and by SCN Astrocytes (S106)

*Chak Foon Tso

Time of Feeding Regulates Circadian Gene Expression in Mouse Peripheral Tissues (S17)

**Laura van Rosmalen

The Relationship Between Light Exposure and Subsequent Sleep: What Happens Outside of the Lab? (S30)

*Emma Wams

8:30 pm – 10:30 pm **Poster Session I (S1 – S113)** | *Inverness Ballroom and Foyer*

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Monday, May 23

8:15 am – 10:30 am

Symposium 7: *Epigenetics and Transcription Networks in Circadian Clocks* | Stirling Ballroom East

Chair: Eva Wolf, IMB and University Mainz

8:15 Introduction

8:30 ***Competitive Mechanisms Control the Architecture of Circadian Regulatory Complexes***

Carrie Partch, University of California, Santa Cruz

9:00 ***Circadian Transcriptional Architecture in the Mouse***

Joseph Takahashi, University of Texas Southwestern

9:30 ***Structure/Function Analysis of WC-1 Reveals Mechanisms of Differential Activation of Light Versus Dark Regulation of Frequency and Clock-Controlled Genes***

Jennifer Loros, Geisel School of Medicine

10:00 ***Activation and Repression in Circadian Clock Networks***

Carl Troein, Lund University

Symposium 8: *New Facets of Microbiology in Chronobiology: From Microbiota-Host Interactions to Natural Populations* | Stirling Ballroom West

Chair: Susan Golden, University of California

8:15 Introduction

8:30 ***Rhythmic Host-Microbe Signaling in Symbiosis***

Edward Ruby, Thomas Jefferson University Hospital

9:00 ***Microbiota and Circadian Rhythms***

Ali Keshavarzian, Rush University Medical Center

9:30 ***Insights From Bacterial Clocks to All Circadian Rhythms***

Carl Johnson, Vanderbilt University

10:00 ***New Perspectives on Frq-Less Rhythms in Neurospora***

Patricia Lakin-Thomas, York University

Symposium 9: *Role of the Circadian System in Cardiovascular Health and Disease* | Stirling Salon OPQ

Chair: Karen Gamble, The University of Alabama at Birmingham

8:15 Introduction

8:30 ***Role of the Circadian System in Cardiovascular Health and Disease in Humans***

Frank Scheer, Brigham and Women's Hospital, Harvard Medical School

9:00 ***Molecular Time. Consequences of Circadian Disturbances for Cardiovascular Health and Disease.***

Tami Martino, University of Guelph

9:30 ***Essential Roles of the Cardiomyocyte Circadian Clock***

Martin Young, The University of Alabama at Birmingham

10:00 ***Per1 and the Kidney Clock in the Regulation of Renal Sodium Transport***

Michelle Gumz, University of Florida

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10:30 am – 11:00 am **Refreshment Break** | *Stirling Hall Foyer*

Exhibits | *Stirling Hall Foyer*

Meet the Professors | *Stirling Salon IJK*

Kenneth Wright (humans, shift-work, metabolism, sleep)

Fred Turek (mammals, sleep, genetic mechanisms, seasonal rhythms, aging, metabolism)

Rae Silver (mammals, SCN, circuits, light)

Tanya Leise (modeling, circuits, mathematical approaches)

Achim Kramer (mammals, post-translational mechanisms, high throughput cell culture screens, immune clocks, CRISPR/Cas9)

Carl Johnson (cyanobacteria, mammals, clock genes)

Vincent Cassone (avian clocks, photoentrainment, melatonin, bird song, GI clocks)

Ravi Allada (*Drosophila*, clock genes, genetics)

11:00 am – 12:30 pm **Slide Session E: *Clocks and Immunity*** | *Stirling Salon LMN*

Chair: Shigenobu Shibata, Waseda University

11:00 **SS25 • *Timing of Parasitic Helminth Infection is Critical in Determining Long-Term Adaptive Immune Responses***
**Thomas Hopwood, University of Manchester

11:15 **SS26 • *Achilles is a Circadian Clock Controlled Gene That Regulates Innate Immune Function in Drosophila***
Michael Hughes, UMSL

11:30 **SS27 • *Simulated Night Shift Disrupts Circadian Rhythms of Immune Functions in Humans***
Marc Cuesta, Douglas Mental Health University Institute, McGill University

11:45 **SS28 • *Characterization of the Circadian Control of Human Circulating Neutrophils***
Krisztina Ella, Semmelweis University

12:00 **SS29 • *Role of Inflammatory Signaling in the Mechanism by Which the Saturated Fatty Acid, Palmitate, Modulates Circadian Clock Properties***
***Reset Therapeutics Excellence Award* • Sam-Moon Kim, Texas A&M University

12:15 **SS30 • *A Novel Mechanism Links Inflammation to the Clock Through REV-ERB α Protein Stability***
**Marie Pariollaud, University of Manchester

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- 11:00 am – 12:30 pm** **Slide Session F: *Post-Transcriptional Regulation in the Clock*** | *Stirling Ballroom East*
 Chair: Seung-Hee Yoo, UT Health Science Center at Houston
- 11:00 **SS31 • *A Period2 Phosphoswitch Keeps the Beat in the Rising Heat***
 Jae Kyoung Kim, Korea Advanced Institute of Science and Technology
- 11:15 **SS32 • *CNOT1 Promotes Phosphorylation of Mammalian Clock Proteins via PKA***
 Guocun Huang, UT Southwestern Medical Center
- 11:30 **SS33 • *The E3-Ubiquitin Ligase Mdm2 Targets Period 2 for Degradation and Influences the Circadian Period Length***
 Jingjing Liu, Virginia Tech
- 11:45 **SS34 • *Clock Transcription Factor CCA1 is Regulated Through Sumoylation***
 Louise Hansen, University of Edinburgh
- 12:00 **SS35 • *Determining How CLK Promotes CYC Expression and Clock Function in Drosophila***
 *Tianxin Liu, Texas A&M University
- 12:15 **SS36 • *Exploring the Connection Between Circadian Clock, Long Non-Coding RNA and Heterochromatin With Age***
 Jinhee Park, Rutgers University

- 11:00 am – 12:30 pm** **Slide Session G: *Photoreception and Physiology*** | *Stirling Salon OPQ*
 Chair: Samer Hattar, Johns Hopkins University
- 11:00 **SS37 • *Rhodopsin 7 Reduces Light Sensitivity of the Eyes and Affects Circadian Photoreception in Fruit Flies***
 Charlotte Helfrich-Förster, University Wuerzburg
- 11:15 **SS38 • *A Photoreceptor Clock is Required for Dorsal Suppression of S Opsin in the Mouse Retina***
 Sujata Rao, Cleveland Clinic
- 11:30 **SS39 • *Opn5-Mediated Photoentrainment of Retinal Circadian Clocks***
 Ethan Buhr, University of Washington
- 11:45 **SS40 • *Dichotomous Impact of Light Flashes on Circadian Phase Shifting and Melatonin Suppression in Humans***
 Jamie Zeitzer, Stanford University
- 12:00 **SS41 • *Homeostatic Slow-Wave Sleep Response to Sleep Loss Depends on Age and Prior Light History***
 Virginie Gabel, Centre for Chronobiology, Basel
- 12:15 **SS42 • *Probing Entrainment of *Ostreococcus Tauri* Circadian Clock by Green and Blue Light Through a Mathematical Modeling Approach***
 Marc Lefranc, University of Lille

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- 11:00 am – 12:30 pm** **Slide Session H: Neurotransmitters, Channels and Neuronal Networks** | *Stirling Ballroom West*
Chair: *Hugh Piggins, University of Manchester*
- 11:00 **SS43 • Calcium Circadian Rhythmicity in the Suprachiasmatic Nucleus: Cell Autonomy and Network Reinforcement**
Takako Noguchi, University of California, San Diego
- 11:15 **SS44 • Inferring the Functional Resynchronization Network in the Suprachiasmatic Nucleus**
**John Abel, Harvard University
- 11:30 **SS45 • Inhibiting Matrix Metalloproteinases 2 and 9 Alters Circadian Neuronal Firing Patterns in the Suprachiasmatic Nucleus**
*Kathryn Abrahamsson, University of Tennessee
- 11:45 **SS46 • Glial-Neuronal Signalling Controls Circuit-Level Coupling in the Suprachiasmatic Nucleus**
Marco Brancaccio, MRC Laboratory of Molecular Biology- Division of Neurobiology
- 12:00 **SS47 • SCN Neurons of Cryptochrome-Deficient Mice Lack Circadian Timing in Intrinsic Excitability States and Do Not Gate Responses to Excitatory Input**
Mino Belle, University of Manchester
- 12:15 **SS48 • BK Channel Inactivation Regulates Daytime SCN Excitability, Circuit and Behavioral Rhythmicity**
Andrea Meredith, University of Maryland School of Medicine
- 12:45 pm – 1:45 pm** **Lunchtime Table Discussions** | *Edinburgh Ballroom West*
- Is There Anything Left to Learn About the Circadian Timekeeping Mechanism?***
Hosts: Seung-hee Yoo, Mary Cheng
- Evolution of Circadian Clocks: When, How and Why Did Clock Arise?***
Hosts: Eran Tauber, Cynthia Weinig
- The Future for Chronobiology Research Funding – Table 1***
Host: Janet He (NINDS/NIH)
- The Future for Chronobiology Research Funding – Table 2***
Host: Michael Sesma (NIGMS/NIH)
- 2:00 pm – 3:00 pm** **JBR Editors Meeting, SAGE Publishers** | *Stirling Salon DEF*
- 3:15 pm – 4:15 pm** **Workshop I | Is it Possible to Translate Chronobiology Findings to Real Life, Health and Society?** | *Stirling Ballroom*
Chair: Ellen Frank, University of Pittsburgh School of Medicine
- Panelists: Francis Lévi, University of Warwick
Till Roenneberg, Institute for Medical Psychology
Eva Schernhammer, Harvard Medical School
Christopher Winrow, Merck Research Laboratories
Phyllis Zee, Northwestern University

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- 4:30 pm – 6:30 pm** **Presidential Symposium: *Circuits, Genes and Behavior* | Stirling Ballroom**
Circuits, Genes and Behaviour: A View from the SCN
Michael Hastings, MRC Laboratory of Molecular Biology
The Circadian Brain Network and Behavior in Drosophila
Michael Rosbash, Brandeis University
- 8:00 pm – 8:30 pm** **Datablitz II | Stirling Ballroom East**
Chair: Roelof Hut, University of Groningen
- The MYC Oncogene Disrupts Circadian Rhythm and Metabolism in Cancer Through Modulation of REV-ERB and BMAL1 (M2)***
*Brian Altman
- Cold-Induced Period Transcription Links Environmental Temperature to the Drosophila Molecular Clock (M12)***
**Akanksha Bafna
- Genome-Wide Characterization of the Molecular Response of the Circadian Clockwork to Temperature in Drosophila (M8)***
*Naveh Evantal
- Diel Flight Activity Behavior of Wild Caught Anopheles farauti s.s and An. hinesorum Malaria Mosquitoes From Northern Queensland, Australia: Temporal Differences that Might Contribute to Speciation (M98)***
*Gary George
- Vasopressin Mediates Clock-Driven Anticipatory Thirst (M105)***
*Claire Gizowski
- Exploring Physiological Changes Underlying Protection from Severe Sleep Restriction in Migrating Birds (M89)***
*William Horton
- Circadian Rhythms in Actin Dynamics and Wound Healing (M91)***
Ned Hoyle
- 24 H Metabolic Profiling in Obesity and Type 2 Diabetes (T2DM) (M47)***
*Cheryl Isherwood
- Circadian Regulation of Xenobiotic Metabolism (M46)***
*Anna Kriebs
- Diapause in Drosophila melanogaster (M11)***
*Ane Martin Anduaga
- Clock Genes Regulate Circadian Gating of Parturition and Gestation Length (M4)***
*Carmel Martin-Fairey
- 4C-Seq in Mouse Liver Reveals Clock-Dependent Rhythmic Chromatin Contacts (M50)***
*Jérôme Mermet
- Molecular Description of the Poised CRY:CLOCK:BMAL1 Repressive Complex (M51)***
*Alicia Michael

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Chloride Cotransporter KCC2 Essential for GABAergic Hyperpolarization in the SCN (M101)

Anneke Olde Engberink

Regulation of Mitochondrial Dynamics by the Circadian Deadenylase Nocturnin (M72)

*Yasemin Onder

CRY Acts as a Cofactor for the SCF-FBXL3 Mediated Degradation of Novel Substrates (M53)

*Stephanie Papp

Integration of Light Intensity Information Into the Clock Neuron Network of *Drosophila melanogaster* (M6)

*Matthias Schlichting

Ultradian Feeding in Mice Not Only Affects the Peripheral Clock in the Liver, But Also the Master Clock in the Brain (M90)

Satish Sen

Circadian Profiles of Light, Activity, and Body Temperature for Non-Invasive Physiology Prediction in Humans (M22)

*Benjamin Smarr

Regulation of the Mammalian Circadian Clock Transcriptional Output by CLOCK:BMAL1 (M52)

Alexandra Trott

The Effects of Circadian Misalignment During Adolescence on Mood and Alcohol Sensitivity (M37)

*Chelsea Vadnie

Trends in Self-Reported Hourly Lighting and Sleep in a Global Dataset of Travelers (M21)

Olivia Walch

Per1: Venus Arcuate Neurons Exhibit Robust Rhythms in Excitability (M61)

*Adam Watson

Circadian Translational Profiling of the *Drosophila* Head Fat Body Reveals Potential Novel Roles for a Peripheral Oscillator (M10)

*Amy Yu

Circadian Clock Control by Polyamine Levels Through a Mechanism That Declines with Age (M96)

*Ziv Zwihaft

8:30 pm – 10:30 pm

Poster Session II (M1 – M112) | *Inverness Ballroom and Foyer*

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Tuesday, May 24

8:15 am – 10:30 am

Symposium 10: *Biological Rhythms in Immune Responses and Infectious Diseases* | Stirling Ballroom East

Chair: Andrew Loudon, University of Manchester

8:15 Introduction

8:30 ***How Immune Cell Clocks Regulate Inflammatory Responses***
Julie Gibbs, University of Manchester

9:00 ***Circadian Rhythms in Leukocyte Migration***
Christoph Scheiermann, Ludwig-Maximilians-University Munich

9:30 ***Circadian Modulation of the Innate and Adaptive Immune Response***
Ruud Buijs, Institute for Biomedical Research

10:00 ***Circadian Regulation of Allergic Reaction***
Atsuhito Nakao, University of Yamanashi

Symposium 11: *Systems Chronobiology* | Stirling Ballroom West

Chair: Felix Naef, EPFL

8:15 Introduction

8:30 ***Transcriptional Response of Neurospora to Light Cues***
Michael Brunner, Heidelberg University Biochemistry Center

9:00 ***The Rhythmic Transcriptome in Tissues of Aging Mice***
Pål Westermark, Charite-Universitätsmedizin Berlin

9:30 ***Time for Precision Medicine: From Big Data to Improved Therapeutics***
John Hogenesch, University of Cincinnati College of Medicine

10:00 ***Orchestration of Liver Proteome by Circadian and Feeding Rhythms***
Frédéric Gachon, Nestlé Institute of Health Sciences

Symposium 12: *Rhythms Over the Lifespan* | Stirling Salon OPQ

Chair: Elizabeth Klerman, Brigham and Women's Hospital

8:15 Introduction

8:30 ***Circadian Rhythms in Older Adults***
Jeanne Duffy, Brigham & Women's Hospital, Harvard Medical School

9:00 ***The Adolescent Central Circadian Clock and Its Response to Bright Light***
Stephanie Crowley, Rush University Medical Center

9:30 ***Entrainment of the Circadian Clocks During Early Developmental Stages***
Alena Sumova, Institute of Physiology, Czech Academy of Sciences

10:00 ***Circadian Rhythms in Long-Living Naked Mole Rat***
Roman Kondratov, Cleveland State University

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10:30 am – 11:00 am Refreshment Break | Stirling Hall Foyer

Exhibits | Stirling Hall Foyer

Meet the Professors | Stirling Salon IJK

Phyllis Zee (humans, translational-clinical rhythms, sleep)

Debra Skene (humans, aging, treatment of circadian disruption, light, melatonin)

Frank Scheer (humans, clinical rhythms, and sleep)

Till Roenneberg (sleep, chronotypes, entrainment, *Neurospora*)

Hugh Piggins (mammals, SCN, circuits, neuropeptide signaling, electrophysiology)

Satchin Panda (mammals, SCN, light, clock genes, tissue clocks, feeding rhythms)

Michael Hastings (rodents, SCN, molecular mechanisms, circuits)

Patrick Emery (*Drosophila*, behavioral genetics, light and temperature entrainment, circuitry)

11:00 am – 12:30 pm Slide Session I: **Consequences of Circadian Disturbance** | Stirling Ballroom East

Chair: Carolina Escobar, Universidad Nacional Autónoma de México

11:00 **SS49 • “Of Islands and Pancakes”: A Novel Method to Quantify and Visualize Mistimed Rhythms**

Dorothee Fischer, Harvard T.H. and Chan School of Public Health

11:15 **SS50 • Developmental Origin of Health and Disease (DOHaD) and the Circadian Clock: Later Life Health Effects of Gestational Circadian Rhythm Disturbance in Mice**

Gijsbertus van der Horst, University Medical Center

11:30 **SS51 • Metabolic Consequences of Internal Desynchrony**

*Vincent van der Vinne, UMass Med School

11:45 **SS52 • Circadian Rhythm De-Synchronization Exacerbates Pathological Outcomes in an Animal Model of Ischemic Stroke**

David Earnest, Texas A&M University Health Science Center

12:00 **SS53 • Night Shift Work Disrupts Fractal Regulation of Human Motor Activity**

Kun Hu, Brigham & Women’s Hospital/Harvard Medical School

12:15 **SS54 • Unravelling the Mechanisms of Chronic Circadian Rhythm Disturbance Using Transcriptomics and Metabolomics Approaches**

Linda van Kerkhof, National Institute for Public Health and the Environment

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- 11:00 am – 12:30 pm** **Slide Session J: *Evolution, Synthetic Biology, Environment and Circadian Clocks*** | *Stirling Salon LMN*
 Chair: Charalambos Kyriacou, University of Leicester
- 11:00 **SS55 • *A Tunable Artificial Circadian Clock in Clock-Defective Mice***
 Choogon Lee, Florida State University
- 11:15 **SS56 • *Circadian and Infradian Clocks in the Urochordate *Botryllus schlosseri****
 Rachel Ben-Shlomo, University of Haifa - Oranim
- 11:30 **SS57 • *Pollutant Affects on the Circadian Rhythm of *Daphnia pulicaria****
 Jennifer Hurley, Rensselaer Polytechnic Institute
- 11:45 **SS58 • *New Insights Into the Genetics of Diurnal/Nocturnal Preference***
 Eran Tauber, University of Leicester
- 12:00 **SS59 • *Codon Usage Affects *Drosophila* Period Protein Structure and Function***
 Jingjing Fu, UT Southwestern Medical Center
- 12:15 **SS60 • *Circadian Genes, Photoperiodic Clock and Diapause in Insect, *Pyrrhocoris apterus****
 David Dolezel, Institute of Entomology

- 11:00 am – 12:30 pm** **Slide Session K: *Clocks and Neuropeptides*** | *Stirling Salon OPQ*
 Chair: Christopher Colwell, UCLA
- 11:00 **SS61 • *Synchronous *Drosophila* Circadian Pacemakers Display Non-Synchronous Ca^{2+} Rhythms in Vivo***
 ***Ron Konopka Excellence Award* • Xitong Liang, Washington University in St. Louis
- 11:15 **SS62 • *The Small GTPase *RHO1* is Required in a Dosage-Dependent Manner to Align Peptidergic Control of Behavioural Rhythms With Clock-Controlled Gene Expression***
 Miguel Ramírez Moreno, University of Southampton
- 11:30 **SS63 • *Reciprocal Communications of Clock Neurons via PDF and *CCHa1* Neuropeptides in *Drosophila****
 Taishi Yoshii, Okayama University
- 11:45 **SS64 • *The *PTTH* Neuropeptide Couples Central and Peripheral Clocks in *Drosophila****
 John Ewer, CINV, Universidad de Valparaiso
- 12:00 **SS65 • *Decoding the Firing Patterns of *SCN Vip* Neurons***
 *Cristina Mazuski, Washington University in St. Louis
- 12:15 **SS66 • *Doublecortin-Like Regulates Circadian Rhythms of Locomotor Activity by Controlling Vasopressin Signaling in the Suprachiasmatic Nucleus***
 Erno Vreugdenhil, Leiden University Medical Center

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- 11:00 am – 12:30 pm** **Slide Session L: *Sleep*** | *Stirling Ballroom West*
 Chair: Martha Vitaterna, Northwestern University
- 11:00 **SS67 • *Cerebral Underpinnings of Human Circadian Performance Modulations During Sleep Loss***
 Christian Cajochen, Centre for Chronobiology, Psychiatric Hospital of the University of Basel
- 11:15 **SS68 • *Social Regulation of Naturally Occurring Plasticity in Sleep and Circadian Rhythms in Bees***
 Guy Bloch, Hebrew University of Jerusalem
- 11:30 **SS69 • *Light-Dependent Regulation of Sleep/Wake States by Prokineticin 2 in Zebrafish***
 David Prober, California Institute of Technology
- 11:45 **SS70 • *The Lateral Line Confers Evolutionarily Derived Sleep Loss in the Mexican Cavefish***
 Alex Keene, Florida Atlantic University
- 12:00 **SS71 • *Sexually Dimorphic Regulation of Sleep in Drosophila***
 Kyunghee Koh, Thomas Jefferson University
- 12:15 **SS72 • *Dissection of the Downstream Circadian Circuitry Involved in Sleep Regulation***
 Fang Guo, HHMI/Brandeis University
- 12:45 pm – 1:45 pm** **Lunchtime Table Discussions** | *Edinburgh Ballroom West*
- Circadian Outreach Strategies: How to Disseminate Chronobiology Knowledge to the Public and Medical Doctors?***
 Hosts: David Welsh, Susan Golden, Martha Merrow
- Have We Forgotten Nonphotic Entrainment?***
 Hosts: Eric Mintz, Debra Skene
- The Future for Chronobiology Research Funding – Table 1***
 Host: Janet He (NINDS/NIH)
- The Future for Chronobiology Research Funding – Table 2***
 Host: Michael Sesma (NIGMS/NIH)
- 12:45 pm – 2:45 pm** **SRBR Board of Directors Meeting** | *Stirling Salon DEF*
- 3:15 pm – 4:15 pm** **Workshop II | *Big Data Sets: How Useful Are They and How to Mine for Gold?*** | *Stirling Ballroom East*
 Chair: John Hogenesch, University of Cincinnati College of Medicine
 Panelists: Michael Hughes, UMSL
 Tami Martino, University of Guelph
 David Rand, University of Warwick
 Debra J. Skene, University of Surrey
 Joseph Takahashi, University of Texas Southwestern/Howard Hughes Medical Institute

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4:15 pm – 6:30 pm

Symposium 13: Neuronal Networks and Central Clock Function | *Stirling Ballroom East*

Chair: Patrick Emery, University of Massachusetts Medical School

4:15 Introduction

4:30 ***Reciprocal Interactions Between Behaviour and SCN Electrical Activity***

Johanna Meijer, Leiden University Medical Center

5:00 ***Assembling a Clock System: Ontogeny of Circadian Synchrony in the SCN***

Erik Herzog, Washington University

5:30 ***Beyond Simple Timekeeping in the SCN***

Daniel Forger, University of Michigan

6:00 ***Physiological Effects of Temperature on a Circadian Clock Neuron Network***

Orie Shafer, University of Michigan

Symposium 14: Circadian Rhythms in Metabolism, Diabetes and Obesity | *Stirling Ballroom West*

Chair: Frank Scheer, Brigham and Women's Hospital, Harvard Medical School

4:15 Introduction

4:30 ***Behavioral and Dietary Chronotype: Predictors and Metabolic Consequences***

Kristen Knutson, University of Chicago

5:00 ***Obesity and the Clocks: Are We Predestinated?***

Marta Garaulet, Universidad de Murcia

5:30 ***Time-Restricted Feeding Imparts Pleiotropic Effects on Multiple Organs***

Satchidananda Panda, Salk Institute for Biological Studies

6:00 ***A Clock Mediated Trade-Off Between Growth and Starvation Tolerance in Cyanobacteria***

Michael Rust, University of Chicago

Symposium 15: Non-Traditional Models: What Do They Teach Us About Biological Rhythms? | *Stirling Salon OPQ*

Chair: Nicholas Foulkes, Karlsruhe Institute of Technology

4:15 Introduction

4:30 ***Monarch Butterfly CRYPTOCHROME 2 Represses Circadian Transcription Through BMAL1 C-Terminal Domain***

Christine Merlin, Texas A&M University

5:00 ***From Genome to Function: Timing Adaptations in the Intertidal Insect *Clunio Marinus****

Tobias Kaiser, Center for Integrative Bioinformatics / Max F Perutz Laboratories

5:30 ***Diel and Circadian Timing in the *Anopheles gambiae* Malaria Mosquito***

Giles Duffield, University of Notre Dame

6:00 ***Life at Extremes: Circadian Clocks in the Dark and Cold***

Cristiano Bertolucci, University of Ferrara

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8:00 pm – 8:30 pm

Datablitz III | Stirling Ballroom East

Chairs: Lisa Soyeon Baik, University of California Irvine and Yong Zhang, University of Nevada Reno

Lhx1-Regulated Transcriptional Networks Control Sleep/Wake Coupling and Thermal Resistance of the SCN Clockworks (T103)

*Joseph Bedont

Comparison of the Circadian Clock of Social and Solitary Bees (T78)

*Katharina Beer

Translation Across Time and Space (T88)

Violeta Castelo-Szekely

Circadian Clock Regulation of mRNA Translation Through the Eukaryotic Elongation Factor eEF-2 (T55)

Stephen Caster

Hepatic miRNA Loss Resulted in Altered Adaptation to Food Restriction in Mice (T93)

**Ngoc-Hien DU

A Functional Synthetic Hybrid Circadian Oscillator Generated Through Transcriptional Rewiring (T53)

**Alejandra Goity

A Systems-Driven Experimental Approach Reveals the Complex Regulatory Distribution of p53 by Circadian Factors (T96)

Tetsuya Gotoh

Using Signal Processing to Explore Diversity: Analyses of Locomotor Activity and Core Body Temperature Reveal Sex Differences in Mice (T82)

*Azure Grant

A Piece of Chocolate in the Dark Phase Prevents Circadian Desynchrony and Overweight in Male Shift-Worker Rats (T15)

#Mara Guzman-Ruiz

Novel Transcriptional Mechanisms of Muscle-Specific Clock Output (T56)

*Brian Hodge

Integrative Analysis of Multiple Genomics Datasets Reveals Key Networks and Pathways Underlying the Circadian and Homeostatic Regulation of Sleep (T110)

*Peng Jiang

TNF Signaling Regulates the Circadian Rhythm of Myogenic Responsiveness and Systemic Blood Pressure (T83)

*Jeff Kroetsch

Selective Inhibition of Casein Kinase I Delta Enhances Hippocampal Dependent Learning and Alters Expression of Circadian Clock Proteins in the Hippocampus (T36)

*Heather Mahoney

Ion Channels that Regulate Neuronal Physiology and Circadian Behavior in *Drosophila melanogaster* (T7)

Nara Ines Muraro

Circadian Control of CD8+ T Cell Response (T28)

*Chloé Nobis

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Phase-Angle Differences Between Dim-Light Melatonin Onset and Sleep Onset in Patients Diagnosed With Delayed Sleep Phase Syndrome (T22)

*Catia Reis

An Evolutionary Hotspot in CRYPTOCHROME's Structure Tunes the Period of the Mammalian Circadian Rhythm (T52)

*Clark Rosensweig

Mice Are Able to Acquire Multiple Independent Time Memories (T75)

*Choden Shrestha

Sleep and Circadian Regulation of Metabolic Rate in Drosophila (T98)

*Melissa Slocumb

Transcriptional Regulatory Logic of the Diurnal Cycle in the Mouse Liver (T77)

*Jonathan Sobel

Entrainment Ability of the Peripheral Circadian Clocks by Light, Food, Stress, and Exercise in Aged Mice (T97)

*Yu Tahara

Differential Roles for Mammalian Cryptochromes in the Retinal Circadian Clock (T32)

*Jovi Wong

Circadian Clocks Modulate Huntington's Disease via Stress Response Pathways (T35)

*Fangke Xu

BMAL1 Deletion in Adulthood Facilitates Adaptation to Disrupted Light/Dark Schedules in Mice (T87)

Guangrui Yang

Transgenerational Epigenetic Effects of Cocaine on Circadian Behavior and Cocaine Reward (T40)

*Alexandra Yaw

Circadian Rhythm of Redox State in Hippocampal CA1 Regulates Neuronal Membrane Excitability (T58)

*Mia Yu

A Dissociation Between Diurnal Cycles in Locomotor Activity, Feeding Behavior and Hepatic PERIOD2 Expression in Chronic Alcohol-Fed Mice (T65)

*Peng Zhou

8:30 pm – 10:30 pm

Poster Session III (T1 – T113) | Inverness Ballroom and Foyer

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Wednesday, May 25

8:15 am – 10:30 am

Symposium 16: *Post-Transcriptional/Translational Circadian Mechanisms*

| *Stirling Ballroom East*

Chair: Eun Young Kim, Ajou University School of Medicine

8:15 Introduction

8:30 ***Rhythmic Post-Transcriptional Control Mechanisms***

Carla Green, UT Southwestern Medical Center

8:55 ***Post-Transcriptional Modification Regulates Clock Oscillation and Extends mRNA Rhythms***

Yoshitaka Fukada, School of Science, The University of Tokyo

9:20 ***Alternative Splicing and Post-Transcriptional Regulation of Timeless mRNA is Essential for the Adaptation of the Circadian System to Temperature in Drosophila***

Sebastian Kadener, The Hebrew University of Jerusalem

9:45 ***Atomic-Resolution Mechanism of the Cyanobacterial Circadian Clock***

Andy LiWang, University of California, Merced

10:10 ***Novel Elements Effecting the Circadian Oscillator and Output in Neurospora***

Jay Dunlap, Geisel School of Medicine at Dartmouth

Symposium 17: *Non-Visual Effects of Light and Other Zeitgebers* | *Stirling Ballroom West*

Chair: Claude Gronfier, Inserm, Université Claude Bernard

8:15 Introduction

8:30 ***Visual Information Reaching the Mouse SCN***

Robert Lucas, University of Manchester

8:55 ***Non-Canonical Light Signalling Contributes to Drosophila Circadian Clock Entrainment***

Ralf Stanewsky, University of London, University College London

9:20 ***Circadian Rhythms and Light Response in Humans***

Charles Czeisler, Brigham & Women's Hospital

9:45 ***Chemical Integration of Circadian and Photoperiodic Clocks in Plants***

Brian Zoltowski, Southern Methodist University

10:10 ***The Role of Pseudo-Response Regulators in Maintaining Cyclic Gene Expression in Arabidopsis***

Eva Farre, Michigan State University

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Symposium 18: *Circadian Rhythms in the Context of Addiction, Mood and Neurodegenerative Disorders* | Stirling Salon OPQ

Chair: Colleen McClung, University of Pittsburgh

8:15 Introduction

8:30 ***Ethanol-Induced Plasticity in the SCN***

Rebecca Prosser, University of Tennessee Knoxville

8:55 ***Late Life Cyclers: The Old Clock That Could***

Jadwiga Giebultowicz, Oregon State University

9:20 ***Evidence for Circadian Modulation of Reward in Humans and Its Relevance to Adolescent Substance Abuse***

Brant Hasler, University of Pittsburgh School of Medicine

9:45 ***Circadian Clocks in Fibroblast and Mouse Models of Mood Disorders***

David Welsh, University of California, San Diego

10:10 ***Sleep and Circadian Rhythm Characteristics Across the Psychosis Spectrum***

Katharina Wulff, University of Oxford

10:30 am – 11:00 am Refreshment Break | Stirling Hall Foyer

Exhibits | Stirling Hall Foyer

Meet the Professors | Stirling Salon IJK

Erik Herzog (rodents, SCN, astrocytes, neuronal circuits)

David Welsh (single cells, SCN, bioluminescence imaging)

Joseph Takahashi (mouse genetics, clock genes, SCN circuits)

Colleen McClung (rodents, role of clock mechanisms in neuropsychiatric disease)

Robert Lucas (retina, entrainment, responses to light)

Green Carla (rodents, clock output, metabolism, post-transcriptional mechanisms)

Charles Czeisler (humans, sleep and circadian rhythms)

Susan Golden (cyanobacteria, clock genes, functional genomics, biofuels)

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- 11:00 am – 12:30 pm** **Slide Session M: *Micro-Organisms, Cancer and Cell Cycle* | Stirling Ballroom West**
 Chair: Carla Finkielstein, Virginia Polytechnic Institute and State University
- 11:00 **SS73 • *A Human Gut Bacterium Express Circadian Rhythms and Swarming Response to Melatonin***
 ***Condor Instrument Excellence Award* • Jiffin Paulose, University of Kentucky
- 11:15 **SS74 • *Trypanosoma Brucei Infection Accelerates the Mouse Circadian Clock***
 *Filipa Rijo-Ferreira, UT Southwestern / IMM
- 11:30 **SS75 • *Activating Circadian Clock Function in Cancer Cells Inhibits Tumor Growth***
 Silke Kiessling, McGill / Douglas Mental Health University Institute
- 11:45 **SS76 • *Real-Time Bioluminescence Reporters of Circadian Rhythms and Signaling Pathways in Solid Tumours in Vitro and in Vivo***
 Robert Dallmann, University of Warwick
- 12:00 **SS77 • *Intercellular Coupling of Cell Cycle and Circadian Clock in Adult Stem Cell Cultures***
 Toru Matsu-ura, University of Cincinnati
- 12:15 **SS78 • *Cry2 and Fbxl3 Promote Circadian Destruction of c-Myc***
 Katja Lamia, The Scripps Research Institute

- 11:00 am – 12:30 pm** **Slide Session N: *Clock Outputs* | Stirling Ballroom East**
 Chair: Han Wang, Soochow University
- 11:00 **SS79 • *Loss of ZBTB20 Causes Unimodal Behavioral Rhythms and Impairs Circadian Output***
 Ying Xu, Nanjing University to Soochow University
- 11:15 **SS80 • *How Does the Mammalian Circadian Clock Generate Tissue-Specific Rhythmic Outputs?***
 Joshua Beytebiere, Texas A&M University
- 11:30 **SS81 • *Integrating Functional Genomics Data Reveals Tissue-Dependent Mechanisms Underlying Circadian Gene Expression***
 *Jake Yeung, EPFL
- 11:45 **SS82 • *Mining for Novel Candidate Clock Genes in the Circadian Regulatory Network***
 Bharath Ananthasubramaniam, Charite Universitaetsmedizin Berlin
- 12:00 **SS83 • *Transcriptional Variation Across SCN Subregions***
 Eric Mintz, Kent State University
- 12:15 **SS84 • *Altered Bile Acid Dynamics in Mice Lacking Nocturnin***
 ***DSI Excellence Award* • Jeremy Stubblefield, UT Southwestern Medical Center

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- 11:00 am – 12:30 pm** **Slide Session O: *Light and Neuronal Networks* | Stirling Salon OPQ**
 Chair: François Rouyer, CNRS
- 11:00 **SS85 • *Drosophila Clockwork Dynamics: Functional Contributions of Strong and Weak Neuronal Oscillators to Circadian Synchrony and Light Response***
 Todd Holmes, University of California at Irvine School of Medicine
- 11:15 **SS86 • *Dual-Mode Control of Network Flexibility in the Drosophila Clock Circuit***
 Abhishek Chatterjee, NeuroPSI, CNRS UMR-9197
- 11:30 **SS87 • *Optogenetic Investigation of SCN Communication and Photoperiodicity***
 *Michael Tackenberg, Vanderbilt University
- 11:45 **SS88 • *Polarity of GABAA Signaling Influences the Dynamics of SCN Coupling***
 Jennifer Evans, Marquette University
- 12:00 **SS89 • *Geniculohypothalamic GABAergic Signalling Modulates Suprachiasmatic Nuclei Responses to Retinal Input***
 Lydia Hanna, University of Manchester
- 12:15 **SS90 • *Atypical Opsins in Photoentrainment and Development***
 Richard Lang, Cincinnati Children's Hospital Medical Center
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- 11:00 am – 12:30 pm** **Slide Session P: *Human Health, Behavior and Society* | Stirling Salon LMN**
 Chair: Phyllis Zee, Northwestern University
- 11:00 **SS91 • *Genome-Wide Association Analysis and Functional Follow-Up Identifies Novel Loci for Chronotype in 100,420 Individuals From the UK Biobank***
 *Jacqueline Lane, Massachusetts General Hospital
- 11:15 **SS92 • *Differential DNA Methylation at Circadian Clock (Related) Gene Loci in Pre-Eclampsia***
 Inês Chaves, Erasmus MC Rotterdam
- 11:30 **SS93 • *Ultradian Rhythms of Locomotor (In)Activity in a Real-World Sample of 120,000 Hours of Human Sleep***
 Eva Winnebeck, Ludwig Maximilian University, Munich
- 11:45 **SS94 • *The Effect of Chronotype and Time of Year on School Attendance and Performance***
 Giulia Zerbini, University of Groningen
- 12:00 **SS95 • *Sleep Hygiene and Academic Performance in College Undergraduates***
 Gideon Dunster, University of Washington
- 12:15 **SS96 • *Long Weekly Work Hours Increase the Risk of Adverse Health and Safety Outcomes in First-Year and More Experienced Resident Physicians***
 *Celine Vetter, Brigham and Women's Hospital and Harvard Medical School

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- 12:45 pm – 1:45 pm** **Lunchtime Table Discussions** | *Edinburgh Ballroom West*
Melatonin: An Important Player too Often Overlooked in our B6 Mouse-Centric Research World?
Hosts: Vincent Cassone, Takashi Yoshimura
Human Chronotyping: How to Do It? Is It Relevant in Diseased Individuals as Well?
Hosts: Till Roenneberg, Martin Ralph
The Future for Chronobiology Research Funding
Host: Corinne Silva (NIDDK/NIH)
- 1:15 pm – 2:15 pm** **Actigraphy Workshop** | *Stirling Salon DEF*
Organized by Condor Instruments
Chair: Till Roenneberg, Ludwig MaxMillian University
- 2:30 pm – 3:30 pm** **General Meeting of SRBR Members** | *Stirling Ballroom*
- 3:30 pm – 4:30 pm** **Workshop III | *Are Circadian Clocks Therapeutic Targets?*** | *Stirling Ballroom*
Chair: Thomas Burris, Saint Louis University School of Medicine
Panelists: Diane B. Boivin, Douglas Mental Health University Institute, McGill University
Zheng (Jake) Chen, UT Health Science Center at Houston
Steve Kay, The Scripps Research Institute
Colleen McClung, University of Pittsburgh
Travis Wager, Pfizer
- 4:30 pm – 6:00 pm** **Pittendrigh/Aschoff Lecture** | ***The Time of Our (Cyanobacterial) Lives: elucidating the Kai oscillator*** | *Stirling Ballroom*
Susan Golden, University of California, San Diego
- 6:15 pm – 7:30 pm** **Cocktail Reception (Cash Bar)** | *Inverness Ballroom Foyer*
- 7:30 pm** **Closing Banquet and Awards Ceremony** | *Inverness Ballroom*

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Poster Titles

Sunday, May 22

- S1 Constant Light Promotes Tumor Development via Insulin Resistance and Altered Inflammatory Response** • Natalí N Guerrero-Vargas, Facultad de Medicina, Universidad Nacional Autónoma de México
- S2 Circadian Rhythm of Proteins in Breast Cancer Tissue Cultured Cells** • Sean-Patrick Scott, Tecnológico de Monterrey
- S3 Disruption of the Cardiomyocyte Circadian Clock Influences Myocardial Insulin Signaling** • Graham McGinnis, The University of Alabama at Birmingham
- S4 #Environmental Circadian Disruption Increases Ischemic Brain Damage** • Anne Ramsey, Morehouse School of Medicine
- S5 Developmental Regulation of the Narrow Abdomen Ion Channel in the *Drosophila* Circadian Pacemaker.** • Bridget Lear, University of Iowa
- S6 *CRTC Potentiates Light-Independent Timeless Transcription to Sustain Circadian Rhythms in *Drosophila*** • MinkYung Kim, KAIST
- S7 *Neuropeptide-F and Acetylcholine Mediate Photic Phase Resetting of *Drosophila* Circadian Behavior** • Pallavi Lamba, University of Massachusetts Medical School
- S8 Grooming Behavior of *Drosophila* is Under Circadian Regulation** • Bing Qiao, University of Miami
- S9 Igf-1 mRNA-Binding Protein Regulates Night Sleep in *Drosophila*** • Xueyan Pang, University of Nevada
- S10 Light-Induced Plasticity of *Drosophila* Clock Function** • Charles Hurdle, University of Southampton
- S11 Abnormal PDF Expression Leads to Arrhythmicity in Vrille Mutants** • Kushan Gunawardhana, Texas A&M University
- S12 Nucleotide Variation in *Drosophila* Cryptochrome Linked to Circadian Clock Function: An Association Analysis.** • Mirko Pegoraro, University of Leicester
- S13 Identification and characterization of Genes Controlling Development of PDF-Positive Clock Neurons in the Fruit Fly *Drosophila melanogaster*** • Outa Uryu, Faculty of Life and Environmental Sciences, University of Tsukuba
- S14 **Photoperiod Interacts With Running Wheel Availability to Modulate Circadian Food Anticipatory Activity in Mice** • Mateusz Michalik, Simon Fraser University
- S15 *Temporal Restricted Feeding Induces Time-Dependent Behavioral Changes in Mice** • Victoria Acosta-Rodríguez, UTSW Medical Center Dallas
- S16 **Neural Correlates of Food Anticipatory Activity in Mice Subjected to Once or Twice-Daily Feeding Periods** • Ashutosh Rastogi, Kent State University
- S17 **Time of Feeding Regulates Circadian Gene Expression in Mouse Peripheral Tissues** • Laura van Rosmalen, UT Southwestern Medical Center
- S18 Phase Shifts in Circadian Peripheral Clocks Caused by Exercise Are Dependent on the Feeding Schedule in PER2::LUC Mice** • Shigenobu Shibata, Waseda University
- S19 Levofloxacin-Induced QT Prolongation Depends on the Time of Drug Administration** • Laura Kervezee, Leiden University Medical Center

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- S20 Automatic Scoring of Heart Rate and Wrist Movements to Assess Sleep Architecture •**
Antoine Viola, PPRS-Research
- S21 *Circadian Misalignment and Risk-Taking in Night Shift Workers •** Philip Cheng, Henry Ford Health System
- S22 Evaluation of Biomathematical Models in Predicting Cognitive Impairment Among Short-Haul Airline Pilots •** Siera Martinez, San Jose State University Research Foundation
- S23 Resetting of Human Peripheral Clocks by Phototherapy During Simulated Night Shift Work •** Marc Cuesta, Douglas Mental Health University Institute, McGill University
- S24 Chrono-Typing and Political Orientation: Evidence of Left-Leaning Owls and Right- Leaning Larks •** Christian Cajochen, Centre for Chronobiology, Psychiatric Hospital of the University of Basel
- S25 Gestational Day Length and Risk of Depression in Adulthood in Women •** Elizabeth Devore, Brigham & Women's Hospital
- S26 #Association of Allostatic Load and Shift Work Among Us Adults •** Nicole Bowles, The Rockefeller University
- S27 EPd, a Clock Controlled Gene, Mediates Rhythmic Immune Response in *Drosophila* •** Jiajia Li, University of Missouri-St. Louis
- S28 Chronotoxicity of Everolimus on the Immune System •** Dilek Ozturk, Bezmialem Vakif University
- S29 Time of Day-Dependent Sensitivity to LPS: A Sensory Role for the Autonomic Nervous System •** Eva Soto-Tinoco, Universidad Nacional Autónoma de México
- S30 *The Relationship Between Light Exposure and Subsequent Sleep: What Happens Outside of the Lab? •** Emma Wams, University of Groningen, NL
- S31 Constant Light During Lactation Programs Circadian and Metabolic Functions in Rat Pups •** Madahi Palma Gomez, UNAM
- S32 A New Standardized Method to Assess the Endogenous and Light-Response of the Retinal Clock in Mammals •** Hugo Calligaro, INSERM U1208
- S33 Pineal Serotonin Modulates Entrainment of Central Circadian Clock by Light •** Keisuke Ikegami, Kindai University Faculty of Medicine
- S34 *Cryptochrome is a Direct Neuronal Ultraviolet Light Sensor •** Lisa Soyeon Baik, University of California- Irvine
- S35 Can a Poor Sleep/Wake Cycle Contribute to Hippocampal Malfunction in a Mouse Model of Neurodevelopmental Disabilities? •** Cristina Ghiani, David Geffen School of Medicine at UCLA
- S36 COMT Allelic Variation and Sleep Organization in Human Neonatal Opioid Withdrawal •** Marie Hayes, University of Maine
- S37 Diurnal Regulation of Cocaine Self-Administration •** Ian Webb, University of Mississippi Medical Center
- S38 **Aging Decreases Circadian Regulation of Alcohol Sensitivity and Increases Alcohol-Induced Tissue Injury and Mortality •** Aliza De Nobrega, Florida State University
- S39 Rev-Erb α Deficiency is Associated With Mixed Affective Behaviors in Mice. •** Tsuyoshi Otsuka, Wakayama Medical University
- S40 *Evaluation of Circadian Rhythms and Sleep in the APP/PS1 Mouse Model of Alzheimer's Disease •** Brianne Kent, University of British Columbia

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- S41 Individual Differences in the Rate of Re-Entrainment to a Phase Advance Predict Anxiety and Depression-Like Behavior** • Jeff Anyan, Concordia University
- S42 Global and Hepatocyte-Specific Ablation of BMAL1 Induces Hyperlipidemia and Enhances Atherosclerosis** • Xiaoyue Pan, SUNY Downstate Medical Center
- S43 Interdisciplinary Approaches for Identification of Circadian-Controlled Glycogen Metabolism in Neurospora Crassa** • Lily(Mokryun) Baek, College of Medicine, University of Cincinnati
- S44 Effects of Wheel Running Exercise on Feeding Patterns and Glucose Tolerance in C57BL/6J Mice** • Eric McGann, Rider University
- S45 Mouse Strain Differences in Response to Glucose Tolerance Test.** • Bretton Nabit, Rider University
- S46 Dosing Time-Dependent Changes in Beneficial Effects of Sesamin on High Fat-Induced Hyperlipidemia in Rats** • Norifumi Tateishi, Suntory Wellness Limited
- S47 Circadian Control of Oscillations in Mitochondrial Rate-Limiting Enzymes and Nutrient Utilization by PERIOD Proteins** • Gad Asher, Weizmann Institute of Science, Israel
- S48 Characterizing DNA Binding Activities of Mammalian Circadian Clock Protein Complexes** • Alfred Tamayo, Harvard Medical School
- S49 Prolyl Isomerases-Flipping the Circadian Switch** • Hande Asimgil, UC Santa Cruz
- S50 HITS-CLIP Reveals a Role for the RNA-Binding Protein FBP3 in the Circadian Clock** • Peng Gao, UT Southwestern Medical Center
- S51 #Regulation of Reverba by the Spsb1-4 E3 Ligase Family** • Tsedey Mekbib, Morehouse School of Medicine
- S52 Circadian Clock Regulation of Translation Initiation Through eIF2 α Phosphorylation** • Shanta Karki, Texas A&M University
- S53 Applications of Machine Learning in the Processing and Analysis of Large Circadian Proteomics Time-Series Datasets** • Alexander Crowell, Dartmouth College
- S54 Roles for Period Binding Domain of dCLOCK in *Drosophila* Circadian Clock** • Euna Lee, Ajou University
- S55 Important Roles of the RNA Editing Enzyme in the Mammalian Circadian Clockwork** • Hikari Yoshitane, The University of Tokyo
- S56 A Slow Conformational Switch in the BMAL1 Transactivation Domain Modulates Circadian Cycling** • Chelsea Gustafson, University of California, Santa Cruz
- S57 Changes in Titin Isoform Composition Following Inducible Knockout of BMAL1 in Skeletal Muscle** • Lance Riley, University of Florida
- S58 *Gravitational Loading at the Beginning of the Active Phase Attenuates Muscle Loss in Unloaded Mouse Hind Limb** • Shinya Aoyama, Waseda University
- S59 Diurnal Variation in G-Protein-Coupled Inwardly Rectifying Potassium (GIRK) Channels in Hippocampus** • Venkata Tekumalla, UAB
- S60 Circadian Transcription Factor NPAS2 and Metabolic Redox Sensor SIRT1 Interact in the Mouse Striatum to Regulate Reward-Related Behavior** • Darius Becker-Krail, University of Pittsburgh
- S61 Alterations of the Circadian System with Chronic Administration of the Serotonin (1A) Mixed Agonist/Antagonist BMY7378** • Jhenkruthi Vijaya Shankara, University of Calgary
- S62 Chronic Sleep Deprivation Inhibits Short and Long Term Memory in Aplysia** • Harini Krishnan, Florida State University

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- S63 Daily and Annual Rhythms of Activity in the Alpine Chamois under Natural Conditions •** Cristiano Bertolucci, University of Ferrara
- S64 Clock-Modulation of Virulence in the Phytopathogenic Fungus *Botrytis cinerea* and the Evolution of Clock Negative Elements in Fungi •** Luis Larrondo, Pontifica Universidad Catolica De Chile
- S65 A Fear-Entrained Oscillator in the Mouse •** Horacio de la Iglesia, University of Washington
- S66 #Histone Demethylase JARID1a Regulates Hepatic Glucose Metabolism and Enables Rapid Transcriptional Response to Food Intake •** Kacee DiTacchio, University of Kansas Medical Center
- S67 Circadian Rhythms in the Sea Anemone *Nematostella vectensis* •** Rebecca Helm, Woods Hole Oceanographic Institution
- S68 The New Main Factor Influence on a Circannual Rhythm •** Dmitrii Borisov, Nizhniy Novgorod State Agricultural Academy, Russia
- S69 Red and Green Luciferases Reveal Phase-Dependent Protein Productivity During Metabolic Rhythms of Yeast •** James Robertson, Middle Tennessee State University
- S70 Is the Zugunruhe Oscillator Related to MASCO? •** Paul Bartell, Pennsylvania State University
- S71 *Tissue Specific Response of Clock Genes Expression in Peripheral Oscillators in a Rat Model of Shift-Work •** Cinthya Córdoba-Manilla, Universidad Nacional Autónoma de México
- S72 Cryptochromes Suppress Ppard and Limit Exercise Endurance •** Megan Vaughan, The Scripps Research Institute
- S73 The Arcuate Nucleus: Site for Time-Of-Day-Dependent Negative Feedback on Corticosterone Secretion •** Luis Abel León-Mercado, Universidad Nacional Autónoma de México
- S74 Circadian Clock Regulation of the Melatonin MTNR1B Receptor in Human Myometrial Cells •** James Olcese, Florida State University College of Medicine
- S75 Lack of Exercise Leads to Altered Activity Patterns in Wild-Type and Vip-Deficient Mice During Light-Dark Cycles •** Kun Hu, Brigham & Women's Hospital/Harvard Medical School
- S76 Differences in Circadian Light Response of Nasonia Wasps from Different Latitudes •** Theresa Floessner, University of Groningen
- S77 Same-Phase Circadian Rhythms of Trimethylated Lysine 4 on Histone 3 at Promoters of Diversely-Expressed Genes in the Green Alga *Chlamydomonas* •** Sigrid Jacobshagen, Western Kentucky University
- S78 Insulin Resets the Circadian Clock via Induction of Clock Gene PER2 •** Priya Crosby, MRC Laboratory of Molecular Biology
- S79 Coupled Oscillators, Synchronization and (Photoperiodic) Entrainment of Circadian Clocks •** Christoph Schmal, ITB, Charité Berlin
- S80 How Can You Tell Your Signal Is Rhythmic? •** Andrey Lazopulo, University of Miami
- S81 Circadian Rhythms in Wound Healing in Female Siberian Hamsters •** Erin Cable, University of Chicago
- S82 Dosing-Time Dependent Reproductive Toxicity of Everolimus in Male Mice •** Narin Ozturk, Istanbul University
- S83 **Endothelin-1 Regulates the Diurnal Variation of Sodium Excretion in Male and Female Rats •** Jermaine Johnston, The University of Alabama at Birmingham
- S84 *Back to the Basics: A Simplified Model of Mammalian Circadian Rhythms •** Kevin Hannay, University of Michigan

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- S85 Don't Luc Now: How Firefly Luciferase Behaves in Mammalian Cells** • John O'Neill, MRC Laboratory of Molecular Biology
- S86 The Adrenal Clock Limits Disruption of Circadian Glucocorticoid Rhythms by Aberrant Light Exposure.** • William Engeland, University of Minnesota
- S87 Chronopharmacology of Everolimus by Ubiquitin Pathway in Mouse Renal Cell Carcinoma** • Shigehiro Ohdo, Kyushu University
- S88 Effects of the Duper Mutation on Phase Shifts and Estrous Cycles.** • Eric Bittman, University of Massachusetts at Amherst
- S89 Aryl Hydrocarbon Receptor Deficiency Alters Circadian and Metabolic Rhythmicity** • Shelley Tischkau, Southern Illinois University
- S90 PRD-1, a Component of the Circadian System of Neurospora Crassa, is a Member of the Dead-Box RNA Helicase Family** • Di Wu, York University
- S91 *The effect of BMAL1 Deletion in Gonadotropin-Releasing Hormone or Kisspeptin Neurons** • Karen Tonsfeldt, University of California San Diego
- S92 A Mathematical Model of the Liver Circadian Clock Linking Feeding/Fasting Cycles to Clock Function** • Marc Lefranc, University of Lille
- S93 *The Transcriptional Landscape Associated With Photoperiodism** • Laura Flavell, University of Leicester
- S94 Beyond Body Weight: How Impaired Leptin Signaling Can Affect Sleep Disordered Breathing** • Deanna Arble, University of Michigan
- S95 *Crosstalk Signaling Between Circadian Clock Components and Iron Metabolism** • Samuel Schiffhauer, Virginia Tech University
- S96 Extensive Regulation of Diurnal Transcription and Metabolism by Glucocorticoids** • Meltem Weger, University of Birmingham
- S97 Daily Magnesium Fluxes Regulate Cellular Timekeeping and Energy Expenditure** • Gerben van Ooijen, University of Edinburgh
- S98 *ZeitZeiger: Supervised Learning for Oscillatory Data** • Jacob Hughey, University of California, San Francisco
- S99 Characterizing Core Clock Gene Dynamics in Mouse and Human Peripheral Blood Using Simulated Shift Work Protocols** • Shobhan Gaddameedhi, Washington State University
- S100 Examining the Contributions of the BrLKP2 Gene Family to the Circadian Clock in *Brassica rapa*** • Jin A. Kim, National Academy of Agricultural Science(NAAS)
- S101 Exposure to Long Photoperiods Induces Changes in Coupling Between Single Neurons of the Mouse Suprachiasmatic Nucleus** • Renate Buijink, Leiden University Medical Centre
- S102 A Role for the Cationic Leak Channel NALCN in Daily Rhythms of Suprachiasmatic Nuclei Activity and Locomotor Behavior** • Matt Flourakis, Northwestern University
- S103 Circadian Rhythms in the Expression and Function of Synaptic and Extrasynaptic GABAA Receptors in the Suprachiasmatic Nucleus.** • James Walton, Georgia State University
- S104 Clock Gene Expression in the SCN of Arctic Ground Squirrels** • Lily Yan, Michigan State University
- S105 AVP Signaling Reprograms SCN Organization** • Kayla Rohr, Marquette University
- S106 *Circadian Regulation in and by SCN Astrocytes** • Chak Foon Tso, Washington University in St. Louis

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- S107 Spatial Segregation of PER1 and PER2 Expression in the Mouse SCN** • Malini Riddle, Barnard College
- S108 Role of grk2 in Circadian Behavior and Molecular Rhythms** • Lucia Mendoza-Viveros, University of Toronto Mississauga
- S109 Examination of the Suprachiasmatic Nucleus Expression in Forebrain BMAL1 Knockout Mice** • Mariko Izumo, UT Southwestern Medical Center
- S110 Dim Light at Night Disturbs the Daily Sleep-Wake Cycle and Sleep Architecture in Rats** • Andries Kalsbeek, Netherlands Institute for Neuroscience
- S111 Deficits in Temporal Processing in a Mouse Model of Autism** • Diego Golombek, Universidad Nacional de Quilmes
- S112 Nitroergic Neural Communication for the Synchronization of the Mammalian Circadian Clock: A Putative Redox-Regulation** • Diego Golombek, Universidad Nacional de Quilmes
- S113 Chronic Sleep Restriction Increases the Change in Systolic Blood Pressure Between Circadian Night and Day** • Andrew McHill, Harvard Medical School/Brigham and Women's Hospital

Monday, May 23

- M1 Correlation of Between Circadian Rest Activity Rhythm and Nucleic Acid Turnover in Patients With Metastatic Colorectal Cancer** • Sandrine Dulong, INSERM
- M2 *The MYC Oncogene Disrupts Circadian Rhythm and Metabolism in Cancer Through Modulation of REV-ERB and BMAL1** • Brian Altman, University of Pennsylvania Perelman School of Medicine
- M3 Active-Phase Restricted Feeding Restores the Blood Pressure Circadian Rhythm in Type 2 Diabetic db/db Mice** • Tianfei Hou, University of Kentucky
- M4 *Clock Genes Regulate Circadian Gating of Parturition and Gestation Length** • Carmel Martin-Fairey, Washington University
- M5 Magnetic Field Effects in *Drosophila melanogaster*** • Giorgio Fedele, University of Leicester
- M6 *Integration of Light Intensity Information Into the Clock Neuron Network of *Drosophila melanogaster*** • Matthias Schlichting, Brandeis University
- M7 An RNAi Screen for RNA Binding Proteins Controlling *Drosophila* Circadian Behavior** • Lauren Foley, UMass Medical School
- M8 *Genome-Wide Characterization of the Molecular Response of the Circadian Clockwork to Temperature in *Drosophila*** • Naveh Evantal, Hebrew University of Jerusalem
- M9 Light Induced Bursts in *Drosophila* Locomotion** • Stanislav Lazopulo, University of Miami
- M10 *Circadian Translational Profiling of the *Drosophila* Head Fat Body Reveals Potential Novel Roles for a Peripheral Oscillator** • Amy Yu, Tufts Medical School
- M11 *Diapause in *Drosophila melanogaster*** • Ane Martin Anduaga, University of Leicester
- M12 **Cold-Induced Period Transcription Links Environmental Temperature to the *Drosophila* Molecular Clock** • Akanksha Bafna, University of Southampton
- M13 #The Dopamine Transporter is Not Required for Entraining Circadian Rhythms to Scheduled Feeding** • Jennifer Enriquez, California State Polytechnic University, Pomona
- M14 Mapping Dopaminergic-D1R Circuitry That Mediate Circadian Entrainment to Feeding** • Andrew Steele, California State Polytechnic University, Pomona

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- M15 Time-Restricted Feeding of a High-Fat Diet Attenuates Its Deleterious Effects on Middle-Aged Mice** • Marilyn Duncan, University of Kentucky Medical School
- M16 Role of Gonadal Hormones in Food Anticipatory Activity in Response to Timed Restricted Feeding** • Jessica Krizo, Kent State University
- M17 #Decreased Food Anticipatory Activity of Obese (*Neotomodon Alstoni*) Mice Relates to Changes in Hypothalamic Fos Expression** • César Luna Illades, UNAM
- M18 Time Perception Relates to Cognitive Performance, Anxiety and Subjective Reports of Well-Being** • Natalia Bobko, Institute for Occupational Health, Kyiv, Ukraine
- M19 Objectively Measured Late-Morning Physical Activity Predicts Mortality in the NHANES 2003-2006 Cohorts** • Vadim Zipunnikov, Johns Hopkins Bloomberg School of Public Health
- M20 MEQ Predicts Optimal Performance Time in Addition to Morning-Evening Preference** • Martin Ralph, University of Toronto
- M21 Trends in Self-Reported Hourly Lighting and Sleep in a Global Dataset of Travelers** • Olivia Walch, University of Michigan
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- T6 *Drosophila* DH31 Neuropeptide and PDF Receptor Control Night-Onset Temperature Preference** • Tadahiro Goda, Cincinnati Children's Hospital Medical Center
- T7 Ion Channels that Regulate Neuronal Physiology and Circadian Behavior in *Drosophila melanogaster*** • Nara Ines Muraro, Instituto de Investigación en Biomedicina de Buenos Aires (IBioBA)-CONICET-MPSP
- T8 Regulation of Chromatin Accessibility on CLOCK/CYCLE Direct Targets in *Drosophila*** • Katharine Abruzzi, Howard Hughes Medical Institute; Brandeis University

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- T69 Time Restricted Foraging Activity and Clock Gene Expression in Honey Bees** • Rikesh Jain, National Centre for Biological Sciences-Tata Institute of Fundamental Research, Bangalore, India
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Innisbrook Resort Information

Travel:

- Innisbrook offers complimentary on property transportation. Please dial '0' to arrange a pickup.
- Innisbrook Resort guests benefit from car rental special rates provided by Enterprise Rent-A Car. To take advantage of the special rates, call 727-942-3155.
- Innisbrook offers courtesy transportation to and from nearby Honeymoon Island Beach and Caladesi Island ferry. Please dial '0' for the operator from any house phone to inquire about times and availability.

Resort Dining:

Innisbrook hosts six restaurants on property with a diverse range of cuisine. Hours of operation vary slightly throughout the year; please call to check availability.

- Turnberry Pub (Breakfast, Lunch)
- Market Salamander Grill (Breakfast, Lunch, Dinner)
- Packard's Steakhouse (Dinner, Evening Bar)
- Loch Ness Bar & Grill (Mid Day to Early Evening)
- Osprey Bar (Lunch, Dinner, Evening Bar)
- Room Service (Breakfast, Lunch, Dinner)

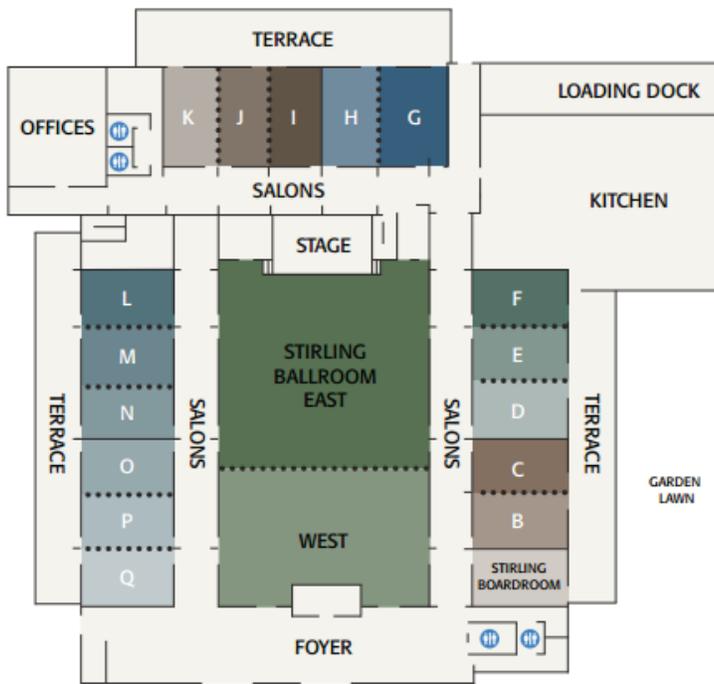
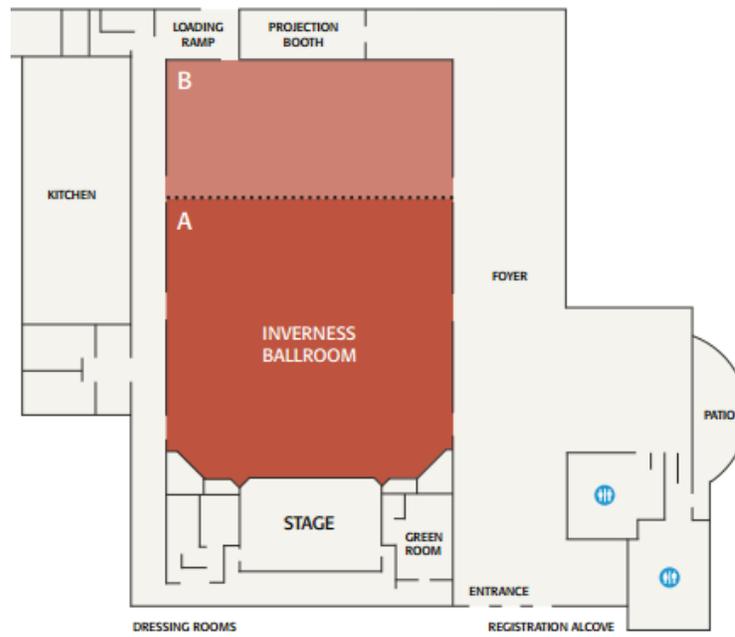
Resort Activities:

Please dial '0' from any house phone to inquire about availability and pricing.

- **Golf.** Innisbrook's four golf courses are considered some of the best in the world, including Copperhead Course, home to the PGA TOUR's Valspar Championship. Additional fees apply.
- **Retreat to Indaba Spa.** Innisbrook's new 18,000 square-foot spa, salon and fitness center. Reservations recommended.
- **Fitness Center.** The 4,800-square-foot facility features elliptical machines, exercise bikes, treadmills and free weight equipment and fitness classes. Access is complimentary for all guests.
- **Tennis.** Innisbrook's Tennis Center offers 11 Har-Tru® courts, with seven lighted for night play, a pro shop and 3 racquetball courts. Rental fees apply.
- **Water Activities.** The resort features six different pools and are temperature controlled. The Copperhead, Island and Loch Ness pools provide food and beverage service.
- **Resort's Natural Landscape.** 900 acres of undulating landscape, large expanses of open space and protected wetland areas. Take advantage of the nature trails and bike rental service.
- **Activities for Kids.**
 - Camp Nessie - offers a safe and enjoyable place for kids with great crafts, exciting games and lots of fun in the sun.
 - Camp Nessie Kids Night Out - Every Friday & Saturday night, 6pm - 10pm. \$40 per child and includes dinner.
 - Enjoy other Family Activities including: basketball, volleyball, miniature golf, shuffle board, racquetball, bike rentals, fishing, nature trails and kid's camps.

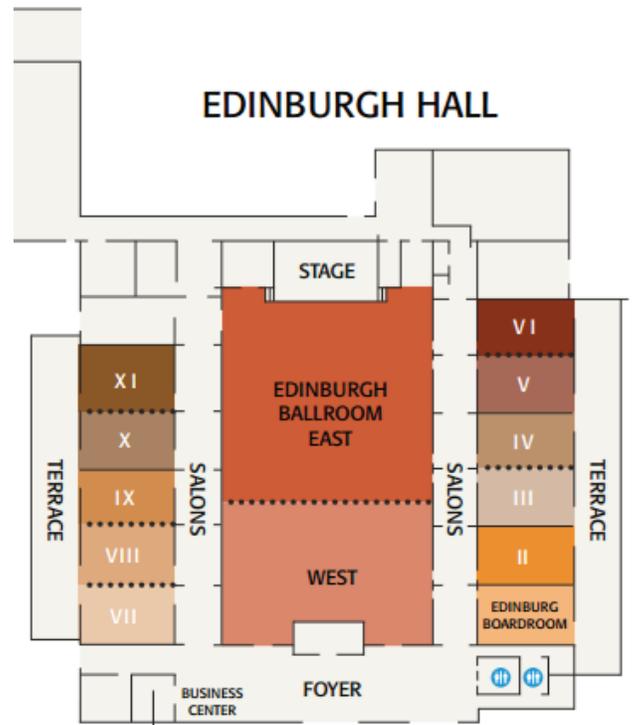
Conference Center Floor Plans

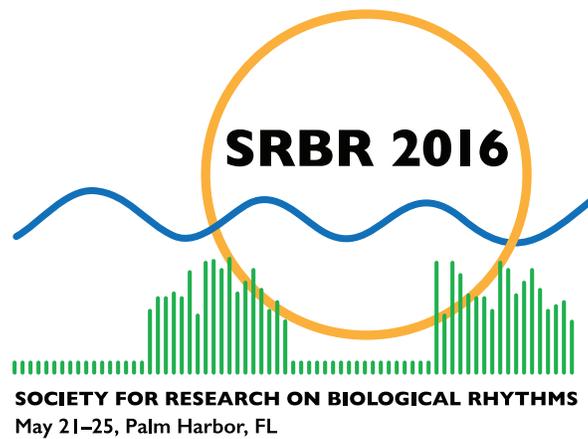
INVERNESS HALL



STIRLING HALL

EDINBURGH HALL





Logo Contest Winners

Winning Design (center)

Louise Hansen
Graduate Student
University of Edinburgh

1st Runner Up (left)

Alicia Michael
Graduate Student
University of California, Santa Cruz

2nd Runner Up (right)

Marie Pariollaud
Graduate Student
University of Manchester