



**Society for Research on  
Biological Rhythms**

**SRBR 20  
20**

**June 1 – 3, 2020 • virtual meeting**

# President's Welcome to SRBR 2020



Welcome to the 17<sup>th</sup> SRBR meeting, our first to be held entirely online, and our first to be conducted during a global pandemic. As I write this, over 700 scientists, physicians, industry representatives and patient advocates have registered in solidarity. At this meeting, you will have the opportunity to hear live (synchronous) and recorded (asynchronous) presentations. Dr. Katja Lamia, Program Chair, has moved what was to be an onsite meeting in Florida to an online meeting on Zoom. All of it. She moved the entire 5-day meeting into 21 hours of live streaming and recorded content.

So, this is a meeting of firsts. Please enjoy the symposia, slide sessions, and posters. Come ready for the debate on “what can a single sample tell us about body time?” Listen to the lessons learned from the Presidential Symposium speakers, Ying-hui Fu and Julie Flygare, and the Pittendrigh-Aschoff lecturer, Amita Sehgal. Meet the professors. Visit the exhibitors. Some of us may suffer from the intense schedule and the presentations in the middle of our subjective night, but all of us will be contributing to the first SRBR meeting when our colleagues from Asia will not have travelled across 13 time zones and our trainees will not be condemned to sitting in a dark conference hall on a beautiful day.

To make this work, you can plan ahead. From June 1-3, you will receive daily emails with a Zoom link to each presentation or session. Most sessions will be recorded so that, for the first time, you don't have to miss any of the concurrent presentations. All of us who have registered will have online access to the recordings through July 3, 2020. You can ask questions through multiple, multimedia modes.

Some things remain the same. To encourage speakers to present their latest, do not take images of the presentations. To encourage positive interactions, respect the perspectives of all attendees. Remember, even the chat windows will be saved. It is up to all of us to make it work.

We considered canceling this meeting. We realized in March that travel to Florida was becoming exponentially riskier and many meetings were being cancelled. We opted to not give up. We could not wait until our next meeting (i.e. “see you in Amelia Island, 2022!”) and were compelled by these objectives: 1) to serve our need to share the best research in biological rhythms NOW, 2) to gain insight from our colleagues who come with diverse perspectives and backgrounds NOW, 3) to establish connections and promote our trainees NOW and 3) to not spread SARS-Cov2.

“If you are always trying to be normal, you will never know how amazing you can be.”

--Maya Angelou, poet, activist, and St. Louis native

This meeting would not have been possible without the exceptional service of several SRBR members. Katja Lamia and her Program Committee selected 99 speakers and 461 poster presenters from over 40 countries. Joanna Chiu and her Awards Committee reviewed over 240 abstract submissions from trainees. Horacio de la Iglesia raised over \$60,000 from government grants and corporate sponsors to support trainees' registration for the meeting. Ilia Karatsoreos and Jenn Evans worked expertly to move Professional Development, Trainee Day and Junior Faculty Day into an online, year-long, format. Sheena de Giorgio, Dawn Kegl, Julie Cauthen, and Catherine West at Parthenon Management Group rose to the challenge and created the infrastructure for this online meeting. The SRBR Board of Directors who served with me for the past two years has been amazing through all of this. I thank all of them for their dedication to see this meeting happen and I thank all of you for attending and sharing your insights to make this meeting succeed.

Best wishes for a great meeting and be well,

*Erik Herzog*

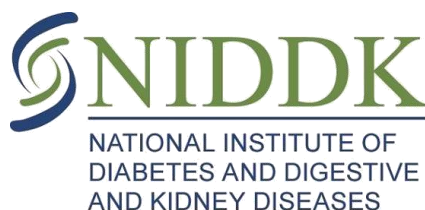
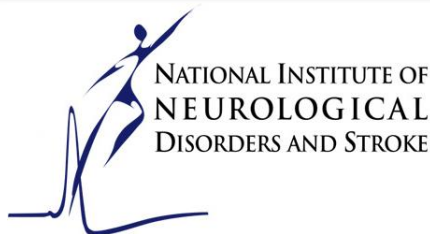
SRBR President, 2018-2020

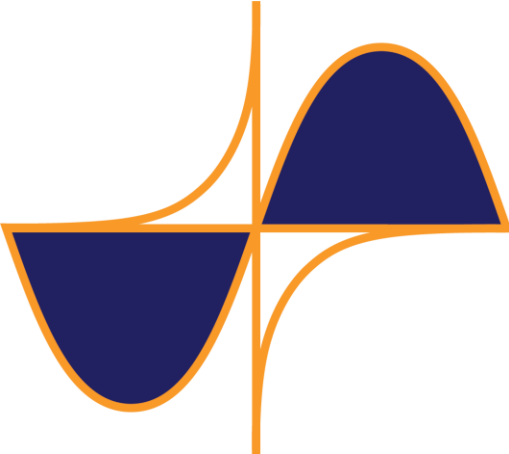
# Thanks!

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thank you!

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WITH US!

Share your favorite sessions and moments of the SRBR virtual meeting!

# #SRBR2020





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The **Rhythm Makers** is made up of members and friends of the society that are changing the world of biological rhythms together! This general giving campaign offers the flexibility to give a one-time gift or a monthly recurring gift at any level you choose.



Past Presidents Fund

This year, SRBR launched a very special fundraising effort, the creation of **the Past President's Fund**. This fund will provide a special opportunity for all SRBR Past Presidents to continue their service to, and their leadership within SRBR through an annual gift.

**[SRBR.ORG/ABOUT-US/SRBRDONATION](https://SRBR.ORG/ABOUT-US/SRBRDONATION)**

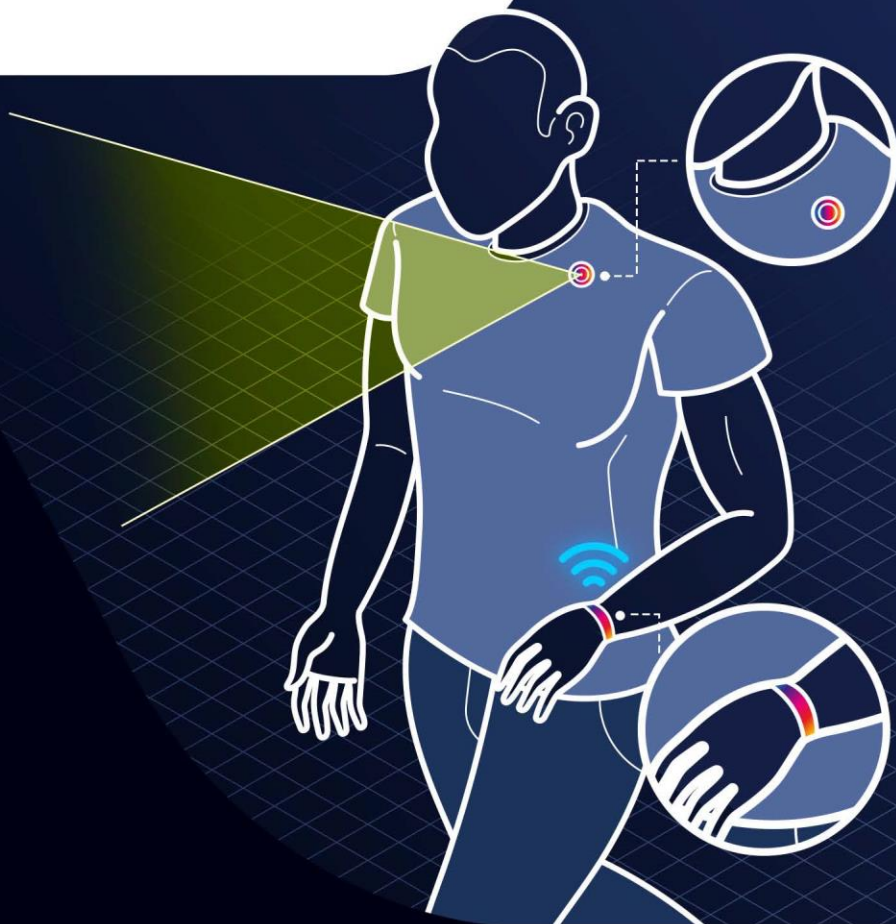


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by Condor Instruments

## Introducing Rhythmeter Platform

The Rhythmeter is a new platform developed by Condor Instruments with the concept of flexibility without compromising accuracy. Wrist actigraphy devices are great for tracking activities, but have always had disadvantages in light exposure and temperature measurements. The Rhythmeter takes advantage of the simplified operation of the wireless connection, allowing the simultaneous positioning of several devices across the subject's body, without added complexity.



Bluetooth  
connection



Spectral light  
measurement



Cloud storage



Versatile usage

- ✓ Clothes attachment for better estimation of light exposure of the subject's eyes
- ✓ Wrist placement for proven sleep estimation
- ✓ Seamless interface to Condor Cloud with automatic upload.

Want to know more about Rhythmeter?  
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## 2020 VIRTUAL CONFERENCE SCHEDULE

*Please Note:* This is an overview of the schedule. To view the full schedule, abstracts and assigned virtual meeting rooms, visit the itinerary planner [here](#). You must be logged-in to the SRBR website to view the itinerary planner. If you are not logged-in, the system will prompt you to do so. Only those registered for the 2020 SRBR Virtual Conference can view the itinerary planner.

### SUNDAY, MAY 31

#### TRAINEE AND PROFESSIONAL DEVELOPMENT SESSIONS | 1:00 PM – 3:00 PM ET

##### **Trainee and Professional Development Kickoff Event (For Trainees Only)**

HOW I GOT HERE: THE LONG AND WINDING ROAD

*Chair: Elizabeth Klerman, Brigham and Women's Hospital, Inc*

##### **Trainee and Professional Development “Positive Feedback Looping” Event (For Trainees Only)**

#### JUNIOR FACULTY SESSIONS | 1:00 PM – 3:00 PM ET

##### **SESSION 1 - NAVIGATING THE FUNDING ENVIRONMENT: HOW TO OPTIMIZE YOUR EFFORTS**

*Moderator: Jennifer Evans, Marquette University*

*Panelist: Michael Sesma, National Institutes of Health*

*Panelist: Joanna Chiu, University of California Davis*

*Panelist: Floh Thiels, National Science Foundation*

*Panelist: Steven Brown, University of Zurich*

##### **SESSION 2 - EFFECTIVE COMMUNICATION STRATEGIES FOR RESEARCH SUCCESS**

*Moderator: Jennifer Evans, Marquette University*

*Panelist: Joseph Takahashi, University of Texas Southwestern/Howard Hughes Medical Institute*

*Panelist: Amita Sehgal, University of Pennsylvania*

*Moderator: Luciano DiTacchio, University of Kansas Medical Center*

##### **SESSION 3 - MANAGING A SUCCESSFUL LAB IN ACADEMIA AND BEYOND**

*Moderator: Jerome Menet, Texas A&M University*

*Panelist: Carrie Partch, University of California, Santa Cruz*

*Panelist: Horacio de la Iglesia, University of Washington*



# MONDAY, JUNE 1

## OPENING REMARKS | 8:30 AM – 9:00 AM ET

Erik Herzog, Ph.D., SRBR President, Washington University in St. Louis

## CONCURRENT SYMPOSIA SESSIONS | 9:00 AM – 11:00 AM ET

### **SYM01: SLEEP IMPACTS IN HEALTH AND PHYSIOLOGY**

Chair: Till Roenneberg, Institute for Medical Psychology  
Speaker: Maria Robles, Institute of Medical Psychology, LMU, Munich  
Speaker: Debra J. Skene, University of Surrey  
Speaker: Sara Aton, University of Michigan  
Speaker: Qinghau Liu, National Institute of Biological Sciences, Beijing

### **SYM02: MOVING CHRONOBIOLOGY TOWARD THE CLINIC**

Chair: Tsuyoshi Hirota, Nagoya University  
Speaker: John Hogenesch, Cincinnati Children's Hospital Medical Center  
Speaker: Erquan Zhang, NIBS, Beijing  
Speaker: Seung-Hee Yoo, UT Health Science Center at Houston  
Speaker: Tami Martino, University of Guelph

### **SYM03: KILLING TIME: RHYTHMS IN INFECTIOUS DISEASE\***

Chair: Sarah Reece, University of Edinburgh  
Speaker: Jose Pruneda-Paz, University of California - San Diego  
Speaker: Jane McKeating, University of Oxford  
Speaker: Micaela Martinez, Columbia University  
Speaker: Qinglu Zeng, The Hong Kong University of Science and Technology

### **SYM04: CHRONOBIOLOGY MEETS ECOLOGY**

Chair: Kristin Tessmar-Raible, University of Vienna/ MFPL  
Speaker: Angela Falciatore, Institut de Biologie Physico-Chimique  
Speaker: Guy Bloch, Hebrew University of Jerusalem  
Speaker: Hanspeter Herzel, Institute for Theoretical Biology  
Speaker: Roelof Hut, University of Groningen

## SLIDE SESSIONS | 11:30 AM – 12:30 PM ET

### **SLIDE SESSION A: LIGHT & CIRCADIAN TIMING\***

#### **CRYPTOCHROME 1 MEDIATES LIGHT-DEPENDENT INCLINATION MAGNETOSENSING IN MONARCH BUTTERFLIES**

*Presenter: Guijun Wan, Texas A&M University*

#### **CIRCADIAN ENTRAINMENT OF THE SCN EX VIVO USING LONG-TERM OPTOGENETIC STIMULATION**

*Presenter: Suil Kim, Vanderbilt University*

#### **LIGHT RECEPTORS REQUIRED FOR A MOONLIGHT-SENSITIVE CIRCALUNIDIAN TIMING SYSTEM OF A MARINE BROADCAST SPawner**

*Presenter: Martin Zurl, Max Perutz Labs - University of Vienna*

#### **SENSITIVITY OF THE CIRCADIAN CLOCK TO THE INTENSITY OF EVENING LIGHT IN PRESCHOOL-AGED CHILDREN**

*Presenter: Lauren Hartstein, The University of Colorado Boulder*

#### **LIGHTING PARAMETERS THAT EFFECTIVELY CONTROL CIRCADIAN PHASE IN HUMANS**

*Presenter: Alexandra Neitz, University of Washington*

#### **ILLUMINATING THE PLANT CALENDAR**

*Presenter: Joshua Gendron, Yale University*

## SLIDE SESSION B: NEURONAL CLOCKS

CIRCADIAN CIRCUITS UNDERLYING DAILY RHYTHMS IN CORTICOSTERONE RELEASE

*Presenter: Jeff Jones, Washington University in St. Louis*

CIRCADIAN PHASE INFERENCE IN SINGLE-CELL RNA-SEQ

*Presenter: Benjamin Auerbach, Perelman School of Medicine University of Pennsylvania*

TIMEKEEPING IN THE HINDBRAIN: DAILY VARIATION IN MOLECULAR AND NEURONAL ACTIVITIES IN THE MOUSE AREA POSTREMA AND NUCLEUS OF THE SOLITARY TRACT

*Presenter: Hugh Piggins, University of Bristol*

PRENATAL CIRCADIAN RHYTHM DISRUPTION INDUCES SEX-SPECIFIC SUBSTANCE USE-RELATED PHENOTYPES IN MICE

*Presenter: Lauren DePoy, University of Pittsburgh*

FEAR ENTRAINMENT IN THE MOUSE: THE EFFECT ON PERIPHERAL TISSUES AND THE STRESS AXIS

*Presenter: Ivana Bussi, Department of Biology, University of Washington*

CIRCADIAN REGULATION OF OLIGODENDROGLIAL LINEAGE CELLS IN WHITE MATTER DEVELOPMENT

*Presenter: Erin Gibson, Stanford University*

## SLIDE SESSION C: CORE CLOCK DYNAMICS

CHRONO TARGETS THE BMAL1 TRANSACTIVATION DOMAIN TO REPRESS TRANSCRIPTION BY CLOCK:BMAL1

*Presenter: Priya Crosby, University of California, Santa Cruz*

CK2A REGULATES NUCLEAR EXPORT OF TIMELESS AND INFLUENCES TRANSCRIPTIONAL ACTIVITY OF CLOCK

*Presenter: Yao Cai, University of California Davis*

STRUCTURAL BASIS FOR KAIC REGULATION BY PHASE-DEPENDENT PHOSPHORYLATION

*Presenter: Jeff Swan, UC Santa Cruz*

INSIGHTS INTO NEGATIVE ARM CORE CLOCK INTERACTIONS OF NEUROSPORA CRASSA USING SHORT PEPTIDE AFFINITY ANALYSIS (SPAA)

*Presenter: Meaghan Jankowski, Rensselaer Polytechnic Institute*

FKBP5 REGULATES THE ROBUSTNESS OF THE CIRCADIAN CLOCK

*Presenter: Sibel Cal Kayitmazbatir, Cincinnati Children's Hospital Medical Center*

STATISTICAL MODELS FOR MULTIMODAL LONG-DURATION CIRCADIAN RECORDINGS

*Presenter: John Abel, Harvard Medical School / Massachusetts General Hospital*

## CONCURRENT SYMPOSIA SESSIONS | 1:00 PM – 3:00 PM ET

### **SYM05: KONOPKA SYMPOSIUM: BIOLOGICAL RHYTHMS BEYOND 24 HOURS\***

*Chair: Michael Rust, University of Chicago*

*Speaker: Oren Levy, Bar-Ilan University*

*Speaker: Mary Teruel, Stanford University*

*Speaker: Qiong Yang, University of Michigan*

*Speaker: Alina Simerzin, Harvard Medical School*

#### **SYM06: IMPACT OF LIGHT EXPOSURE ON PHYSICAL AND MENTAL HEALTH\***

*Chair: Christine Merlin, Texas A&M University*

*Speaker: Claudia Moreno, School of Public Health, University of São Paulo*

*Speaker: Horacio de la Iglesia, University of Washington*

*Speaker: Sheyum Syed, University of Miami*

*Speaker: Diego Fernandez, National Institute of Mental Health*

#### **SYM07: CIRCADIAN CONTROL OF THE IMMUNE RESPONSE\***

*Chair: Annie Curtis, Royal College of Surgeons in Ireland*

*Speaker: Christoph Scheiermann, Ludwig-Maximilians-University Munich*

*Speaker: Julie Gibbs, University of Manchester*

*Speaker: Rachel Edgar, Imperial College London*

*Speaker: Erik Musiek, Washington Univ. School of Medicine in St. Louis*

### **POSTER Q&A SESSIONS AND EXHIBITORS | 3:00 PM – 5:00 PM ET**

### **MEET THE PROFESSORS I | 4:00 PM – 5:00 PM ET**

*This event is for pre-registered attendees only.*

### **PRESIDENTIAL SYMPOSIUM | 5:00 PM – 6:00 PM ET**

#### **PRESIDENTIAL LECTURE**

*Chair: Julie Flygare, Project Sleep*

#### **PRESIDENTIAL LECTURE: PIECING TOGETHER SLEEP PUZZLE BY HUMAN GENETICS**

*Chair: Ying-Hui Fu, University of California San Francisco*

## **TUESDAY, JUNE 2**

### **CONCURRENT SYMPOSIA SESSIONS | 9:00 AM – 11:00 AM ET**

#### **SYM08: A DAY IN THE LIFE OF RNA**

*Chair: Patrick Emery, University of Massachusetts Medical School*

*Speaker: Sebastian Kadener, Brandeis University*

*Speaker: Stacey Harmer, UC Davis*

*Speaker: Kazuhiro Yagita, Kyoto Prefectural University of Medicine*

*Speaker: Michael Rosbash, HHMI/Brandeis University*

#### **SYM09: METABOLIC RHYTHMS ACROSS DIVERSE SPECIES**

*Chair: Todd Holmes, University of California at Irvine School of Medicine*

*Speaker: Jean-Michel Fustin, The University of Manchester*

*Speaker: Helen Causton, Columbia University Medical School*

*Speaker: Clara Peek, Northwestern University*

*Speaker: Gerben van Ooijen, University of Edinburgh*

#### **SYM10: PHOTORECEPTION, CLOCKS, AND METABOLISM, OH MY!: UNEXPECTED FUNCTIONS OF CRY**

*Chair: Brian Crane, Cornell University*

*Speaker: Brian Zoltowski, Southern Methodist University*

*Speaker: Carrie Partch, University of California, Santa Cruz*

*Speaker: Chandra Tucker, University of Colorado, Denver*

*Speaker: Arisa Hirano, University of Tsukuba, Faculty of medicine*

## **SYM11: INFLUENCE OF TIMING ON DISEASES OF AGING\***

*Chair: Carla Finkielstein, Virginia Polytechnic Institute and State University*

*Speaker: Brian Altman, University of Rochester Medical Center*

*Speaker: Karen Gamble, University of Alabama at Birmingham*

*Speaker: Juleen Zierath, Karolinska Institutet*

*Speaker: Victoria Acosta-Rodríguez, University of Texas Southwestern Medical Center*

## **SLIDE SESSIONS | 11:30 AM – 12:30 PM ET**

### **SLIDE SESSION D: CLOCKS & SLEEP**

**ROLE OF BRN3B IN INSTRUCTING INTRINSICALLY PHOTSENSITIVE RETINAL GANGLION CELL PROPERTIES**

*Presenter: Marcos Aranda, Northwestern University*

**INCREASING EXPRESSION OF THE PENTOSE PHOSPHATE PATHWAY AFFECTS SLEEP:WAKE CYCLES**

*Presenter: Jessica Schwarz, Perelman School of Medicine University of Pennsylvania*

**COMBINING SINGLE-CELL RNA SEQUENCING WITH A GPCR GUIDE LIBRARY REVEALS NEW PATHWAYS REGULATING SLEEP-WAKE CYCLES IN DROSOPHILA**

*Presenter: Matthias Schlichting, Brandeis University*

**CIRCADIAN VIPERGIC NEURONS OF THE SUPRACHIASMATIC NUCLEI DIRECTLY CONTROL SIESTA SLEEP**

*Presenter: Sara Pierre Ferrer, University of Zurich- Prof. Dr. Steven Brown*

**GLIAL ECDYSONE SIGNALING MODULATES SLEEP IN DROSOPHILA**

*Presenter: Yongjun Li, Howard Hughes Medical Institute, Department of Biology, Chronobiology and Sleep Institute, University of Pennsylvania*

**SEASONAL ADAPTATION OF DROSOPHILA SLEEP-WAKE CYCLES BY PDF-REGULATED REPURPOSING OF AN OSCILLATOR**

*Presenter: Abhishek Chatterjee, NeuroPSI, CNRS*

**CHRONIC CIRCADIAN MISALIGNMENT INDUCES CARDIOMETABOLIC DYSFUNCTION AND ABLATES PHYSIOLOGICAL RHYTHMS IN MICE**

*Presenter: Sean Anderson, Institute for Translational Medicine and Therapeutics, University of Pennsylvania*

### **SLIDE SESSION E: DISRUPTION & DISEASE\***

**SHORT-TERM EXPOSURE TO INTERMITTENT HYPOXIA IN MICE LEADS TO CHANGES IN GENE EXPRESSION SEEN IN CHRONIC PULMONARY DISEASE**

*Presenter: David Smith, Cincinnati Children's Hospital Medical Center*

**INVESTIGATING THE EFFECTS OF CIRCADIAN DISRUPTION AND CLOCK PROTEIN CRY2 ON LUNG TUMORIGENESIS**

*Presenter: Marie Pariollaud, The Scripps Research Institute*

**CIRCADIAN CONTROL OF HEPARAN SULFATE EXPRESSION PLAYS A KEY ROLE IN MACROPHAGE PHAGOCYTOSIS OF AMYLOID-BETA**

*Presenter: Gretchen Clark, Rensselaer Polytechnic Institute*

**REVERB-ALPHA ALTERS THE DEVELOPMENT OF PULMONARY FIBROSIS**

*Presenter: John Blaikley, The University of Manchester*

**CELLULAR AND PHYSIOLOGICAL CIRCADIAN MECHANISMS DRIVE DIURNAL CELL PROLIFERATION AND EXPANSION OF WHITE ADIPOSE TISSUE**

*Presenter: Kristin Eckel-Mahan, University of Texas McGovern Medical School*

## SLIDE SESSION F: SEASONALITY & BIOENERGETICS\*

BACTERIA ALSO PREPARE FOR WINTER: EVIDENCE OF PHOTOPERIODISM IN A CYANOBACTERIA

*Presenter: Maria Luisa Jabbur, Vanderbilt University*

EXERCISE IS A ZEITGEBER FOR THE SKELETAL MUSCLE MOLECULAR CLOCK

*Presenter: Christopher Wolff, University of Florida*

TISSUE-AUTONOMOUS REGULATION OF ADIPOSE EXPANSION BY CORE CLOCK PROTEIN REVERBA

*Presenter: Louise Hunter, University of Manchester*

BIOENERGETIC BASIS FOR ADIPOCYTE METABOLIC RESPONSES DURING FEEDING-FASTING RHYTHMS

*Presenter: Chelsea Hepler, Northwestern University*

COUPLING OF LIVER OSCILLATORS IN THE ABSENCE OF A FUNCTIONAL CENTRAL CLOCK

*Presenter: Flore Sinturel, University of Geneva*

NAD(H) BALANCE DRIVES EPIGENETIC AND METABOLIC CYCLES WITH CALORIC RESTRICTION IN MAMMALS

*Presenter: Daniel Levine, Northwestern University*

## POSTER SESSION II | 1:00 PM – 3:00 PM ET

## MEET THE PROFESSORS II | 2:00 PM – 3:00 PM ET

*This event is for pre-registered attendees only.*

## CONCURRENT SYMPOSIA SESSIONS | 3:00 PM – 5:00 PM ET

### **SYM12: MELATONIN: A KEY REGULATOR OF CIRCADIAN RHYTHMS, SLEEP AND GLUCOSE METABOLISM\***

*Chair: Gianluca Tosini, Morehouse School of Medicine*

*Speaker: Vadim Cherezov, University of Southern California*

*Speaker: Ralf Jockers, Institut Cochin*

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

*Speaker: Elizabeth Klerman, Brigham and Women's Hospital, Inc*

### **SYM13: TEMPORAL DYNAMICS OF CHROMOSOMAL CONFORMATIONS & CHROMATIN STATES\***

*Chair: Anita Gondor, Karolinska Institutet*

*Speaker: Felix Naef, EPFL*

*Speaker: Mitchell Lazar, University of Pennsylvania*

*Speaker: Janine LaSalle, University of California - Davis*

*Speaker: Juan Alvarez-Dominguez, Department of Stem Cell and Regenerative Biology, Harvard Stem Cell Institute, Harvard University*

### **SYM14: INTEGRATION OF ENVIRONMENTAL SIGNALS INTO CIRCADIAN SYSTEMS**

*Chair: Jennifer Hurley, Rensselaer Polytechnic Institute*

*Speaker: Susan Cohen, California State University, Los Angeles*

*Speaker: Xinnian Dong, Duke University*

*Speaker: Ilia Karatsoreos, University of Massachusetts*

*Speaker: Mariana Figueiro, Lighting Research Center, Rensselaer Polytechnic Institute*

### **SYM15: RHYTHMS IN METABOLISM & METABOLIC DISEASE\***

*Chair: Charna Dibner, University of Geneva*

*Speaker: Joe Bass, Northwestern University*

*Speaker: Henriette Uhlenhaut, TUM School of Life Sciences*

*Speaker: Rajat Singh, Albert Einstein College of Medicine*

*Speaker: Satchidananda Panda, Salk Institute for Biological Studies*

## SRBR Debate: What can we know from a single time sample?" | 5:00 PM – 6:00 PM ET

Moderated by Hiroki Ueda: Derk Jan Dijk, Jacob Hughey, Achim Kramer, Rosemary Braun, Takeshi Izawa



## WEDNESDAY, JUNE 3

Concurrent Symposia Sessions | 9:00 AM – 11:00 AM ET

### **SYM16: MOLECULAR MECHANISMS UNDERLYING CIRCADIAN RHYTHMS\***

*Chair: David Gatfield, University of Lausanne*

*Speaker: Eva Wolf, IMB and University Mainz*

*Speaker: Antony Dodd, John Innes Centre*

*Speaker: Susan Golden, University of California - San Diego*

*Speaker: Achim Kramer, Charité - Universitätsmedizin Berlin*

### **SYM17: CIRCADIAN CLOCK DEVELOPMENT**

*Chair: Jennifer Evans, Marquette University*

*Speaker: Tiffany Schmidt, Northwestern University*

*Speaker: Daisuke Ono, Nagoya university*

*Speaker: Seth Blackshaw, Johns Hopkins University School of Medicine, Department of Neuroscience*

*Speaker: Jennifer Evans, Marquette University*

### **SYM18: EXPLOITING HUMAN VARIATION TO UNDERSTAND PHYSIOLOGY AND DISEASE\***

*Chair: David Ray, University of Manchester*

*Speaker: Richa Saxena, Massachusetts General Hospital*

*Speaker: Kristen Knutson, Feinberg School of Medicine, Northwestern University, Chicago*

*Speaker: Eva Schernhammer, Harvard Medical School*

*Speaker: Wendy Hwang-Verslues, Genomics Research Center, Academia Sinica*

**Pittendrigh/Aschoff Lecture | 11:30 AM – 12:30 PM ET**

SRBR President-Elect: Amita Sehgal, Ph.D., University of Pennsylvania





# VIRTUAL POSTER SESSIONS

*Please Note:* This is an overview of the poster schedule. To view the virtual session room for each poster, visit the itinerary planner [here](#). You must be logged-in to the SRBR website to view the itinerary planner. If you are not logged-in, the system will prompt you to do so. Only those registered for the 2020 SRBR Virtual Conference can view the itinerary planner

## MONDAY, JUNE 1

M. CIRCADIAN DISRUPTION IN PUBERTAL MICE FED A HIGH-FAT DIET  
Lin Yan, USDA ARS Grand Forks Human Nutr Res Ctr

M. HABITAT SPECIFIC CLOCK VARIATION AND ITS CONSEQUENCE ON REPRODUCTIVE FITNESS  
Kwangwon Lee, Rutgers, The State University of New Jersey

M. ELUCIDATING THE ROLE OF A NOVEL CIRCADIAN TRANSCRIPT IN RETINA  
Surbhi Sharma, CSIR-IGIB

M. AGE-RELATED CHANGES IN THE CIRCADIAN VARIATION OF ALERTNESS AND TEMPERATURE IN WOMEN  
Rafael Perez Medina, Douglas Mental Health University Institute, McGill University

M. CIRCADIAN ADJUSTMENT OF POLICE OFFICERS AFTER A WEEK OF NIGHT SHIFTS  
Anastasi Kosmadopoulos, Douglas Mental Health University Institute, McGill University

M. SYSTEMS APPROACH REVEALS THE EFFICACY DETERMINANTS FOR A CIRCADIAN CLOCK MODULATOR: PHOTSENSITIVITY AND PER2 LEVEL  
Dae Wook Kim, KAIST

M. HARNESSING OXFORD NANOPORE TECHNOLOGY TO PRECISELY CATALOG RNA MODIFICATIONS IN HUMAN CORE CLOCK GENES  
Soundhar Ramasamy, ICEMS, Kyoto university

M. IDENTIFICATION OF SLEEP-PROMOTING CIRCUITS THROUGH ACTIVATION AND SILENCING SCREENS  
Clark Rosensweig, Northwestern University

M. CIRCADIAN STRUCTURAL PLASTICITY DRIVES A TIMED SWITCH IN THE HIERARCHY AMONG KEY PACEMAKER NEURONS  
Jose Duhart, Thomas Jefferson University

M. TIME OF DAY INFLUENCES PERFORMANCE IN OLYMPIC SWIMMERS  
Renske Lok, University of Groningen

M. THE BIOCLOCK STUDIO: FIVE YEARS OF STUDENT-LED CIRCADIAN BIOLOGY EDUCATIONAL RESOURCES

Karen Tonsfeldt, University of California San Diego

M. CIRCADIAN REGULATION OF LIGHT-EVOKED ATTRACTION/AVOIDANCE IN DAY- VS. NIGHT-BITING MOSQUITOES

Lisa Soyeon Baik, Yale University

M. ACTIVATION OF DORSAL RAPHE SEROTONERGIC NEURONS WITH EXCITATORY DREADDS DECREASES TIME-OF-DAY DIFFERENCES IN HPA AXIS ACTIVITY IN MALE RATS

Helen Strnad, University of Colorado at Boulder

M. WEEKEND LIGHT SHIFTS EVOKE PERSISTENT DROSOPHILA CIRCADIAN NEURAL NETWORK

Ceazar Nave, University of California Irvine

M. CHRONOTYPE, SOCIAL JETLAG AND MEAL TIMING IN THE SPANISH EPIC COHORT

Paula Jakszyn, Catalan Institute of Oncology

M. MATHEMATICAL MODELING OF RHYTHMIC GENE EXPRESSION: IMPACT OF NEGATIVE AUTOREGULATION ON AMPLITUDE PRESERVATION

Takayuki Ohara, Leibniz Institute for Farm Animal Biology

M. THE P75 NEUROTROPHIN RECEPTOR IN AGRP NEURONS IS NECESSARY FOR TIME OF DAY HOMEOSTATIC FEEDING AND FOOD ANTICIPATION

Brandon Podyma, University of Virginia

M. DETECTING ABSENCE OF RHYTHMICITY

Pal Westermarck, Leibniz Institute for Farm Animal Biology

M. FOOD ANTICIPATORY ACTIVITY IN ZINC TRANSPORTER-3 KNOCKOUT MICE

Mahtab Moshirpour, Hotchkiss Brain Institute, University of Calgary

M. IMPACT OF CHRONIC CIRCADIAN DISRUPTION DURING ALCOHOL WITHDRAWAL ON EMOTIONAL BEHAVIOR IN FEMALE RATS

Christiane Meyer, Concordia University, Center for Studies in Behavioral Neurobiology

M. DAILY EXPRESSION PATTERN OF HEME OXYGENASE IN THE BRAIN OF DROSOPHILA MELANOGASTER UNDER NORMAL AND STRESS CONDITIONS

Terence Al Abaquita, Jagiellonian University

M. SHOULD WE SLEEP OR STUDY?

Ignacio Estevan, Facultad de Psicología, Universidad de la República

M. SLEEP TIME  $\Delta$ -9-TETRAHYDROCANNABINOL (THC) RAISES NOCTURNAL BLOOD PRESSURE

Aidan Murray, University of Guelph

M. CIRCADIAN APPLICATIONS TO VETERINARY MEDICINE

Hesham Farag, University of Guelph

M. CORE CIRCADIAN CLOCK GENE EXPRESSION IN HUMAN ORAL CELLS UNDER HYPOXIA

Klara Janjic, University Clinic of Dentistry, Medical University of Vienna

M. WAVEFORMS OF MOLECULAR OSCILLATIONS REVEAL CIRCADIAN TIMEKEEPING MECHANISMS

Pan-Jun Kim, Department of Biology, Hong Kong Baptist University

M. THE INITIATION AND FUNCTION OF THE CIRCADIAN CLOCK IN REGULATING THE CHONDROGENIC POTENTIAL OF HUMAN EMBRYONIC STEM CELLS

Mark Naven, University of Manchester

M. CIRCADIAN RHYTHM-DEPENDENT PRIORITIZATION OF SOCIAL BEHAVIOR IS MODULATED BY SCN NEURONS

Han Kyoung Choe, Department of Brain and Cognitive Sciences, DGIST

M. JET LAG RECOVERY AND MEMORY ARE PHOTOPERIOD-DEPENDENT

Melissa Simmonds Richardson, Oakwood University

M. PROGRESS REPORT: CRYO-EM STRUCTURAL ANALYSIS OF MAMMALIAN CIRCADIAN CLOCK MULTI-PROTEIN COMPLEXES

Bay Serrano, Harvard Medical School

M. CHARACTERIZING THE POST-TRANSCRIPTIONAL REGULATION OF CIRCADIAN CLOCK GENES

Nathan Brownstein, Brandeis University

M. ELUCIDATING THE MECHANISTIC DISTINCTION OF DROSOPHILA CRYPTOCHROME'S ROLE IN LIGHT-EVOKED POTENTIAL AND CIRCADIAN CLOCK RESETTING

David Au, University of California, Irvine

M. EXPANSION OF THE CIRCADIAN TRANSCRIPTOME IN BRASSICA RAPA AND GENOME-WIDE DIVERSIFICATION OF PARALOG EXPRESSION PATTERNS

C. Robertson McClung, Dartmouth College

M. MODIFYING CYANOBACTERIAL CIRCADIAN CLOCK TO INCREASE EXPRESSION OF EXOGENOUS PRODUCTS

Pagkapol Yhew Pongsawakul, Mahidol University

M. CRYPTOCHROME 1 AS A STATE VARIABLE OF THE MAMMALIAN CIRCADIAN CLOCK: EVIDENCE FROM TRANSLATIONAL SWITCHING IN THE SCN

Michael Hastings, MRC Laboratory of Molecular Biology

M. EVENING CLOCK NEURONS AND THE PHOTORECEPTOR CRYPTOCHROME FUNCTION TO SUPPRESS HOMEOSTATIC SLEEP DRIVE IN THE EVENING

Tomas Andreani, Northwestern University

M. PHOTOPERIODISM IN SUBTERRANEAN RODENTS: LAB, FIELD AND MODELING

Gisele Oda, University of Sao Paulo

M. TRANSCRIPTIONAL SIGNATURES IN THE HUMAN POSTMORTEM BRAIN REVEAL ASSOCIATIONS BETWEEN MOLECULAR RHYTHM DISRUPTIONS AND OPIOID USE DISORDER

Micah Shelton, University of Pittsburgh School of Medicine

M. CIRCADIAN PHOTOENTRAINMENT THROUGH ROD/CONE INPUTS REQUIRES CIRCUITS OUTSIDE THE SUPRACHIASMATIC NUCLEUS

Alexis Nobleman, University of Maryland Baltimore County

M. A POSSIBLE DEGRADATION SWITCH OF REV-ERBA PROTEIN

Ting-Chung Suen, Morehouse School of Medicine

M. DISSECTING CENTRAL AND PERIPHERAL CLOCK FUNCTION IN NEUROINFLAMMATION AND NEURODEGENERATION

Melvin King, Washington University in St. Louis

M. PROPORTIONALITY BETWEEN PERIOD AND WAVEFORM DISTORTION, AND ITS USE FOR CIRCADIAN RHYTHMS

Shingo Gibo, RIKEN, Interdisciplinary Theoretical and Mathematical Sciences Program (iTHEMS)

M. CONTROLLING ENTRAINMENT PHASES

Hanspeter Herzel, Institute for Theoretical Biology

M. PHOTOPERIODIC PROGRAMMING, TEMPERATURE AND FOOD: SEASONAL MODIFIERS OF REPRODUCTION AND ULTRADIAN BEHAVIOR IN VOLES

Laura van Rosmalen, University of Groningen, the Netherlands

M. ASSESSING DAY-TO-DAY REGULARITY OF SLEEP-WAKE PATTERNS: THEORETICAL AND PRACTICAL IMPLICATIONS OF AVAILABLE METRICS

Dorothee Fischer, German Aerospace Center

M. LIGHT CAUSES DIVERSE SPATIOTEMPORAL MOLECULAR CHANGES IN THE CENTRAL PACEMAKER

Ruchi Komal, National Institute of Mental Health

M. CHRONOTYPE, CHRONIC CORTISOL LEVELS, AND THE EPIDEMIOLOGY OF SAD IN LOCAL AND REFUGEE POPULATIONS IN NORTHEASTERN USA

Krista Ingram, Colgate University

M. CONSEQUENCES OF DIM EVENING LIGHT EXPOSURE ON CIRCADIAN RHYTHMS AND BEHAVIOR

Selma Tir, Smith College

M. EFFECT OF SLEEPINESS, TIME OF DAY AND SHIFT WORK ON TOTAL ANTIOXIDANT CAPACITY

Lauren Fowler, University of South Carolina School of Medicine Greenville

M. NIGHT SHIFT SCHEDULE CAUSES CIRCADIAN DYSREGULATION OF DNA REPAIR GENES AND ELEVATED DNA DAMAGE IN HUMANS

Bala S. C. Koritala, Department of Otolaryngology, Cincinnati Children's Hospital Medical Center

M. SPATIOTEMPORAL REGULATION OF NADP(H) PHOSPHATASE NOCTURNIN

Isara Laothamatas, UT Southwestern Medical Center

M. THE EFFECT OF ENVIRONMENTAL CIRCADIAN DISRUPTION ON KIDNEY INJURY IN SPONTANEOUSLY HYPERTENSIVE STROKE PRONE RATS

Atlantis Hill, Morehouse School of Medicine

M. THE EFFECT OF LIGHT COLOR ON MILK PRODUCTION AND HEALTH OF DAIRY COWS

Laura Kervezee, Leiden University Medical Center

M. HACKING THE CIRCADIAN SYSTEM WITH FLASHED LIGHT

Daniel Joyce, Stanford University

M. BEHAVIORAL RHYTHMS IN TWO MOUSE STRAINS DURING SPACEFLIGHT

Katrina Campbell, Northwestern University

M. IMPAIRED GLYCEMIC CONTROL DURING TRANSATLANTIC TRAVEL

Jennifer Blankenship, University of Colorado Anschutz Medical Campus

M. MERGING PROTEIN SEQUESTRATION AND PHOSPHORYLATION: A "BLACK WIDOW" MODEL OF THE CORE CIRCADIAN CLOCK

Jonathan Tyler, University of Michigan

M. CIRCADIAN DISRUPTION IN CARDIOMYOPATHIC HAMSTERS: A TEST OF THE INTERNAL DESYNCHRONY HYPOTHESIS

Eric Bittman, University of Massachusetts at Amherst

M. CIRCADIAN STRUCTURAL PLASTICITY IN THE ADULT BRAIN-WHAT DOES GLIA HAVE TO DO WITH IT?

Juan Ignacio Ispizua, Fundación Instituto Leloir

M. EXPRESSION OF CIRCADIAN FOOD ANTICIPATION IN REV-ERBA NULL MICE DEPENDS ON FEEDING CONDITION

Mateusz Michalik, Simon Fraser University

M. PATIENT STORY: THE NIGHT OWL UPRISING IS UPON US

Alexandra Wharton, Circadian Sleep Disorders Network

M. THE EFFECT OF DAYLIGHT SAVINGS TIME ON COLLEGE STUDENT SLEEP

Alicia Rice, University of Washington

M. TEMPERATURE MODULATION OF THE DAILY PERIODIC CHANGES IN THE DROSOPHILA COLOR PREFERENCE.

Stanislav Lazopulo, University of Miami

M. CIRCADIAN ENTRAINMENT TRIGGERS MATURATION OF HUMAN ISLET ORGANOIDs

Juan Alvarez-Dominguez, Harvard Stem Cell Institute, Harvard University



M. LIGHT-BASED METHODS FOR PREDICTING CIRCADIAN PHASE IN DELAYED SLEEP-WAKE PHASE DISORDER

Jade Murray, Monash University

M. CONTROL OF ADIPOGENESIS BY THE PHASE OF THE CELL-INTRINSIC CIRCADIAN CLOCK

Zhibo Zhang, Stanford University

M. UBE3A IMPRINTING IMPAIRS CIRCADIAN ROBUSTNESS

Shu-qun Shi, Vanderbilt University

M. DIFFERENTIAL REGULATION OF CYTOKINES DURING NOCTURNAL MIGRATORY RESTLESSNESS OF SONGBIRDS

Paul Bartell, Pennsylvania State University

M. SLEEP DISTURBANCE AND CHRONOTYPE IN ADULTS WITH TOURETTE'S DISORDER

Emily Ricketts, University of California, Los Angeles

M. BMAL1 MEDIATES METABOLIC AND GENOMIC REPROGRAMMING DURING ADAPTIVE MYOGENESIS UNDER ACUTE HYPOXIA

Pei Zhu, Northwestern University

M. LIGHT REDUCES HEAT LOSS IN HUMANS: A BRIGHT LIGHT FORCED DESYNCHRONY PROTOCOL

Roelof Hut, University of Groningen

M. SEASONAL CHANGES IN SLEEP TIMING AND PERFORMANCE IN COLLEGE UNDERGRADS

Gideon Dunster, National Institute of Mental Health

M. THERMOSENSITIVE SPLICING OF TIMELESS AND TEMPERATURE ADAPTATION IN DROSOPHILA

Ane Martin Anduaga, Brandeis University

M. CHARACTERIZATION OF A LIGHT-SENSITIVE MOOD REGULATING BRAIN REGION IN MICE

Tenley Weil, National Institute of Mental Health

M. OSTEOGENIC CHANGES IN THE INTERVERTEBRAL DISC DUE TO CIRCADIAN CLOCK DISRUPTION

Honor Morris, University of Manchester

M. IMPACT OF > 24-HR SUSTAINED WAKEFULNESS AND SUBSEQUENT RECOVERY SLEEP ON TIME-DEPENDENT CHANGES IN MICRORNA FACTORS OF INDIVIDUALS WITH POST-ACUTE PHASE MILD TRAUMATIC BRAIN INJURY (MTBI)

Allison Brager, Walter Reed Army Institute of Research

M. GENETIC PERTURBATION OF MTOR IS LINKED TO CIRCADIAN RHYTHM AND SLEEP DISORDERS

Mehari Mengistu, University of Florida

M. CONTRASTING CONTRIBUTIONS OF FOOD INTAKE AND THE MOLECULAR CLOCK TO BLOOD PRESSURE RHYTHMS IN MICE AND RATS

Megan Rhoads, The University of Alabama At Birmingham

M. AN EARLY MORNING LIGHT COUNTERMEASURE DID NOT IMPROVE ALERTNESS, PERFORMANCE, OR SLEEP OUTCOMES IN A RANDOMIZED CROSS-OVER TRIAL IN THE REAL-WORLD

Erin Flynn-Evans, NASA

M. NF-KB MODIFICATION OF THE MAMMALIAN CIRCADIAN CLOCK THROUGH INTERACTION WITH CORE CLOCK PROTEIN BMAL1

Yang Shen, University of Florida College of Medicine

M. CIRCADIAN AND HOMEOSTATIC REGULATION OF ANNELID 'SLEEP-LIKE' INACTIVITY

Mark Zoran, Texas A&M University

M. THE ROLE OF BMAL2 IN THE MAMMALIAN CIRCADIAN CLOCK FUNCTION

Yang Shen, University of Florida College of Medicine

M. INVESTIGATING THE INTEGRATION OF HYGROSENSATION INTO THE CIRCADIAN CLOCK

Musoki Mwimba, Duke University

M. CIRCADIAN TIMING OF FOOD INTAKE DOES NOT PREDICT WEIGHT LOSS SUCCESS IN AN 18-MONTH COMPREHENSIVE WEIGHT MANAGEMENT INTERVENTION

Felicia Steger, University of Alabama at Birmingham

M. BRIDGING TIME SCALES - CIRCADIAN INFLUENCE ON HIPPOCAMPAL SLEEP ACTIVITY AND CONNECTIVITY

Nicolette Ognjanovski, Leiden University Medical Center

M. LONGER AND MORE FREQUENT DAYTIME NAPS PREDICTS INCREASED RISK OF ALL-CAUSE DEATH IN COMMUNITY-BASED OLDER ADULTS

Arlen Gaba, Brigham and Women's Hospital

M. MACROPHAGE CIRCADIAN RHYTHMS ARE DIFFERENTIALLY AFFECTED BASED ON STIMULI

Sujeewa Sampath Lellupitiyage Don, University of Massachusetts, Amherst

M. DIFFERENT OSCILLATORY MECHANISMS BETWEEN SLNV AND DN1 IN DROSOPHILA CLOCK

Euimin Jeong, KAIST

M. INVESTIGATING THE CONTRIBUTION OF CIRCADIAN RHYTHM DISRUPTION TO SLEEP DYSREGULATION IN MYOTONIC DYSTROPHY TYPE 1 (DM1)

Belinda Pinto, University of Florida

M. MATHEMATICAL MODELING OF THE CROSSTALK BETWEEN REDOX OSCILLATIONS AND THE CANONICAL CIRCADIAN CLOCKWORK

Marta del Olmo, Institute for Theoretical Biology, Charite Berlin

M. ENDOGENOUS TAGGING OF PER AND CRY PROTEINS TO INVESTIGATE PROTEIN DYNAMICS ACROSS THE CIRCADIAN CYCLE IN HUMAN CELLS

Andrew Beale, MRC Laboratory of Molecular Biology

M. REST-ACTIVITY CYCLES AND MELATONIN PHASE ANGLE OF ENTRAINMENT IN PEOPLE WITHOUT DAYLIGHT VISION

Manuel Spitschan, University of Oxford

M. HUMAN BRAIN TEMPERATURE AROUND THE CLOCK – WHY KEEPING A COOL HEAD IS BEYOND YOUR CONTROL

Nina Rzechorzek, MRC Laboratory of Molecular Biology

M. INTERACTIONS OF PHOTIC AND FEEDING ZEITGEBERS ON PHYSIOLOGY AND BEHAVIOR IN BALB/CJ AND C57BL/6J MICE

O. Aung, Rider University

M. MODULATION OF HUMAN SLEEP BY THE MOON CYCLE IN A NATURAL ENVIRONMENT

Leandro Casiraghi, University of Washington

M. THE CIRCADIAN CLOCK MEDIATES THE SENSITIVITY TO OXIDATIVE STRESS IN PHOTORECEPTOR LIKE 661W CELLS

Kenkichi Baba, Morehouse School of Medicine

M. ESTROGEN REGULATES THE DAILY ACTIVITY RHYTHM AND INHIBITS DIET-INDUCED OBESITY IN MALE MICE

William Osborne, University of Kentucky

M. SIESTA: A MACHINE LEARNING-BASED APPROACH TO AUTOMATED SLEEP-STAGE SCORING IN RODENTS

Horacio de la Iglesia, University of Washington

M. HERITABLE GENE EXPRESSION VARIABILITY GOVERNS CLONAL HETEROGENEITY IN CIRCADIAN PERIOD

Achim Kramer, Charité - Universitätsmedizin Berlin

M. MOLECULAR SWITCHES IN A FUNGI CIRCADIAN CLOCK

Abhishek Upadhyay, Humboldt University of Berlin and Charite University of Medicine

M. CELLULAR HETEROGENEITY IN CIRCADIAN OSCILLATION DRIVEN BY DNA METHYLATION AND TRANSCRIPTIONAL NOISE

Yan Li, UT Southwestern Medical Center

M. NEONICOTINOIDS DISRUPT CIRCADIAN RHYTHMS AND SLEEP IN HONEY BEES

Manuel Giannoni-Guzmán, Vanderbilt University

M. EFFECT OF THE CIRCADIAN CLOCK ON CISPLATIN REPAIROME IN HUMAN COLORECTAL CANCER (CRC) XENOGRAFT

Yanyan Yang, University of North Carolina at Chapel Hill

M. THE ROLE OF THE PARAVENTRICULAR HYPOTHALAMUS IN THE RHYTHMIC REGULATION OF FEEDING AND METABOLISM

Rachel Van Drunen, The University of Texas Health Science Center At Houston

M. ENVIRONMENTAL CIRCADIAN DISRUPTION INDUCES DYSLIPIDEMIA IN MICE LACKING MELATONIN TYPE 1 RECEPTORS

Cynthia Tchio, Morehouse School of Medicine

M. INTRINSIC PROTEIN DISORDER IN THE NEGATIVE ARM OF THE CIRCADIAN CLOCK

Zachary Chase, Rensselaer Polytechnic Institute (Hurley Lab)

M. DOPAMINE SIGNALING IN THE SUPRACHIASMATIC NUCLEUS ENABLES WEIGHT GAIN ASSOCIATED WITH HEDONIC FEEDING

Ali Guler, University of Virginia

M. BMAL1 AND MEX3A COLLABORATIVELY GOVERN THE SUCCESSION BETWEEN LGR5+ AND BMI1+ INTESTINAL STEM CELLS TO REPAIR INTESTINAL DAMAGE

Fang-pei Chang, Genomics Research Center, Academia Sinica

M. SUBSTRAIN SPECIFIC BEHAVIORAL RESPONSES IN MALE C57BL6/N AND C57BL6/J MICE TO A SHORTENED 21-HOUR DAY AND HIGH-FAT DIET

Joseph Seggio, Bridgewater State University

M. CHARACTERIZATION OF MITOCHONDRIAL METABOLIC OSCILLATIONS IN LIVE RODENTS

Yeap Ng, National Institutes of Health

M. EVOLUTION OF CIRCADIAN RHYTHMS IN DROSOPHILA MELANOGASTER POPULATIONS REARED UNDER SEMI-NATURAL CONDITIONS

Chitrang Dani, Jawaharlal Nehru Centre for Advanced Scientific Research

M. CIRCANNUAL ALTERATIONS IN INTERVAL TIMER SPEED IN THE NORTHERN WHEATEAR (OENANTHE OENANTHE)

Madalyn Meyers, Pennsylvania State University

M. DECODING THE FUNCTION AND REGULATION OF THE MAMMALIAN 12H-CLOCK

Bokai Zhu, University of Pittsburgh

M. NEUROPEPTIDERGIC REGULATION OF DROSOPHILA LARVAL SLEEP

Amy Poe, University of Pennsylvania

M. CELLULAR AND PHYSIOLOGICAL CIRCADIAN MECHANISMS DRIVE DIURNAL CELL PROLIFERATION AND EXPANSION OF WHITE ADIPOSE TISSUE

Aleix Ribas, The University of Texas Health Science Center at Houston

M. ENCEPHALOPSIN (OPN3) IN THE DEVELOPING AND ADULT CENTRAL NERVOUS SYSTEM

Brian Upton, Cincinnati Children's Hospital Medical Center

M. DISRUPTION OF SUFR OR NTRC RESCUES GROWTH DEFECTS CAUSED BY KAIA-INACTIVATION IN SYNECHOCOCCUS UNDER DIURNAL CONDITIONS

Naohiro Kawamoto, Waseda University

M. POST-TRANSCRIPTIONAL CIRCADIAN REGULATION OF CELL CYCLE BY CORE CLOCK PROTEIN FREQUENCY IN NEUROSPORA CRASSA

Alexander Mosier, Rensselaer Polytechnic Institute

M. GASTRIN-RELEASING PEPTIDE NEURONS IN THE SUPRACHIASMATIC NUCLEUS PLAY AN ESSENTIAL ROLE IN BEHAVIORAL CIRCADIAN RHYTHM

Ruth Li, University of Tsukuba

M. ACCUMULATION OF CIRCADIAN REGULATOR BDBT CYTOSOLIC FOCI IS MODULATED BY LIGHT THROUGH BOTH CRYPTOCHROME AND RHODOPSIN1 PATHWAYS IN THE DROSOPHILA EYE

Richard Nolan, University of Missouri - Kansas City

M. ASSOCIATION BETWEEN TEMPERATURE CIRCADIAN RHYTHM AND INCIDENTS REPORTED BY MEDICAL RESIDENTS

Malena Mul Fedele, Chronophysiology Laboratory, Institute for Biomedical Research (UCA-CONICET) - Argentina

M. IDENTIFICATION OF REGULATORY ELEMENTS MEDIATING GENE EXPRESSION BY THE CIRCADIAN TRANSCRIPTION FACTOR ZFH3

Akanksha Bafna, Medical Research Council

M. CIRCADIAN CLOCK COORDINATES FEEDING BEHAVIOR AND GLUTAMINE FRUCTOSE-6-PHOSPHATE AMIDOTRANSFERASE (GFAT) ACTIVITY TO REGULATE TEMPORAL PHYSIOLOGY THROUGH PROTEIN O-GLCNACYLATION

Xianhui Liu, University of California, Davis

M. CONSTANT LIGHT INCREASES AGGRESSION IN GROUPED HOUSED FEMALE MICE

Julie Michaud, Bridgewater State University

M. A MECHANISTIC MODEL RECONCILING AVP AND VIP NEUROTRANSMISSION

Stephanie Taylor, Colby College

M. CHRONIC EXPOSURE TO DIM LIGHT AT NIGHT DOES NOT EXACERBATE ATHEROSCLEROSIS IN APOLIPOPROTEINE-DEFICIENT MALE MICE

Victoria Johnson, University of Kentucky Department of Biology

M. ELIMINATION OF PERINEURONAL NETS FROM THE SCN ENHANCE PHASE SHIFTS TO LIGHT

Katelyn Horsley, Vancouver Island University

M. SLEEP BEHAVIOR IN ROTATING SHIFT WORK: THE IMPORTANCE OF CHRONOTYPE

Laura Kervezee, Leiden University Medical Center

M. CIRCADIAN RHYTHMS OF TRIGLYCERIDE ACCUMULATION IN ADIPOCYTES

Rena Shiraishi, Laboratory of Animal Physiology, School of Agriculture, Meiji University

M. DIFFERENTIAL PHASE RESETTING OF METABOLIC MARKERS RELATIVE TO MELATONIN DURING SIMULATED SHIFT WORK

Leilah Grant, Brigham and Women's Hospital and Harvard Medical School

M. DAYTIME TRIGLYCERIDE RHYTHM REVERSED WHEN AWAKE AT NIGHT: IMPLICATIONS FOR HEART DISEASE AND DYSLIPIDEMIA IN SHIFT WORKERS

Leilah Grant, Brigham and Women's Hospital and Harvard Medical School

M. THE POST-DEVELOPMENT OF PERINEURONAL NETS WITHIN THE SUPRACHIASMATIC NUCLEUS

Naila Jamani, University of Calgary

M. CIRCADIAN RHYTHMS IN THE HAIR CYCLE

Kelli Goggans, University of Alabama At Birmingham School of Medicine

M. DROSOPHILA CLOCK CELLS USE MULTIPLE MECHANISMS TO TRANSMIT TIME-OF-DAY SIGNALS IN THE BRAIN

Annika Barber, Rutgers University - Waksman Institute and Department of Molecular Biology and Biochemistry

M. EVOLUTIONARY CONSTRAINT IN VISUAL AND NON-VISUAL MAMMALIAN OPSINS

Brian Upton, Cincinnati Children's Hospital Medical Center

M. IDENTIFICATION OF THE BLUE LIGHT INTENSITY ADMINISTERED TO ONE EYE REQUIRED TO SUPPRESS BOVINE PLASMA MELATONIN, AND INVESTIGATION INTO EFFECTS ON MILK PRODUCTION IN GRAZING DAIRY COWS

Barbara Murphy, University College Dublin

M. AGING REDUCES CIRCADIAN RHYTHMICITY AND SYNCHRONY OF METABOLITES IN THE SCN, PVN, PLASMA AND LIVER

Renate Buijink, Leiden University Medical Centre

M. AVP RESETS THE SCN MOLECULAR CLOCK THROUGH INTEGRATION WITH VIP SIGNALING

Kayla Rohr, Marquette University

M. A NOVEL METHOD FOR ESTIMATING ENDOGENOUS CIRCADIAN RHYTHM USING ACTIGRAPHY DATA

Hiroki Takeuchi, The University of Tokyo

M. THE EFFECT OF TIME OF DAY, SLEEPINESS, AND 12-HOUR SHIFTS ON EMPATHY IN EMERGENCY MEDICAL TECHNICIANS

Lauren Fowler, University of South Carolina School of Medicine Greenville

M. MALARIA PARASITES AND HOSTS BOTH SUFFER WHEN HOST CIRCADIAN RHYTHMS ARE COMPROMISED

Jacob Holland, Institute of Evolutionary Biology, University of Edinburgh

M. IN UTERO IMAGING OF CLOCK GENE EXPRESSION REVEALS THE DEVELOPMENT OF THE CIRCADIAN CLOCK

Keenan Bates, Washington University in St Louis

M. TESTING ENVIRONMENTAL CIRCADIAN INTERVENTIONS ON A DRAVET SYNDROME MOUSE MODEL

Leandro Casiraghi, University of Washington

M. SPATIOTEMPORAL VARIATION IN GABA SIGNALLING IN THE SCN

Ashleigh Wilcox, University of Bristol

M. LIVE-CELL IMAGING OF CIRCADIAN CLOCK PROTEIN DYNAMICS IN CRISPR-GENERATED KNOCK-IN CELLS

Achim Kramer, Charité - Universitätsmedizin Berlin

M. GENETIC ANALYSIS OF CRITICAL TEMPERATURE FOR GONADAL DEVELOPMENT IN MEDAKA (ORYZIAS LATIPES)

Michiyo Maruyama, Nagoya University

M. A CHARACTERIZATION OF GENETIC TOOLS FOR THE IDENTIFICATION OF INTRINSICALLY PHOTSENSITIVE RETINAL GANGLION CELLS

Kayla Miguel, Northwestern University

M. MELANOPSIN PHOTOTRANSDUCTION IN M2 IPRGCS

Ely Contreras, Northwestern University

M. USING DIGITAL HEALTH RECORDS TO STUDY 24-H PATTERNS IN MEDICINE

Marc Ruben, Cincinnati Children's Hospital

M. PREDICTING CIRCADIAN PHASE FROM WEARABLE DATA ACROSS POPULATIONS IN THE REAL WORLD

Yitong Huang, Dartmouth College

M. THE GSK-3B-FBXL21 AXIS REGULATES TCAP CIRCADIAN DEGRADATION AND SKELETAL MUSCLE FUNCTION

Marvin Wirianto, The University of Texas Health Science Center at Houston

M. THE INTERACTION BETWEEN CIRCADIAN DISRUPTION AND A NEURODEVELOPMENTAL RISK FACTOR FOR SCHIZOPHRENIA

Tara Delorme, Douglas Mental Health University Institute

M. CIRCADIAN DISTURBANCES IN THE HIPPOCAMPUS OF MOUSE MODELS OF ALZHEIMER'S DISEASE

Allison Fusilier, University of Alabama at Birmingham

M. EFFECTS OF THE ISOLATION OF SUPRACHIASMATIC NUCLEUS ON CIRCADIAN RHYTHMICITY

Shota Miyazaki, Laboratory of Animal Physiology, School of Agriculture, Meiji University

M. PRENATAL ADMINISTRATION OF VALPROIC-ACID ALTERS CIRCADIAN ORGANIZATION AND CLOCK-GENE EXPRESSION: IMPLICATIONS FOR AUTISM SPECTRUM DISORDERS

Sarah Ferraro, Concordia University

M. CLOCK AGING: A MOLECULAR BASIS FOR AGE-RELATED PHYSIOLOGICAL DYSFUNCTION

Hikari Yoshitane, The University of Tokyo

M. ALTERED ENTRAINMENT TO LIGHT AND BEHAVIORAL DEFICITS IN MICE LACKING THE CIRCADIAN DEUBIQUITINASE USP2  
Shashank Srikanta, McGill University

M. A TALE OF TWO TAILS: INVESTIGATING HOW SPLICE VARIANTS OF CK1 DELTA DIFFER IN THEIR REGULATION OF CIRCADIAN RHYTHMS  
Ray Harold, UC Santa Cruz

M. INVESTIGATION OF THE INTERACTION BETWEEN NUTRIENT SUPPLY AND THE CIRCADIAN RHYTHM IN THE MODEL ORGANISM NEUROSPORA CRASSA  
Krisztina Káldi, Semmelweis University

M. ARE THE PORTUGUESE REALLY THE LATEST IN EUROPE?  
Catia Reis, CENC - Sleep Medicine Center, Lisbon

M. THE CIRCADIAN CASEIN KINASE 1E TAU MUTATION IMPACTS ON CIRCADIAN PHASE AND PULMONARY INFLAMMATORY RESPONSE IN MICE  
Thanuja Gali Ramamoorthy, University of Manchester

M. CO-LOCALIZATION OF PERINEURONAL NETS WITH PEPTIDERGIC NEURONS IN THE HAMSTER SUPRACHIASMATIC NUCLEUS  
Patricia Blakely, University of Calgary

M. WHOLE GENOME SEQUENCING STUDY IDENTIFIES NOVEL VARIANTS ASSOCIATED WITH INTRINSIC CIRCADIAN PERIOD IN HUMANS  
Sandra Smieszek, Vanda Pharmaceuticals Inc.

M. AN INTRINSIC OSCILLATOR DRIVES THE BLOOD STAGE CYCLE OF THE MALARIA PARASITE, PLASMODIUM FALCIPARUM  
Lauren Smith, Duke University

M. HIGH FAT DIET DISRUPTS DIURNAL INTERACTIONS BETWEEN SMALL INTESTINAL HOST INNATE IMMUNE FACTORS AND GUT MICROBIOTA RESULTING IN METABOLIC DYSFUNCTION  
Katya Frazier, University of Chicago, Department of Medicine

M. SEX DIFFERENCES IN SLEEPING SUBSTRATE OXIDATION DURING INSUFFICIENT SLEEP  
Dana Withrow, University of Colorado at Boulder

M. LIPOPOLYSACCHARIDE-ELICITED RESPONSES AS POTENTIAL BIOLOGICAL MARKERS OF DISEASE RISK IN SHIFT WORKERS  
Oscar Castanon-Cervantes, Morehouse School of Medicine

M. TO MASK OR NOT TO MASK? IMMEDIATE RESPONSES TO LIGHT CONTRIBUTE TO TIMING OF EMERGENCE IN POPULATIONS OF FRUIT FLY DROSOPHILA MELANOGASTER  
Arijit Ghosh, Chronobiology Laboratory, Neurosciences Unit, Jawaharlal Nehru Center for Advanced Scientific Research

M. HUMAN SKELETAL MUSCLE EXHIBITS A DAY-NIGHT RHYTHM IN LIPID DROPLETS AND IN THE MUSCLE LIPIDOME  
Jan-Frieder Harmsen, Maastricht University Medical Center

M. MUTUAL COMPONENTS OF FRQ-LESS OSCILLATOR AND TOR PATHWAY MAINTAIN TTFL RHYTHMICITY IN NEUROSPORA  
Rosa Eskandari, York University

M. CRITICAL ROLE OF CRY2 FOR CIRCADIAN REGULATION OF MYOGENIC DIFFERENTIATION  
Nobuaki Kikyo, University of Minnesota

M. NEW FUNCTIONS FOR BMAL1 AND ITS PHOSPHORYLATION AT MAMMALIAN SYNAPSES  
Ilaria Barone, Boston Children's Hospital, Harvard Medical School

M. ASSOCIATIONS OF SLEEP REGULARITY, CHRONOTYPE AND HYPERTENSION AMONG AFRICAN AMERICANS IN THE JACKSON HEART SLEEP STUDY  
Dayna Johnson, Emory University Rollins School of Public Health



M. IDENTIFICATION OF MOTIFS WITHIN THE C-TERMINAL REGULATORY DOMAIN OF CLOCK RESPONSIBLE FOR ITS CIRCADIAN OSCILLATORY FUNCTION

Andrew Morris, University of Florida

M. UVA LIGHT CHANGES SEASONALLY AND ALTERS NEUROHORMONE AMOUNTS AND BEHAVIOR VIA A CILIARY OPSIN IN A MARINE MASS SPAWNING ANNELID

N. Sören Häfker, Max Perutz Labs - University of Vienna

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## TUESDAY, JUNE 2

T. THE EATING BEHAVIOR OF POLICE OFFICERS ON ROTATING SHIFT SCHEDULES

Anastasi Kosmadopoulos, Douglas Mental Health University Institute, McGill University

T. DISSECTING CK1 $\Delta$  ACTIVITY ON THE STABILIZING FASP REGION ON HUMAN PER2

Alfred Freeberg, University of California Santa Cruz

T. MODULATION OF SLEEP-COURTSHIP BALANCE BY NUTRITIONAL STATUS IN DROSOPHILA

Jose Duhart, Department of Neuroscience - Thomas Jefferson University

T. LIGHT EFFECTS ON CIRCADIAN AND HOMEOSTATIC REGULATION: HUMAN ALERTNESS INCREASES INDEPENDENT OF TIME AWAKE

Renske Lok, University of Groningen

T. THE IMPACT OF CELL-TYPE SPECIFIC BMAL1 DELETION IN THE SUPRACHIASMATIC NUCLEUS ON FEMALE FERTILITY

Karen Tonsfeldt, University of California San Diego

T. TIME TO RUN: TIMING OF EXERCISE SPECIFIES METABOLIC IMPACT AND EFFECT ON ATHEROSCLEROSIS

Milena Schönke, Leiden University Medical Center, Department of Medicine

T. DOES INTERNAL DESYNCHRONY REDUCE ADULT NEUROGENESIS IN A HAMSTER CIRCADIAN MUTANT?

Michael Seifu Bahiru, University of Massachusetts

T. HIGH FREQUENCY NEURONAL BURSTING MODULATED BY THE IH CHANNEL IS ESSENTIAL FOR CIRCADIAN AND SLEEP BEHAVIORS IN DROSOPHILA

Nara Muraro, Biomedicine Research Institute of Buenos Aires - CONICET

T. A SINGLE FACTOR DOMINATES THE BEHAVIOR OF RHYTHMIC GENES IN MOUSE ORGANS

Guang-Zhong Wang, CAS-MPG Partner Institute of Computational Biology

T. DO YOU GET THE JET LAG YOU EXPECT? CLASSIC JET LAG DETERMINANTS FAIL TO PREDICT INTENSITY AND DURATION OF JET LAG SYMPTOMS IN TRAVELERS

Maximilian Ullrich, Institute of Medical Psychology, LMU Munich

T. AMBULATORY ASSESSMENT OF HUMAN HORMONE AND METABOLITE DYNAMICS

Thomas Upton, University of Bristol

T. THE ROLE OF SOX2 IN CIRCADIAN TIMEKEEPING

Arthur Cheng, University of Toronto Mississauga

T. VIP NEURONS IN THE SUPRACHIASMATIC NUCLEUS UNDERLIE THE BIDIRECTIONAL INFLUENCE BETWEEN ESTRUS CYCLE AND CIRCADIAN RHYTHM IN FEMALE MICE

Anat Kahan, California Institute of Technology

T. CIRCADIAN MEDICINE TO TREAT MYOCARDIAL INFARCTION (HEART ATTACK): TARGETING THE CARDIAC NLRP3 INFLAMMASOME  
Cristine Reitz, University of Guelph

T. MOLECULAR GENE RHYTHMS IN THE HEART CAN INFLUENCE CIRCADIAN MEDICINE  
Iman Aziz, University of Guelph

T. DISRUPTION OF CIRCADIAN RHYTHM INFLUENCES NEUROBIOLOGY AND ADAPTATIONS TO HEART FAILURE  
Mina Rasouli, University of Guelph

T. CIRCADIAN OSCILLATIONS IN ISCHEMIC STROKE SEVERITY AND CORTICAL THYROID HORMONE METABOLISM  
Jeremy Stubblefield, UT Health San Antonio

T. ASSOCIATIONS OF ENDOGENOUS HORMONES AND PHTHALATE EXPOSURE WITH SUBJECTIVE AND OBJECTIVE SLEEP MEASURES IN MIDLIFE WOMEN  
Katherine Hatcher, University of Illinois at Urbana-Champaign

T. CIRCADIAN MEDICINE: CHRONOTHERAPY IMPROVES HEALING AFTER HEART ATTACKS  
Tarak Khatua, University of Guelph

T. TIME-DEPENDENT ROLE OF HEME OXYGENASE IN THE BRAIN OF DROSOPHILA MELANOGASTER  
Milena Damulewicz, Jagiellonian University

T. MELATONIN AND RED-SHIFTED LIGHTING COUNTERACTS THE NEGATIVE IMPACTS OF EXPOSURE TO DIM LIGHT AT NIGHT IN THE CNTAP2 KO MOUSE MODEL OF AUTISM SPECTRUM DISORDER  
Huei-Bin Wang, UCLA

T. MODELING OF COMPLEX INTERACTIONS BETWEEN SCN AND A DOPAMINE DEPENDENT CIRCADIAN RESONATOR (DARCR) IN THE REGULATION OF BEHAVIORAL RHYTHMS IN MICE  
Martin Ralph, University of Toronto

T. TESTING LIGHTING SCHEDULES FOR ACHIEVING LARGE PHASE SHIFTS UNDER UNCERTAIN INITIAL CONDITIONS  
Olivia Walch, University of Michigan

T. CIRCADIAN RHYTHMICITY IN NEOCORTEX  
Ilia Katritch, Washington University in St. Louis

T. OBJECT RECOGNITION MEMORY IN LONG AND SHORT PHOTOPERIODS: EFFECTS OF RESTRICTED FEEDING AND TIME OF DAY  
Sarah Power, Simon Fraser University

T. IMPACT OF LIGHT AND FOOD CYCLES ON LIVER PHASE USING IN VIVO BIOLUMINESCENCE RECORDINGS  
Mary Harrington, Smith College

T. LIGHTING PROTOCOLS FOR EXPLORATION – HERA CAMPAIGN  
Shadab Rahman, Harvard Medical School; Brigham and Women's Hospital

T. A FRUIT FLY SPECIES REMAINS RHYTHMIC IN CONSTANT LIGHT  
Peter Deppisch, University of Wuerzburg

T. ROLES OF GABA IN SUPRACHIASMATIC AVP NEURONS ON FEMALE REPRODUCTIVE FUNCTIONS  
Jiaxu Chen, Laboratory of Animal Physiology, School of Agriculture, Meiji University

T. PHOTOPERIODIC MANIPULATION REVEALS A LIGHT-DRIVEN COMPONENT TO THE DAILY OSCILLATION IN VENTILATORY DRIVE  
Aaron Jones, Marquette University

T. SETTING THE CLOCK EARLY IN LIFE: MOLECULAR MECHANISMS UNDERLYING PERINATAL ENCODING OF PHOTOPERIOD IN THE SCN  
Olivia Cox, Vanderbilt University

T. ESTROGEN RECEPTOR ALPHA IS REQUIRED TO PROTECT DAILY METABOLIC RHYTHMS FROM DISRUPTION BY HIGH-FAT FEEDING IN FEMALE MICE

Oluwabukola Omotola, University of Kentucky

T. CORTISOL AWAKENING RESPONSE IS HIGHER IN PEOPLE LACKING THE NORMAL DROP IN BLOOD PRESSURE ACROSS THE NIGHT ('NON-DIPPERS')

Omar Ordaz-Johnson, Oregon Health Sciences University

T. LONG TERM HEALTH IMPACTS OF MIS-TIMED FEEDING DURING DEVELOPMENT

Matthew Butler, Oregon Health & Science University

T. A TRANSCRIPTOMIC TAXONOMY OF DROSOPHILA CIRCADIAN NEURONS AROUND THE CLOCK

Dingbang Ma, HHMI/Brandeis University

T. BLUE-LIGHT INDUCED HETERODIMERIZATION OF ZEITLUPE AND GIGANTEA IN MAMMALIAN CELLS

Julia Lara, Southern Methodist University

T. MULTIPLE CIRCADIAN OSCILLATORS MEDIATE ANTICIPATION OF PREDICTABLE DAILY MEALTIMES

Christian Petersen, Simon Fraser University

T. CIRCADIAN DYNAMICS OF RNA LOCALIZATION IN THE MAMMALIAN LIVER

Clémence Hurni, Swiss Federal Institute of Technology Lausanne

T. EFFECTS OF ANDROGENS ON OSCILLATOR COUPLING IN MICE

Thijs Johannes Walbeek, Oregon Health & Science University

T. DEVELOPING A CRISPR/CAS9-MEDIATED KNOCKOUT PLATFORM FOR VALIDATING CLOCK MODIFIER PHENOTYPES IN MMH-D3 HEPATOCYTES

Hongzhi He, University of Florida

T. CIRCADIAN CLOCK DISRUPTION PROMOTES CARDIAC CELL DEATH DURING HYPOXIC INJURY

Lorrie Kirshenbaum, University of Manitoba

T. PHOSPHATASE OF REGENERATING LIVER-1 REGULATES TIMELESS TO MEDIATE THE BEHAVIORAL ADAPTATION TO SEASONAL CHANGES IN PHOTOPERIOD

Bridget Lear, Northwestern University

T. EARLY LIFE STRESS IMPAIRS CIRCADIAN RHYTHMS OF BMAL1 EXPRESSION IN PERIPHERAL TISSUES OF NEONATAL RATS

Mary Loka, McGill University

T. EPIGENETIC SWITCH OF SEASONAL FLIGHT ORIENTATION IN MIGRATORY MONARCH BUTTERFLIES

Aldrin Lugena, Texas A&M University

T. PHOTORECEPTOR MEDIATION OF THE ACCELERATING EFFECT OF DIM LIGHT ON BEHAVIORAL ADJUSTMENT TO SHIFTING SCHEDULES

Gena Glickman, University of California San Diego

T. MODULATION OF THE MOLECULAR CLOCK IN CELLS UNDER METABOLIC STRESS ASSOCIATED WITH THE TUMOR MICROENVIRONMENT

Amelia Clark, University of Rochester Medical Center

T. CASEIN KINASE 1 DYNAMICS UNDERLIE SUBSTRATE SELECTIVITY AND THE PER2 CIRCADIAN PHOSPHOSWITCH

Jonathan Philpott, UCSC

T. AGING IMPAIRS LIGHT-DEPENDENT ENTRAINMENT OF THE CIRCADIAN CLOCK INCREASING THE TOXICITY OF ALCOHOL WITH AGE AND DECREASING NEURAL PLASTICITY NECESSARY FOR THE DEVELOPMENT OF ALCOHOL TOLERANCE

Aliza De Nobrega, Florida State University

T. PHOTIC ENTRAINMENT IN MURINE DERMAL MELANOCYTES

Nicolas Diaz, University of Washington

T. TIME OF ADMINISTRATION OF ALLOPURINOL IMPACTS EFFICACY IN THE MOUSE

Lauren Francey, Cincinnati Children's Hospital

T. THE COEFFICIENT OF VARIATION AS A SIMPLE MEASURE OF CIRCADIAN DISRUPTION IN CANCERS

Gang Wu, Cincinnati Children's Hospital

T. USING PROBABILISTIC MACHINE LEARNING MODELS TO INFER COMMON CHARACTERISTICS OF KNOWN SLEEP-REGULATING GENES

Yin Yeng Lee, Cincinnati Children's Hospital

T. PPP1 PHOSPHATASE IS NECESSARY FOR CIRCADIAN RHYTHMS IN EIF2 $\alpha$  ACTIVITY IN NEUROSPORA CRASSA

Zhaolan Ding, Texas A&M University

T. NON-INVASIVE EVALUATION OF SLEEP QUALITY AND CIRCADIAN RHYTHMS FOLLOWING OPTIC NERVE INSULT AND RECOVERY

Jovi Wong, University of Toronto

T. THE CORE CLOCK PROTEIN BMAL1 REGULATES ANTIGEN PROCESSING IN DENDRITIC CELLS BY ALTERING CELLULAR CALCIUM TO CONTROL MITOCHONDRIAL MORPHOLOGY

Mariana Cervantes-Silva, Royal College of Surgeons in Ireland

T. DISTINCT CONTRIBUTION OF CONE PHOTORECEPTOR SUBTYPES TO THE MAMMALIAN BIOLOGICAL CLOCK

Robin Schoonderwoerd, Leiden University Medical Center

T. CIRCADIAN RHYTHMS EXIST IN LOW MALIGNANCY MCF7 BREAST CANCER CELLS AND NOBILETIN RESCUES OSCILLATIONS IN TRIPLE-NEGATIVE MDA-MB-231 CELLS

Michelle Farkas, University of Massachusetts Amherst

T. CLOCK GENE DELETION IN THE STRIATUM ALTERS ALCOHOL-DRINKING BEHAVIOUR AND PREFERENCE IN MALE AND FEMALE MICE

Nuria de Zavalía, Concordia University, Center for Studies in Behavioral Neurobiology

T. CARDIOLIPIN SYNTHESIS IN SKELETAL MUSCLE IS RHYTHMIC AND MODIFIABLE BY AGE AND DIET

Eunju Kim, The University of Texas Health Science Center At Houston

T. COMPLEX REGULATION OF THE CASEIN KINASE 1 TRANSCRIPT IS REQUIRED FOR NORMAL CIRCADIAN PERIOD LENGTH IN NEUROSPORA CRASSA

Christina Kelliher, Geisel School of Medicine at Dartmouth

T. SOME LIKE IT HOT, WHAT ABOUT ITS NEIGHBOURS?

Radhika Joshi, Prof. Patrick Emery

T. EXPLORING THE FEASIBILITY OF A 3-HOUR TIME-RESTRICTED FEEDING PROTOCOL

Paul Jefcoate, University of Surrey

T. PHOTORECEPTOR DEGENERATION IN HOMOZYGOUS PER2::LUC MICE DURING AGING

Varunika Goyal, Morehouse School of Medicine

T. ALTERED 12 HOUR GENE EXPRESSION RHYTHMS IN THE DORSOLATERAL PREFRONTAL CORTEX OF SUBJECTS WITH SCHIZOPHRENIA

Madeline Scott, University of Pittsburgh

T. IMPACT OF TRAINING SHIFTS ON DANCERS' RHYTHM AND SLEEP

Ana Silva, Laboratorio De Neurociencias, Facultad De Ciencias

T. IN VIVO SINGLE-CELL CHARACTERIZATION OF CALCIUM DYNAMICS WITHIN AVP AND VIP NEURONAL POPULATIONS IN THE MOUSE SCN

Adam Stowie, Morehouse School of Medicine

T. CIRCADIAN REGULATION OF SYNAPTIC TITLE  
Percy Griffin, Washington University in St. Louis

T. ROD CIRCUITS THAT INFLUENCE CIRCADIAN PHOTOENTRAINMENT AND THE PUPIL LIGHT RESPONSE  
Corinne Beier, National Institute of Mental Health

T. DAILY RHYTHMS IN CIRCADIAN CLOCK GENES AND RESPIRATORY NEUROPLASTICITY GENES IN THE PHRENIC MOTOR SYSTEM  
Mia Kelly, University of Florida

T. SHIFT WORK INCREASES THE RISK OF ASTHMA  
Hannah Durrington, University of Manchester

T. EFFECTS OF TIME OF DAY AND AMBIENT LIGHTING ON THE PROCESSING OF FACIAL EXPRESSIONS  
Hillary Rodman, Department of Psychology, Emory University

T. CHARACTERIZATION OF THE CIRCADIAN CLOCK OF THE PEA APHID (ACYRTHOSIPHON PISUM)  
Francesca Sara Colizzi, University of Würzburg

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Anna Damato, Washington University in St. Louis

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Liliana Bustos, Universidad de Valparaíso

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Deepa Mathew, Indiana University School of Medicine

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Lisa Bottalico, University of Pennsylvania

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Daniel Granados-Fuentes, Washington University in St. Louis

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Alessandro Manzotti, UMR7141 - CNRS - Sorbonne University - Institut de Biologie Physico Chimique

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Shlesha Richhariya, HHMI/ Brandeis University

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Lauren Hablitz, University of Rochester

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Aishwarya Ramakrishnan, JNCASR

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Shinpei Kawaoka, Kyoto University

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Rohit Pradhan, SoS in Life Science Ravishankar Shukla University Raipur

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Petra Haberzettl, University of Louisville

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SangHyuk Lee, Ajou University School of Medicine

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Suengwon Lee, University of Cincinnati College of Medicine

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Kathrina Castillo, Texas A&M University

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Choogon Lee, Florida State University

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Estere Seinkmane, MRC Laboratory of Molecular Biology

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Jacqueline Pelham, Rensselaer Polytechnic Institute





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