

# Circadian Rhythm in GI Health & Diseases



**May 5-6, 2016 • Chicago, IL**

## **Location**

Rush University Medical Center  
Professional Building- Searle Conference Center  
1725 W. Harrison St  
Chicago, IL 60657

## **Scientific Committee**

Ali Keshavarzian, M.D.  
Faraz Bishehsari M.D./Ph.D.  
Francis Levi, M.D.  
Fred W. Turek, Ph. D.  
Eugene Chang, M.D.

**[www.gicircadianmeeting.com](http://www.gicircadianmeeting.com)**

# 2016 Circadian Rhythm in GI Health & Diseases

Circadian rhythm in GI health and diseases, will cover the emerging role of circadian dysrhythmia in pathologies related to digestive system, with the world's leading expert investigators on a broad range of basic and translational circadian research topics involving metabolism, gut inflammation, brain-gut pathways, and GI cancers. This symposium will contribute to educating researchers, post-docs and clinicians on this growing topic, and will provide opportunities for developing multi-center, multi-discipline collaborations between basic and translational scientists in the fields of circadian biology and GI/liver, alcohol and metabolic disorders.

## About The Symposium

This symposium will provide scientists, post-doctoral fellows, fellows-in-training, clinicians, and clinician-scientists with a highly dynamic and interactive environment to discuss and learn about the impact that circadian rhythms may have on a variety of GI/liver and metabolic/nutrition diseases. Selected oral abstracts and posters will be featured and will serve as a forum for young investigators to present their research and interact with leading research scientists in a collaborative and mentoring fashion.

This symposium is the first symposium with a special focus on circadian and pathologies related to the gastrointestinal system.

## Educational Needs

In general, in our approach to diagnose and treat diseases we do not consider the dimension of time. Almost all chronic diseases are affected by our environment. Circadian rhythm disruption is an environmental factor that affects the majority of individuals in our modern society, be it a poor sleep schedule, shift work, exposure to light at night, or even abnormal/irregular eating patterns. While laboratory research has shown diurnal oscillations of most cellular proteins, the circadian oscillation of these proteins is usually not taken into account in the body of basic science research (e.g., when samples are collected or when experiments are conducted). On the clinical side, circadian rhythms are an integral part of our human biology but this topic is not typically discussed between medical doctors and their patients (e.g., when do symptoms occur or when is the optimal time to take a medication). In the era of personalized medicine, the dimension of time needs to be brought into the equation for understanding health and disease.

## 2016 GI Circadian Rhythm

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## Objectives

- 1) Foster an understanding of the importance of biological rhythms in GI health and disease;
- 2) Convey the factors that can disrupt central and peripheral circadian rhythms;
- 3) Identify the role of circadian disruption in various GI pathologies, obesity, metabolic syndrome, NASH, alcohol use disorders, brain/gut axis and GI cancers;
- 4) Demonstrate the possible mechanisms by which circadian disruption can predispose individuals to variety of GI-related diseases;
- 5) Discuss important research considerations caused by circadian oscillations of proteins and hormones in basic science and clinical settings;
- 6) Consider the potential implications of chronobiological approaches to prevent and treat GI diseases.

## Course Overview

The central and peripheral circadian rhythms control nearly all cellular processes and immune regulatory mechanisms. The master clock, located at the suprachiasmatic nuclei (SCN) is entrained mainly by light dark cycle and is responsible for the majority of the biological rhythms. The peripheral tissues such as that in the gastrointestinal (GI) tract and the liver, however, possess self-sustaining circadian timers that can be regulated by other factors such as food. Circadian rhythm disruption can occur as the result of several conditions such as shift workers, social jet lag, or abnormal sleep and feeding patterns and can disturb the circadian homeostasis in the GI tract and liver, and cause metabolic and immune dysregulation, leading to a variety of pathologies.

The circadian rhythm in GI tract motor and secretory activities has been observed for decades. The role of circadian homeostasis in cell proliferation, immune homeostasis, gut permeability and microbial imbalance is being increasingly recognized. This symposium will provide scientists, post-doctoral fellows, fellows-in-training, clinicians, and clinician-scientists with a highly dynamic and interactive environment to discuss and learn about the impact that circadian rhythms may be having on a variety of digestive and alcohol related pathologies such as metabolism, gut inflammation, liver diseases, brain-gut pathways, and GI cancers. The following topics will be covered:

- a Role of Circadian Rhythm in Digestive Diseases
- a Role of Circadian Dysrhythmia in Gastrointestinal Diseases
- a Role of Circadian Rhythms in Obesity, and Metabolic Syndrome
- a Role of Circadian Dysrhythmia in alcoholic and non-alcoholic liver disease
- a Role of Circadian Dysrhythmia in Brain-gut axis
- a Role of Circadian Dysrhythmia in in Gastrointestinal Cancers
- a Therapeutic Implications of Circadian Science in GI diseases

## Continuing Education Credit

Rush University is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

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Rush University is an approved provider for nutrition by the Illinois Department of Professional Regulation. Rush University designates this live activity for 12.75 Continuing Education credits.

## Who Should Attend

Scientists, post-doctoral fellows, fellows-in-training, medical and PhD student, clinicians, clinician-scientists, nurses, dietitians as well as allied health professionals are encouraged to attend. This symposium will provide the attendees a highly dynamic and interactive environment to discuss and learn about the impact that circadian rhythms may be having on a variety of GI/liver and metabolic/nutrition diseases.

## Location

Rush University Medical Center Professional Building- Searle Conference Center  
1725 W. Harrison St. Chicago, IL 60657  
[www.gicircadianmeeting.com](http://www.gicircadianmeeting.com)

## Contact

For further inquiries or questions about the symposium or registration, please contact:  
Email: [info@gicircadianmeeting.com](mailto:info@gicircadianmeeting.com)  
Or call Veritas, our Meeting Management Office at: 847-752-5355

## Special Needs

Participation by all individuals is encouraged. We will request an advance notification (about 2 weeks) by participants with special needs, in order to provide them with the best services during the conference.

## Non-Discrimination Statement

Rush University Medical Center does not discriminate in its educational programs or activities on the basis of race, color, national or ethnic origin, ancestry, age, religion or religious creed, disability or handicap, sex or gender (including pregnancy, sexual harassment and other sexual misconduct including acts of sexual violence such as rape, sexual assault, sexual exploitation and coercion), gender identity and/or expression (including a transgender identity), sexual orientation, military or veteran status, genetic information, or any other characteristic protected under applicable federal, state or local law. Retaliation is also prohibited. Rush University Medical Center will comply with state and federal laws such as M.G.L. c. 151B, Title IX, Title VI and Title VII of the Civil Rights Act, the Americans with Disabilities Act, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination in Employment Act, and other similar laws that prohibit discrimination.

Rush University Medical Center has been in the forefront of institutions promoting disability rights, and is in full compliance with the Americans With Disabilities Act (ADA). The Searle Conference Center is equipped with elevator access and fully accessible restrooms. Accommodations throughout the medical center include

- Parking spaces for people with disabilities, and parking garage modifications to improve accessibility
- Reduced rate valet parking for patients and visitors with disabilities
- Attendants and wheelchairs in key locations for anyone who needs such assistance
- Modifications in elevators, which include installing mirrors to help people using wheelchairs and motorized vehicles
- New telephone system throughout medical center with volume controls on all phones
- Teletypewriters (TTY) in key locations throughout the Medical Center and University

## Travel Scholarships

Limited number of travel scholarships are available for Young investigators to attend and present their works in the symposium. Up to \$1000 for national and \$1400 for international applicants will be awarded by the GI Circadian rhythm symposium, supported by NIH-R13. Awards will be made to deserving young investigators to cover travel expenses, registration fees and a 2 night local hotel stay. Women, minorities and people with disabilities are encouraged to apply for travel scholarship, and will be given high priority for the scholarship. Since these awards are intended to support travel costs, local scholarship awardees will receive waived registration fee awards.

- Submit an abstract. All applicants need to be prepared to attend the symposium for the entire course, and present their work.
- Submit a 200-word letter, or less, describing their research area, and career goals.

The deadline for travel scholarship is Feb 1-2016. The submission material should be emailed to [info@gicircadianmeeting.com](mailto:info@gicircadianmeeting.com)

## Abstract Submissions

Abstracts will be accepted online starting Dec 1, 2015

DEADLINE FOR RECEIPT OF ABSTRACTS: Feb 1, 2016

Submitted abstracts will be reviewed by the organizing committee. All accepted abstracts will be displayed as Posters throughout the duration of the symposium. (Dimensions of poster boards are: 3' width x 2' length (3'x 2')) If your files are over 2mb or would like to submit videos, please contact [sue@veritasmeetings.com](mailto:sue@veritasmeetings.com) for details regarding our FTP site.

Please note the following instructions for the preparation of abstracts:

- Abstracts must be written in English and should be structured in such a way as to include: Objectives, background, methods and results, and conclusions.
- All abbreviations must be defined before being used as an abbreviation in the text.
- The content of the abstract is solely the responsibility of the author. The original abstract is reprinted exactly as provided. It is therefore essential that the abstract is correctly typed. Avoid errors, corrections, and misspellings.
- Abstracts should contain no more than 400 words in the recommended font: Times New Roman, size 12 pt. Do NOT use a smaller font size.
- If including a table in the abstract, please limit the number of words in the body of the abstract to 200.
- If including a diagram, please ensure that the abstract text together with the diagram does not exceed one page.
- Use single spacing.
- Title should be typed in UPPER CASE letters in bold and not exceed more than 100 characters. Titles with more than 100 characters will be truncated.
- The author(s) names and institution(s) should be in upper and lower case.
- Please clearly indicate the name of the contact person for all correspondence connected with this abstract.
- Symbols, tables, graphs or pictures cannot be submitted via the website. Abstracts containing symbols, tables, graphs or pictures can be included on the poster.

# Thursday May 5, 2016 Schedule

7:30a.m.-8:30a.m.	Breakfast
<b>8:00a.m.-9:25a.m.</b>	<b>Session 1</b> Circadian Rhythm and Digestive Disease: Where we Stand Moderator: Fred W. Turek Ph.D.
8:00a.m.-8:20a.m.	Central and Peripheral Circadian Clocks Fred W. Turek Ph.D.
8:20a.m.-8:40a.m.	Circadian Clocks: Translating Signals from the Environment to Peripheral Organs Steven Brown, Ph.D.
8:40a.m.-9:00a.m.	Effects of Environmental Hazards on Gastrointestinal Circadian Rhythm Shelley A. Tischkau, Ph.D.
9:00a.m.-9:10a.m.	Oral Abstract Presentation
9:10a.m.-9:25a.m.	Panel Discussion
<b>9:25a.m.-10:50a.m.</b>	<b>Session 2</b> Impact of Circadian Dysrhythmia in Gastrointestinal Diseases Moderator: Eugene Chang, M.D.
9:25a.m.-9:45a.m.	Impact of Shift Work and Alcohol in Gastrointestinal Function Garth Swanson, M.D.
9:45a.m.-10:05a.m.	Interaction of Circadian Rhythm and Diet with Gut Microbiota Vanessa Leone, Ph.D.
10:05a.m.-10:25a.m.	Microbiota, Inflammation, and Circadian Rhythms: Role of Circadian Disruption in Inflammatory Bowel Disease Ali Keshavarzian, M.D.
10:25a.m.-10:35a.m.	Oral Abstract Presentation
10:35a.m.-10:50a.m.	Panel Discussion
10:50a.m.-11:15a.m.	Coffee Break
<b>11:15a.m.-12:40p.m.</b>	<b>Session 3</b> Circadian Rhythm, Obesity, and Metabolic Syndromes Moderator: Carla Green, Ph.D.

11:15a.m.-11:35a.m. Circadian Control of Energy Source Selection  
Joe Bass, Ph.D.

11:35a.m.-11:55a.m. Circadian Control of Metabolism  
Carla Green, Ph.D.

11:55a.m.-12:15p.m. Time of Eating and Obesity  
Krista Varady, Ph.D.

12:15p.m-12:25p.m. Oral Abstract Presentations

12:25p.m-12:40p.m. Panel Discussion

12:40p.m.-2:10p.m. Lunch

**2:10p.m.-3:30p.m.**

**Session 4**

Impact of Time on the Liver  
Moderator: TBA

2:10p.m.-2:30p.m. Circadian Rhythm in Bile Acid Metabolism and NAFLD  
John Y. L. Chiang ,Ph.D.

2:30p.m.-2:50p.m. Circadian Pathways as a Mediator Between Alcohol and Liver Disease  
Shannon Bailey, Ph.D.

2:50p.m.-3:10p.m. Circadian and Gut/Liver Axis: Circadian Disruption Synergizes with Alcohol in Disrupting the Gut/Liver Axis to Promote Liver Disease  
Christopher B. Forsyth, Ph.D.

3:10p.m.-3:20p.m. Oral Abstract Presentation

3:20p.m.-3:35p.m. Panel Discussion

3:35p.m.-6:00p.m. Poster/Roundtables/Reception

**Starting 5 p.m.**

**Roundtable 1**

Challenges in circadian research for human studies:

With: Drs. Hellen Burgess, Ali Keshavarzian, Francis Levi, Mark P. Mattson, Garth Swanson, and Steven Brown.

**Starting 5 p.m.**

**Roundtable 2:**

Challenges in circadian research for animal and in vitro studies.

With: Drs. Carla Green, Fred W. Turek, John Chiang, Christopher Forsyth, Robin Voigt, and Shannon Bailey

# Friday May 6, 2016 Schedule

8:00a.m.-8:30a.m.

Breakfast

## **8:30a.m.-9:55a.m.**

### **Session 1**

Time and Brain – Gut Axis

Moderator: Ali Keshavarzian, M.D.

8:30a.m.-8:50a.m.

Eating Pattern and the Brain

Mark Mattson, Ph.D.

8:50a.m.-9:10a.m.

Challenges in Measuring and Shifting the Central Circadian Clock

Helen Burgess, Ph.D.

9:10a.m.-9:20a.m.

Role of Intestinal Microbiota Composition, Intestinal Inflammation and Gene Expression in PD: Impact of Circadian Rhythm Disruption

Robin M. Voigt, Ph.D.

9:20a.m.-9:30a.m.

Oral Abstract Presentation

9:30a.m.-9:45a.m.

Panel Discussion

## **9:45a.m.-11:05a.m.**

### **Session 2**

Circadian Dysrhythmia in Gastrointestinal Cancer

Moderator: Paolo Sassone-Corsi, Ph.D.

9:45a.m.-10:05a.m.

Circadian Disruption, Colonic Inflammation and Carcinogenesis

Khashayar Khazaie, Ph.D.

10:05a.m.-10:20a.m.

Food Timing and Colon Carcinogenesis

Faraz Bishehsari, M.D./Ph.D.

10:20a.m.-10:40a.m.

Circadian Clocks, Epigenetics, and Gastrointestinal Cancers

Paolo Sassone-Corsi, Ph.D.

10:40a.m.-10:50a.m.

Oral Abstract Presentation

10:50a.m.-11:05a.m.

Panel Discussion

11:05a.m.-11:30a.m.

Coffee Break

**11:30a.m.-1:00p.m.**

**Session 3**

Therapeutic Implications: Where are We and Where Might We Go?

Moderator: Francis Levi, M.D.

11:30a.m.-11:50a.m.

Clock-Targeting Pharmaceuticals for GI Cancer

Roman Kondratov, Ph.D.

11:50a.m.-12:10p.m.

Chronotherapy and the Molecular Clock: Clinical Implication for GI Cancer

Francis Levi, M.D.

12:10p.m.-12:30p.m.

Therapeutic Role of Melatonin in GI Diseases

Russel Reiter, Ph.D.

12:30p.m.-12:40p.m.

Oral Abstract Presentation

12:40p.m.-12:55p.m.

Panel Discussion

**12:55p.m.-2:00p.m.**

**Keynote Lunch**

(Four concurrent lunch sessions- select 1 session during registration process)

Moderators:

Ali Keshavarzian, M.D. & Eugene Chang, M.D.

Session Theme:

Why circadian rhythms should be incorporated in management strategies for GI diseases

Duration:

(with Discussion, Q&A): 1 hr

Moderators' Affiliation:

Rush University Medical Center, USA & University of Chicago, USA

Moderators:

Fred W. Turek, Ph.D. & Carla Green, Ph.D.

Session Theme:

Obesity, a circadian disease?

Duration:

(with Discussion, Q&A): 1 hr

Moderators' Affiliation:

Northwestern University, USA & UT Southwestern, USA

Moderators:

Paolo Sassone-Corsi, Ph.D. & Khashayar Khazaie, Ph.D.

Session Theme:

GI cancers and circadian: Future directions

Duration:

(with Discussion, Q&A): 1 hr

Moderators' Affiliation:

University of California, USA & Mayo clinic, USA

Moderators:

Francis Levi, M.D. & Russel Reiter. PhD, Dr. Hellen Burgess PhD.

Session Theme:

Development of Circadian-based therapies in GI diseases

Duration:

(with Discussion, Q&A): 1 hr

Moderators' Affiliation:

Cancer Chronotherapy Unit, Warwick University, UK ; Department of Cellular and Structural Biology, The University of Texas Health Science Center, USA & Rush University Medical Center, USA

**2:00p.m.-2:15p.m.**

**Conclusion and Remarks**

## Symposium Chairs

Faraz Bishehsari MD/PhD  
Division of Digestive Diseases  
Rush University Medical Center, USA

Ali Keshavarzian, M.D.  
Division of Digestive Diseases  
Rush University Medical Center, USA

## Scientific Committee

Ali Keshavarzian, M.D.  
Division of Digestive Diseases  
Rush University Medical Center, USA

Faraz Bishehsari M.D./Ph.D.  
Division of Digestive Diseases  
Rush University Medical Center, USA

Francis Levi, M.D.  
Cancer Chronotherapy Unit  
Warwick University, UK

Fred W. Turek, Ph.D.  
Center for Sleep and Circadian Biology  
Northwestern University, USA

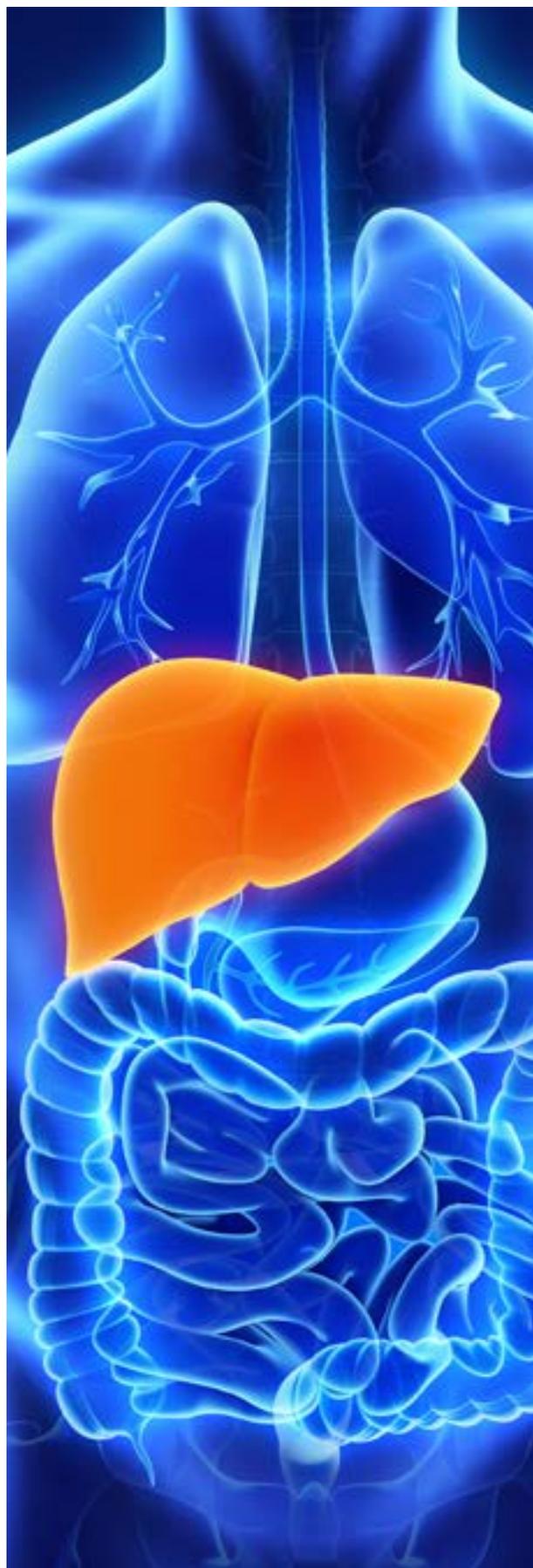
Eugene Chang, M.D.  
Knapp Center for Biomedical Discovery  
University of Chicago, USA

## Local Organizing Committee

Prachi S. Chakradeo, Ph.D. Candidate  
Division of Digestive Diseases  
Rush University Medical Center, USA

Crystal Crawford R.N./MSN  
Rush University Medical Center, USA

Heather Rasmussen is a PhD, RD  
Rush University Medical Center, USA



# Registration Form

Registration Fees include the fees for attending the two day of the meeting, lunch, as well as any program material distributed in the meeting.

Early registration ends on March 31st, 2016. On-site registration will depend on available seating.

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Name (Please indicate salutation)

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Address

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Work Telephone

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Email Address

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Specialty

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Degree

\_\_\_\_\_  
Academic Title (if applicable)

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Institution Affiliation

\_\_\_\_\_  
Guest Name (if applicable)

## Method of Payment

\_\_\_ MasterCard \_\_\_ AMEX \_\_\_ Visa \_\_\_ DSVR \_\_\_ Check

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Credit Card Number

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Expiration Date CVC

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Signature

## Registration Fees

Number Attending	Cost/Per Person	Descriptions
_____	@ FREE	PhD/Medical Student
_____	@ \$100	Fellow In-Training, Post-Doc Fellows, Nurse, Pharmacist, Allied Health Professional (Dietitian, OT, PT, Psychologist)
_____	@ \$150	Early Stage Investigator (Within 5 Years of Completion of Degree)
_____	@ \$200	Faculty

\$ \_\_\_\_\_ Total GI Circadian Meeting Payment

If NOT registering online, make checks payable to:

Veritas Meeting Solutions  
2575 Northwest Parkway  
Elgin, Illinois 60124

