



TWENTY-FOURTH INTERNATIONAL SYMPOSIUM ON
SHIFTWORK & WORKING TIME



SEPTEMBER 9-13, 2019

COEUR D'ALENE, IDAHO, USA



WWW.SHIFTWORK2019.COM

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Host Organization

Washington State University

SHIFTWORK2019 VENUE

The Coeur d'Alene

115 S. 2nd Street
Coeur d'Alene, Idaho 83814
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CONTACT INFORMATION

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WELCOME TO SHIFTWORK2019

WELCOME TO SHIFTWORK2019! We are pleased to host the 24th International Symposium on Shiftwork & Working Time (Shiftwork2019) in Coeur d'Alene, Idaho, USA. From September 9 to 13, 2019, shiftwork and working time professionals from around the world are coming together to discuss the meeting theme: *Innovations in Research and Practice Improving Shiftworker Health & Safety*.

The 24th International Symposium on Shiftwork & Working Time marks only the second time in its 50-year history that the meeting is held in North America. The meeting provides a welcoming setting for scientists, researchers, practitioners, trainees, and other stakeholders concerned with shiftwork and working time organization to come together, network, and collaborate. Symposium participants from across the globe present the latest research on shiftworker alertness, safety, health, and well-being, debate recent developments in working time arrangements and policies, and discuss fatigue risk management and health intervention solutions.

Rich in both science and networking opportunities, Shiftwork2019 features over 70 symposium and oral presentations and more than 100 posters. Furthermore, by staying together at the same location, participants interact during meals, breaks, and social events. The meeting is designed to foster a sense of community and provides ample networking opportunities. It is also designed to help develop a new cohort of experts in the field through intensive interactions between established researchers and practitioners and attending students and trainees.

To those of you who have participated in previous years: welcome back! And to those who are new to this meeting: welcome to our community! We are certain you will gain new knowledge and new friendships. And don't forget to enjoy the beautiful setting of Lake Coeur d'Alene!

Hans Van Dongen and Kimberly Honn, organizers

THE WORKING TIME SOCIETY WELCOMES YOU

It is with great pleasure that I and the officers and executive board of the Working Time Society welcome you to our 24th International Symposium on Shiftwork & Working Time. Nearly every two years since 1969, the shiftwork and working time community, including researchers, practitioners, policy makers, academics, etc., have come together in an ever-broadening array of disciplines, countries and topics. Through these 50 years of meeting together, we have created a global family. Where there might be debates about speed of shift rotation, for instance, we have great solidarity in our mission to improve the health and safety of those working shifts through our research, implementations, decisions and actions. We are all here to share our research and experience, and learn from others who will be doing likewise.

Over the week we will be spending a lot of time together, by design. The purpose of living, eating, and attending meetings together is to develop broader and deeper relationships with others outside of those we typically interact with. Building this cohort has led to life-long friendships, collaborations, partnerships, and new ideas for research and implementations. I encourage everyone to sit with new friends and colleagues in the meeting rooms and during social times, and to attend as much of the meeting as possible. Not only will you likely learn something new or identify someone you'll want to follow up with, but others will certainly benefit from your thoughts, ideas and experiences. This has been the recipe for success since the meeting's inception. I think you'll like the experience!

Best wishes for a useful, joyful and meaningful meeting,

Steve Popkin, Working Time Society President

AWARDS

The following awards are presented during the Welcome Reception on Monday, September 9, 2019 at 18:00.

SHIFTWORK2019 EARLY CAREER RESEARCHER MERITORIOUS ABSTRACT AND TRAVEL AWARDS

Shiftwork2019 Early Career Researcher award winners have been selected by the International Scientific Committee based on their submitted conference abstracts (see <http://sleepscience.org.br/details/589/en-US> for all of the meeting's published abstracts)

Alexandra Agostini
Andreas Moses Appel
Christopher Bean
Corinna Brauner
Elizabeth Dotson
Nathaniel Elkins-Brown
Julie Erwin
Cassie Hilditch
Inchul Jeong
Kati Karhula
Bala Koritala
Anastasi Kosmadopoulos
Heidi Lammers-van der Holst
Bette Loef
Sophia Francesca Lu
Luisa Marot
Elaine Marqueze
Mark McCauley
Norvil Mera Chu
Patrícia Nehme
Helena Breth Nielsen
Andrew Reiter
Samantha Riedy
Lucia Rotenberg
Izabela Sampaio
Anna Carolina Siqueira
Lillian Skeiky
Mia Son
Jarno Turunen
Suleima Vasconcelos

The following awards and honors are presented during the General Assembly on Thursday, September 12, 2019 at 15:15.

FELLOWS OF THE SOCIETY

This honor recognizes extraordinary or sustained, superior accomplishments of individual members. Fellows become members of the Working Time Society for life.

HONORARY MEMBER

This honor recognizes an individual who is not a member of the Working Time Society for distinguished contributions to the field of shiftwork and working time. This award comes with a 2-year membership in the Working Time Society.

DONALD I. TEPAS PROFESSIONAL IMPACT AWARD

This award recognizes Working Time Society members who have made tangible improvements to the lives of shiftworkers through their research, practice and/or service, accepting and sustaining the repercussions for their ethical and selfless actions.

EARLY CAREER AWARD FOR RESEARCH

This award is presented for excellence and dedication to research on shiftwork and work hours.

EARLY CAREER AWARD FOR PRACTICE

This award is presented for significant contributions to the knowledge base available to practitioners involved in work scheduling and the health and safety consequences thereof.

EARLY CAREER AWARD FOR SERVICE

This award is presented for outstanding service to the Working Time Society as a conference organizer, scientific committee member, and social media ambassador.

SPECIAL EVENTS

WELCOME RECEPTION

Monday, September 9, 18:00, Lakeview Terrace

The Welcome Reception will be held on the Lakeview Terrace, overlooking the beautiful lake scenery of Lake Coeur d'Alene. Catch up with old friends and meet new ones, and enjoy drinks and hors d'oeuvres while taking in the view. Celebrate the achievements of our junior colleagues as we announce the Early Career Researcher travel and merit awards.

To find the Lakeview Terrace, go past the Concierge Desk in the lobby and out the doors by Whispers Lounge. Walk past the outdoor patio and to the staircase in front of Dockside Restaurant. You can also use the Lakeview Terrace elevators by the Dockside Restaurant next to the main entrance of the restaurant.

Non-attendee guests are welcome with the purchase of a Welcome Reception ticket or All-Meals Package.

EARLY CAREER RESEARCHERS EVENT

Monday, September 9, 20:30, Taphouse Unchained

In the spirit of the Working Time Society's aim to promote networking and build community, early career researchers will gather at the *Taphouse Unchained*, across the street from the conference venue (210 Sherman Ave., Coeur d'Alene, ID; www.cdatabhouse.com). Play games, win prizes, have fun, and get to know your peers. Drinks and hearty snacks will be provided.

The Early Career Researchers Event is organized by the early career researchers committee comprised of Amanda Hudson (chair), Raymond Matthews, Elaine Marqueze, Hiroki Ikeda, Grace Vincent, and Anastasi Kosmadopoulos. The committee gratefully acknowledges the sponsorship received for the event from Integrated Safety Support.

OPENING SESSION

Tuesday, September 10, 09:00, Conference Center Bay 4

The president of the Working Time Society and the organizers of Shiftwork2019 welcome us all to the meeting. Helping everyone find their bearings and explaining the Rutenfranz "rules," they will make sure the meeting is off to a great start.

INDUSTRIAL HEALTH SPECIAL ISSUE DISCUSSION

Tuesday, September 10, 18:30, Conference Center Bay 4

Through the collective effort of the membership of the Working Time Society, the journal *Industrial Health* recently published a special issue with open-access, consensus-based articles that provide a broad and international perspective of occupational health and safety risks associated with non-standard work hours (2019 volume 57, issue 2). The editors of this special issue, Imelda Wong and Drew Dawson, will chair a panel with authors from each of the articles; all conference participants are welcome to join in the discussion.

AUSSIE STYLE TRIVIA NIGHT

Tuesday, September 10, 21:00, Conference Center Bay 2

Back by popular demand, be prepared to test your knowledge within and beyond the fields of shiftwork and working time during the *2nd Aussie Style Trivia Night*, hosted by our colleagues from Down Under. Work together with colleagues both new and old for the best chance at winning the coveted Working Time Society trophy!

50TH ANNIVERSARY SYMPOSIUM

Wednesday, September 11, 14:45, Conference Center Bay 4

Shiftwork2019 marks the 50th anniversary of the International Symposium on Shiftwork & Working Time, the first of which was held in Oslo, Norway, in 1969. In this special symposium chaired by Charli Sargent, we will join Steve Popkin, Frida Fischer, Kazutaka Kogi, and Drew Dawson for a walk down memory lane and a preview of what the future may bring.

GENERAL ASSEMBLY

Thursday, September 12, 15:15, Conference Center Bay 4

Included in the registration for Shiftwork2019 is a 2-year Working Time Society membership.

All meeting participants are welcome to attend the General Assembly.

Hear from the president of the Working Time Society about the state of our society. Help celebrate the new Fellows of the Society, Honorary Member, and awardee of the Donald I. Tepas Professional Impact Award. Meet the winners of the Working Time Society Early Career Awards for Research, Practice, and Service. Also, hear from Masaya Takahashi about the plans for our next meeting, Shiftwork2021, to be organized by the Working Time Japan Society.

Make sure to stay until the end of the General Assembly for the Shiftwork2019 group photo! We will first take an indoor group photo in the Conference Center Bay 5, and then an outdoor group photo on the Lakeview Terrace. To find the Lakeview Terrace, go past the Concierge Desk in the lobby and out the doors by Whispers Lounge. Walk past the outdoor patio and to the staircase in front of Dockside Restaurant. You can also use the Lakeview Terrace elevators by the Dockside Restaurant next to the main entrance of the restaurant.

BOAT CRUISE AND DINNER BUFFET

Thursday, September 12, 17:30, Boardwalk Marina

The start of the party we have all been waiting for! The last evening of the conference will begin with a scenic boat cruise and cocktails on Lake Coeur d'Alene, one of the most beautiful lakes in the United States. The fleet of Lake Coeur d'Alene Cruises is moored at the east entrance of the Boardwalk Marina next to the 3rd Street boat ramp. Boarding will be at 17:30.

After about an hour on the water, the boat will arrive at the Hagadone Event Center, which overlooks Lake Coeur d'Alene and the world's only floating green. Buffet dinner stations will feature food and drinks from around North America. Watch the sun set in the perfect location to enjoy each other's company and celebrate.

Non-attendee guests are welcome with the purchase of a Boat Cruise and Dinner Buffet ticket or All-Meals Package.

DISCO NIGHT

Thursday, September 12, 21:00, Conference Center Bay 5

After the boat cruise, let's dance the night away with music from the 80s, 90s, and today. Disco nights at the International Symposium are legendary, and we will continue the tradition with gusto. Break out your best dance moves, and show everyone that you are not afraid to let loose. Let the good times roll!

CLOSING SESSION

Friday, September 13, 12:00, Conference Center Bay 4

All good things must come to an end. Gather for closing remarks from the organizers, provide your evaluation of the meeting, and say goodbye to your colleagues and friends. We shall see each other again in Japan in 2021!

GENERAL INFORMATION

ABSTRACTS

Abstracts submitted for Shiftwork2019 were peer-reviewed by the International Scientific Committee. Thanks to the generous support of the Associação Brasileira de Sono and the Working Time Society, accepted abstracts have been published in an open-access, special issue of the journal *Sleep Science*. See <http://sleepscience.org.br/details/589/en-US>.



ATTIRE

The dress code at International Symposium on Shiftwork & Working Time meetings is casual. Of course, you may wear more formal attire if you wish. Feel free to dress up a bit for the Boat Cruise and Dinner Buffet and Disco Night. In September, the days will be comfortably dry and warm (average daytime temperature: 74°F / 23°C). Bring a sweater or light jacket for the cooler evenings (average lowest nighttime temperature: 47°F / 8°C). Tubbs Hill near the conference venue offers some beautiful, short hikes, so consider bringing a pair of hiking shoes. Furthermore, Lake Coeur d'Alene and the hotel's indoor and outdoor swimming pools are popular for swimming, so bring your swimsuit!

BOARD OF DIRECTORS MEETING

The Board of Directors of the Working Time Society will meet on Wednesday, September 11, at 21:00 in Boardroom 5ABC on the 7th floor of the hotel (*see floorplan inside back cover*). International Scientific Committee and Early Career Researcher Committee members are invited to join the Board for drinks during the first hour of the meeting.

CERTIFICATE OF ATTENDANCE

All registered Shiftwork2019 participants will receive a certificate of attendance as part of their meeting materials, to be picked up at the registration desk.

CONFERENCE VENUE

The Coeur d'Alene, 115 S. 2nd Street, Coeur d'Alene, Idaho 83814, USA

Modern and luxurious, *The Coeur d'Alene* is a top destination for business and vacation. The recently renovated hotel and conference center provide ample opportunity for symposia, poster presentations, and networking with friends and colleagues (*see floorplan inside back cover*). *The Coeur d'Alene* offers complimentary use of the fitness center and indoor and outdoor swimming pools, and free use of a water taxi to the golf course and tennis courts. For more information, see www.cdaresort.com.

CONTACT INFORMATION

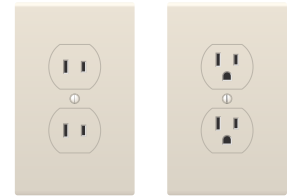
E-mail: shiftwork2019@wsu.edu; Phone: +1 (509) 496-1639

CREDIT CARD

Please make sure to bring a credit card to the meeting. When checking in to the hotel, you will be asked to provide a credit card for “incidentals” – any purchases or services you may charge to your room or any items you may use from the mini-bar in your room. Your credit card will be charged for these additional expenses when you check out. You will also need the credit card to pay for any additional nights at *The Coeur d’Alene* that you may have booked.

ELECTRICITY

Power sockets and plugs in the United States are “Type A” and “Type B”. The standard voltage is 120 V and the standard frequency is 60 Hz. Please make sure to bring a converter for your electrical devices if needed.



EMERGENCIES

The emergency number to call for police, ambulance, and fire brigade is 911.

EXTENDING YOUR STAY

If you wish to add extra nights to your reservation at *The Coeur d’Alene* – whether to attend the Fatigue Risk Management Industry Day prior to Shiftwork2019 or the NIOSH Working Hours, Sleep & Fatigue Forum following Shiftwork2019, or to spend more time in the beautiful Inland Northwest region of the United States – please contact the Shiftwork2019 conference management team at shiftwork2019.management@wsu.edu.

GETTING AROUND

The hotel and conference center are in the same building, and within easy walking distance from all scheduled conference activities and Lake Coeur d’Alene.

GUEST TICKETS

The Working Time Society encourages participation of family members and guests in meals and social events during Shiftwork2019. Guest tickets are available for purchase for the Welcome Reception; for the Boat Cruise and Dinner Buffet; or for all meals including the Welcome Reception and Boat Cruise. Guest tickets do not include participation in the scientific program. To purchase a guest ticket, contact the organizers at shiftwork2019@wsu.edu or visit the registration desk. Guest tickets previously purchased online will be included with your meeting materials, to be picked up at the conference desk.

HOTEL CHECK-IN AND CHECK-OUT

Hotel check-in time is 16:00 or later. Hotel check-out time is before 12:00 (noon). The conference package includes your hotel room from Monday, September 9, until Friday, September 13. At the time of check-in, you will be charged for any additional nights you may have booked. You will also be asked to provide a credit card for any purchases or services you may charge to your room or any items you may use from the mini-bar in your room. At the time of check-out, your credit card will be charged for these additional expenses. Baggage storage prior to check-in and after check-out can be arranged through the hotel’s front desk.

GENERAL INFORMATION

INSURANCE

Registration for Shiftwork2019 does not include any warranties or insurance for medical coverage, accidents, loss or damage to personal property, or travel delays. In the United States, medical treatment for uninsured individuals may be quite expensive. Meeting participants are urged to take out adequate personal insurance to cover health, travel, and personal effects.

INTERNET ACCESS

Free Wi-Fi is available in the hotel rooms and in the conference center. Login information for the hotel rooms will be provided upon check-in. For Wi-Fi access in the conference center, select the "CDA Resort" network, then open browser window. When redirected to home page, click "Redeem Coupon." Enter the coupon code *ccwifi* and provide your e-mail address. Accept Terms and Conditions and click Login.

LEGAL DRINKING AGE

The legal drinking age in the United States is 21. If you do not meet this age requirement, you will not be allowed to consume alcohol provided during meals and special events. You are advised to bring a valid photo identification with you, as servers may request this to confirm that you are of legal drinking age.

LOCAL TRANSPORTATION

Local transportation between the airport and conference venue is included in the conference package for Shiftwork2019 participants arriving between Saturday, September 7 and Monday, September 9 and departing between Friday, September 13 and Sunday, September 15. Shiftwork2019 participants who are also attending the Fatigue Risk Management Industry Day will have transportation provided between the two events as well. Arrangements for local transportation are announced approximately one week before the meeting. Registered participants have been sent a survey via e-mail asking about their local transportation needs. If you have not received a link to the survey, or have not been able to complete the survey by August 31, please contact us at shiftwork2019@wsu.edu.

MEALS AND BREAKS

Meeting participants are expected to take meals and breaks together to foster informal exchanges and community building. All meals and coffee/tea breaks – from the Welcome Reception on Monday, September 9 until the lunch on Friday, September 13 – are included with the conference package. For any dietary restrictions you may have indicated, information will be included with your conference materials. Note that any food or drink ordered outside scheduled meal times will be at your own expense.

MEETING LOCATION

The city of Coeur d'Alene, Idaho, is located in the foothills of the Rocky Mountains in the Inland Northwest region of the United States (elevation approx. 2,200ft / 670m). The city was founded in the late 1800s and named after an Indian tribe called *Coeur d'Alene*, which originally inhabited the area. The meeting venue overlooks the stunning Lake Coeur d'Alene, formed by the Missoula Floods between 15,000 and 12,000 years ago. The Lake Coeur d'Alene area is renowned for its outdoor recreational activities and easy access to nature, and September weather is expected to be pleasantly warm and sunny there. For a list of suggested activities near the conference venue, see www.cdaresort.com/play/activities/activity-directory.

MINI-BARS IN HOTEL ROOMS

Your hotel room has a mini-bar, for which you will receive a key when checking in to the hotel. Items taken from the mini-bar are not included in your conference package. Any items used from the mini-bar will be charged to your room, to be paid upon check-out.

MOBILE PHONES

As a courtesy to others, please silence your mobile phone during all sessions. Photography and video recording of presentations and posters is prohibited.

NAME BADGES

Name badges will be provided at the registration desk. Shiftwork2019 participants are required to wear their badge at all times to access the conference venue and participate in meals, coffee/tea breaks, and special events. Guests will be provided with a name badge with the purchase of a ticket to the Welcome Reception, Boat Cruise and Dinner Buffet, or All-Meals Package.

PHOTOGRAPHY

Photography and video recording of presentations and posters is prohibited. If you wish to have a copy of a presentation slide deck or poster presentation, ask the author for an electronic copy. Meeting participants are encouraged to discuss their work freely, and are under no obligation to share their work with others.

POSTER SESSIONS

On the day of your scheduled poster presentation, please mount your poster before 09:00 and take it down again after 18:15. Posters will be displayed in the Conference Center Bay 1 and Bay 4. Your designated poster location can be found by the number and color indicated in the conference program. Posters up to 48" / 130cm wide can be accommodated. Push pins, hanging clips, and magnets will be provided. Staples, glue, and tape are prohibited. Note that it will not be possible to print your poster at the conference venue. Make sure to be present at your poster during the assigned poster session, as indicated in the conference program, to talk about your work and answer questions. Of course, you are encouraged to discuss your work with your colleagues throughout the meeting!

PRESENTATIONS

Keynote, symposium, and oral presentation speakers are requested to bring their PowerPoint presentation on a USB drive. Presentations should be saved as PowerPoint files (.ppt or .pptx) with your last name in the file name. The conference rooms are equipped with a laptop running Microsoft Windows and PowerPoint 2016, as well as an LCD projector, laser pointer, and microphone. Projector screens will accommodate a wide-screen (16:9) aspect ratio. To check your slides in advance of your presentation, visit the registration desk where there is an additional laptop of the same type. Session chairs have been asked to strictly enforce the allotted time for each presentation, so please prepare your slides accordingly, allowing for about 5 minutes for questions. Be sure to declare any conflicts of interest early in your presentation, and kindly refrain from promoting any commercial interests.

GENERAL INFORMATION

PROCEEDINGS

Continuing the tradition from previous meetings, the Editor-in-Chief of *Chronobiology International* has again graciously offered to publish the conference proceedings. *Chronobiology International* is a top tier journal in the field of biological rhythms with a strong representation of shiftwork research. A call for article submissions, with specific instructions for authors, will go out to the conference participants after the conclusion of Shiftwork2019.

REGISTRATION DESK

The Shiftwork2019 registration desk is located in the conference center of *The Coeur d'Alene*. Please visit the registration desk (see floorplan inside back cover) to pick up your conference badge, tote bag, printed program, certificate of attendance, directions regarding dietary restrictions, and any guest tickets you may have ordered. Speakers may also visit the conference desk to check their presentation on a laptop of the same type as used in the conference rooms. The conference desk will be open on Monday, September 9, from 16:00 until 18:00; on Tuesday, September 10, from 07:30 until 11:00; and during breakfast, lunch, and coffee/tea breaks through the rest of the meeting. It will also be open during the Welcome Reception (on the Lakeview Terrace) and following the closing session on Friday.

RUTENFRANZ RULES

The International Symposium on Shiftwork & Working Time is organized in accordance with the Rutenfranz rules, which may be summarized as follows: (i) hold the symposium in a remote location, (ii) include participants from a mixture of disciplines, (iii) include a good proportion of early career researchers, (iv) have fairly brief presentations from as many participants as possible, (v) take breaks and meals together to foster informal exchanges, (vi) include some group outings to encourage bonding, and (vii) share the information that is presented with non-participants.

SCIENTIFIC PROGRAM

The program of Shiftwork2019 is loaded with scientific content, covering a wide range of topics and disciplines related to research and practice of shiftwork and working time. The scientific program includes keynote lectures, symposia, oral presentation sessions, poster sessions, and special events. The program is dual-tracked, offering more than 70 presentations and more than 100 posters. Symposia, oral presentations, and posters were selected by the International Scientific Committee. Shiftwork2019 participants will receive a printed copy of the final program as part of their meeting materials, to be picked up at the registration desk. An electronic version of the final program may be downloaded from the meeting website at www.shiftwork2019.com. Every effort has been made to produce an accurate program. If you are presenting at the conference, please confirm your presentation times as listed in this program. Kindly notify us of any inaccuracies at shiftwork2019@wsu.edu.

SOCIAL MEDIA

The Working Time Society (WTS) is on social media! You can find the WTS on Facebook at “Working Time Society” and on Twitter at @WorkTimeSociety. Through these channels, we disseminate information about the WTS and the biennial International Symposia, as well as links to the latest research in the field of shiftwork and working time. To make it easier to find relevant information about Shiftwork2019 and current research in shiftwork, please use the hashtags #Shiftwork2019 and #WTS_ICOH, respectively. Please do not post any pictures of posters or presentation slides without explicit permission from the authors!

TAXES AND TIPPING

All taxes and surcharges on conference meals and your hotel room are included with your conference package. For any additional services or purchases, please note that state and local sales tax will be added to the listed price (at 6% for most purchases made in the state of Idaho). Also note that it is customary to include a tip of 15% to 20% of the bill in restaurants, bars, spas, and other places where services are provided. However, gratuities (tips) for conference meals are included with your conference package.

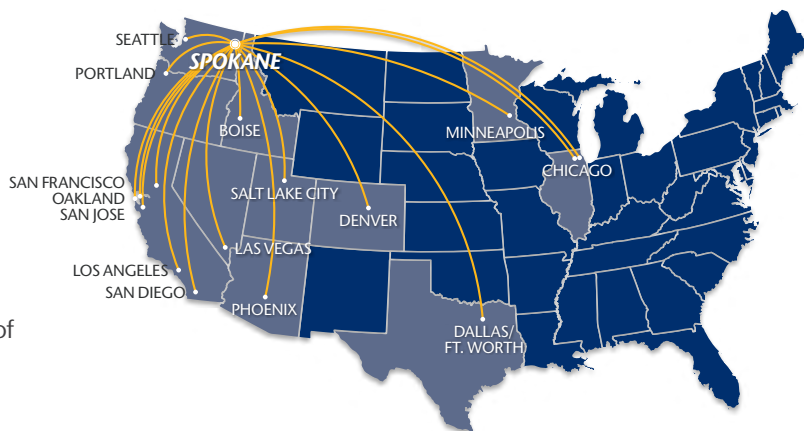
TIME ZONE

Coeur d'Alene and Spokane are in the Pacific time zone. During Shiftwork2019, we will be in Pacific Daylight Time.

TRAVEL

Coeur d'Alene, Idaho is served by the Spokane International Airport (GEG). Driving from the airport to *The Coeur d'Alene* takes approximately 45 minutes. See under “local transportation” for travel between the airport and conference venue. Note that if your flight departs from Spokane International Airport on Friday, September 13, at 15:30 or later, you should have enough time to stay until the end of the meeting including lunch.

For those traveling to Coeur d'Alene by private automobile, covered parking is available at *The Coeur d'Alene* at \$19 per day for self-parking or \$23 per day for valet-parking.



VISA AND ELECTRONIC TRAVEL AUTHORIZATION

International visitors may require a valid visa or ESTA (electronic system for travel authorization) approval to gain entry into the United States. Before you travel, check the requirements with your government or travel agency, or visit the Department of State's Bureau of Consular Affairs website: travel.state.gov/content/travel/en/us-visas/tourism-visit/visitor.html and travel.state.gov/content/travel/en/us-visas/tourism-visit/visa-waiver-program.html. If you need an invitation to Shiftwork2019 for visa application purposes, please send us an e-mail at shiftwork2019@wsu.edu.

WEATHER

We expect comfortably dry, sunny weather, with average daytime temperatures of 74°F / 23°C and cooler evenings (average nighttime temperature minimum: 47°F / 8°C).

WORKING TIME SOCIETY MEMBERSHIP

Registration for the 24th International Symposium on Shiftwork & Working Time includes a 2-year membership in the Working Time Society (WTS), from the start of the conference until October 31, 2021. All Shiftwork2019 participants are thus welcome to attend the General Assembly on Thursday, September 12, 2019 at 15:15. Visit www.workingtime.org for more information about WTS membership.



Anne Helene Garde, Ph.D.

Professor
*National Research Centre for
the Working Environment*

HEALTH AND SAFETY RISKS RELATED TO SPECIFIC CHARACTERISTICS OF SHIFT WORK SCHEDULING

Tuesday, September 10, 9:30–10:30, Conference Center Bay 4

Anne Helene Garde is a research professor at the National Research Centre for the Working Environment in Copenhagen, Denmark. Her research relates to health effects of work environment exposure with special focus on effects of working time arrangements e.g. night work and shift work and psychophysiology. Main questions are if night work is a risk factor for disease and accidents and how night work should be scheduled in order to minimize this risk. For this purpose large epidemiological studies using registers of payroll data of working hours linked to the national health and social registers are used side by side with field studies on physiological effects. She has been the main driver behind the establishment of the Danish Working Hour Database which includes day-to-day information on working hours for more than 250.000 individuals. The analytical designs used include new epidemiological analyses e.g., case-cross over designs and multi-state designs.



Michael Belzer, Ph.D.

Associate Professor
*Department of Economics
Wayne State University*

THE ECONOMICS OF LONG WORK HOURS

Wednesday, September 11, 13:45–14:45, Conference Center Bay 4

Michael H. Belzer is a professor of economics at Wayne State University, teaching labor economics, industrial organization, macroeconomics, and transportation economics. A short- and long-haul truck driver for ten years, he has about 750,000 miles of heavy truck driving experience.

Dr. Belzer is the author of *Sweatshops on Wheels: Winners and Losers in Trucking Deregulation* (Oxford University Press: 2000) and dozens of articles, book chapters, and monographs on trucking industry and labor market issues, including many peer reviewed articles on trucking and commercial motor vehicle driver safety and health issues.

He founded the Transportation Research Board (TRB) Committee on Trucking Industry Research and served as chairman for 15 years, serving now as an emeritus member. He is a founding and 12-year Member (now Friend) of the TRB Committee on Truck and Bus Safety and an 18-year Member (now Friend) of the TRB Committee on Freight Economics and Regulation. He has served on the NIOSH/NORA Transport Sector Council since 2006.

Dr. Belzer served on the National Academies of Sciences, Engineering, and Medicine's National Research Council committee for review of the Large Truck Crash Causation Study and on the National Academies' Committee on National Statistics expert panel on the review of the Compliance, Safety, and Accountability Program of the Federal Motor Carrier Safety Administration. He testified before Congress in 2012, calling for closer cooperation between the Department of Transportation and the Department of Labor.



John Axelsson, Ph.D.

Professor

*Stress Research Institute
Stockholm University*

Associate Professor

*Department of Clinical Neuroscience
Karolinska Institute*

WHEN CAN YOU START TO TRUST AN AWAKENING BRAIN?

Thursday, September 12, 13:45–14:45, Conference Center Bay 4

John Axelsson is a professor at Stockholm University and an associate professor at Karolinska Institutet in Stockholm, Sweden. With his research he aims to increase the knowledge and awareness of how sleep in the rapidly developing 24-hour society affects health, cognitive processes and social behavior. Two of the research questions he finds most intriguing concern how fast the brain can switch from sleep to wakefulness and the mechanisms by which shift work and insufficient sleep increase the risk for adverse health.

SYMPOSIA

SYMPOSIUM 1 USING POST-EVENT FATIGUE INVESTIGATIONS TO IMPROVE SAFETY

Tuesday, September 10, 13:45–15:45, Conference Center Bay 1

CHAIRS: JANA PRICE & KATHERINE WILSON

- 13:45 **TSB Fatigue Investigation Methodology and Recommendations**
 - Missy Rudin-Brown
- 14:15 **Using Vehicle Data to Identify and Address Fatigue**
 - Jason Palmer
- 14:45 **Voluntary Fatigue Reporting System Within a Fatigue Risk Management System**
 - Jim Mangie
- 15:15 **OSA Screening, Diagnosis, and Treatment Program Implementation After a Major Rail Event**
 - Daria Luisi

SYMPOSIUM 2 NIGHT WORK IS BAD, SO DAY WORK IS GOOD, RIGHT?

Tuesday, September 10, 13:45–15:45, Conference Center Bay 4

CHAIR: SIOBHAN BANKS

- 13:45 **Daylight Exposure: Effects on Metabolism**
 - Kenneth Wright Jr.
- 14:15 **Eating, Sleeping, and Working in Different Environments: Does it Make a Difference?**
 - Claudia Moreno
- 14:45 **Circadian and Sleep Constraints in Day Workers and Retired**
 - Arne Lowden
- 15:15 **Working Mainly at Daytime: Health and Safety Risk Without Circadian Disruption**
 - Göran Kecklund

SYMPOSIUM 3 INDIVIDUAL DIFFERENCES IN SHIFT WORK TOLERANCE: GENDER & AGING

Wednesday, September 11, 10:30–12:30, Conference Center Bay 1

CHAIR: HEIDI LAMMERS-VAN DER HOLST

- 10:30 **Sex Differences in Tolerance to Night Shifts**
 - Diane Boivin
- 11:00 **Sex Differences in Shift Work Tolerance: Searching for a Potential Mechanism**
 - Parisa Vidafar
- 11:30 **Working Hours, Sleep and Fatigue in the Finnish Public Sector-Study. Does Ageing Matter?**
 - Mikko Härmä
- 12:00 **Older Shiftworkers: Greater Tolerance for Sleep Loss, But Worse Ability to Sleep at Adverse Times**
 - Jeanne Duffy

SYMPOSIUM 4 SLEEP, WORK, AND CHRONIC DISEASE: NEW INSIGHTS AND CURRENT CHALLENGES

Wednesday, September 11, 10:30–12:30, Conference Center Bay 4

CHAIR: CÉLINE VETTER

- 10:30 **Non-Standard Work Hours and Chronic Health Conditions in Australia**
 - Amy Reynolds
- 11:00 **Shift-Work, Diurnal Preferences, Sleep and Parkinson's Disease**
 - Johnni Hansen
- 11:30 **Shiftwork and Prescription Medication Use**
 - Philip Tucker
- 12:00 **Coping Strategies and Health in Shift Workers**
 - Jill Dorrian

SYMPOSIUM 5 FATIGUE RISK MANAGEMENT IN NURSING AND OPPORTUNITIES FOR INNOVATION AND GROWTH

Thursday, September 12, 10:30–12:30, Conference Center Bay 1

CHAIR: LOIS JAMES

- 10:30 **Addressing Occupational Fatigue in Nurses – Fatigue Monitoring and Risk Management to Improve Nurse Safety and Health**
 - Linsey Steege
- 11:00 **Costs and Consequences of 12-Hour Shifts in Nursing: Perspectives from England’s National Health Service**
 - Chiara Dall’Ora
- 11:30 **Subjective Fatigue and Fatigue-Risk Measurement and Their Relationships With Absenteeism in 12-Hour Shifts Hospital Nurses from the United States**
 - Knar Sagherian
- 12:00 **On-Duty Performance Measurements and Impacts of Work/Break Policies for Shift-Working U.S. Nurses**
 - Marian Wilson

SYMPOSIUM 6 STRATEGIES TO MITIGATE FATIGUE HAZARD DUE TO IRREGULAR WORKING HOURS IN TRANSPORT

Thursday, September 12, 10:30–12:30, Conference Center Bay 4

CHAIR: GÖRAN KECKLUND

- 10:30 **Sleepiness at Top of Descent – Influence of Time of Day, End Time, Duration and Sectors in a Large European Sample of Aircrew**
 - Torbjörn Åkerstedt
- 11:00 **Fatigue Mitigation in Air, Road, and Rail Transport: Biomathematical Modeling and Operators’ Behavioral Strategies**
 - Mikael Sallinen
- 11:30 **At the Intersection of Hours of Service Regulations, Fatigue Risk Management and the Changing Landscape of Vehicle – Operator Interaction: Charting a New Destination or Doomed to Go Around in Circles**
 - Stephen Popkin
- 12:00 **Autonomous Driving and Working Hours in Road Transport**
 - Anna Anund

SYMPOSIUM 7 MODELING SHIFT WORK AND CIRCADIAN DISRUPTION: EXPERIMENTAL AND MATHEMATICAL APPROACHES

Friday, September 13, 10:00–12:00, Conference Center Bay 1

CHAIR: MASAYA TAKAHASHI

- 10:00 **Predicting Alertness, Sleep, and Circadian Dynamics in Nurses Working Shifts**
 - Svetlana Postnova
- 10:30 **Can Night Shift Workers Benefit From Light Exposure?**
 - Janne Grønli
- 11:00 **Improving a Bio-Mathematical Fatigue Model to Better Cope with Large Time Zone Transitions**
 - David Karlsson
- 11:30 **A Mathematical Framework for Understanding Sleep Disturbances in a Rodent Model of Shift Work**
 - Michael Rempe

SYMPOSIUM 8 CIRCADIAN HEALTH AND OPTIMIZATION ON A SHIFTWORK SCHEDULE

Friday, September 13, 10:00–12:00, Conference Center Bay 4

CHAIR: DIANE BOIVIN

- 10:00 **Sleep Around the Clock: Chronotypes and Sleep Health in Contemporary Nursing Schedule**
 - Céline Vetter
- 10:30 **Optimizing Shiftworkers Sleep and Circadian Health via Novel Lighting Strategies**
 - Gena Glickman
- 11:00 **Altering the Timing of Meals to Improve Metabolic Health in Shift Workers**
 - Siobhan Banks
- 11:30 **Time-Restricted Eating to Improve Health in Firefighters**
 - Emily Manoogian

ORAL PRESENTATIONS

ORAL SESSION 1 WORKING TIME ARRANGEMENTS

Tuesday, September 10, 11:00–12:30, Conference Center Bay 1

CHAIR: THOMAS BALKIN

- 11:00 **Characterizing the Distribution of Shift Domains by Demographics and Shift Schedule in the American Manufacturing Cohort**
• Jacqueline Ferguson, Ellen Eisen, Patrick Bradshaw, Mark Cullen, Sadie Costello
- 11:15 **Modeling Injuries and Accidents Based on Selected Working Hours Characteristics – A Discussion of Open Questions and How to Deal with Them**
• Johannes Gärtner, Anna Arlinghaus, Friedhelm Nachreiner, Dorothee Fischer, Simon Folkard
- 11:30 **Time, Work and Health among Brazilian Civil Servants: Working Too Many Hours, Working under Time Pressure, or Both?**
• Lucia Rotenberg, Aline Silva-Costa, Dóra Chor, Rosane Griep
- 11:45 **Working Time Variability and Flexibility in Europe Revisited: A Typological Approach**
• Nils Backhaus, Irene Houtman, Sophie Charlotte Meyer, Anita Tisch
- 12:00 **BAuA Working Time Survey: A Representative Panel Study**
• Anne Wöhrmann, Corinna Brauner, Alexandra Michel
- 12:15 **The Effects of the Use of Participatory Working Time Scheduling Tool on Sickness Absence: Results from Quasi-Experimental Study**
• Jarno Turunen, Kati Karhula, Aki Koskinen, Annina Ropponen, Sampsa Puttonen, Tarja Hakola, Mikko Härmä

ORAL SESSION 2 SHIFTWORK: FATIGUE & SAFETY

Tuesday, September 10, 11:00–12:30, Conference Center Bay 4

CHAIR: GREGORY ROACH

- 11:00 **Fatiguing Effect of Multiple Take-Offs and Landings in Regional Airline Operations**
• Kimberly Honn, Briann Satterfield, Hans Van Dongen
- 11:15 **Schedule Factors Associated with the Use of Controlled Rest in a Long-Haul Airline**
• Cassie Hilditch, Lucia Arsintescu, Kevin Gregory, Erin Flynn-Evans
- 11:30 **Model-Derived Estimates of Police Officers' Sleepiness using Actual and Predicted Sleep/Wake Behavior**
• Samantha Riedy, Desta Fekedulegn, Drew Dawson, Michael Andrew, Bryan Vila, John Violanti
- 11:45 **Effects of Fatigue on Officer Performance in Deadly Force Simulations**
• Elizabeth Dotson, Stephen James, Lois James, Bryan Vila
- 12:00 **Naturalistic Study of Sleep Quantity and Quality, Alertness, Sleepiness, Fatigue, and Stress in U.S. Commercial Motor Vehicle (CMV) Drivers: On-Duty Days vs. Restart (Off-Duty) Days**
• David Dinges, Greg Maislin, Richard Hanowski, Daniel Mollicone, Jeffrey Hickman, David Maislin, Kevin Kan, Rebecca Hammond, Susan Soccolich, Devon Moeller, Michael Trentalange, Makayla Cordoza, Marc Kaizi-Lutu
- 12:15 **Sleep and Alertness in a Duty-Hour Flexibility Trial in Internal Medicine**
• Mathias Basner, David Asch, Judy Shea, Lisa Bellini, Michele Carlin, Susan Malone, Sanjay Desai, Alice Sternberg, James Tonascia, Joel Katz, Jeffrey Silber, Kevin Volpp, Christopher Mott, Daniel Mollicone, David Dinges, on behalf of the iCOMPARE Research Group
- Presented by David Dinges on behalf of Mathias Basner
- **Bold name** indicates presenter, unless otherwise noted.

ORAL SESSION 3 SLEEPINESS & COGNITION

Wednesday, September 11, 09:00–10:00, Conference Center Bay 1

CHAIR: RAYMOND MATTHEWS

- 09:00 **Executive and Non-Executive Components of Visual Working Memory Task Performance During Total Sleep Deprivation**
• **Darian Sidebottom**, Paul Whitney, John Hinson, Devon Hansen, Hans Van Dongen
- 09:15 **Effects of Acute Total Sleep Deprivation on Sustained Attention and Response Inhibition**
• **Amanda Hudson**, Kimberly Honn, Devon Hansen, John Hinson, Paul Whitney, Hans Van Dongen
- 09:30 **Supervision of a Self-Driving Vehicle Unmasks Latent Sleepiness Relative to Manual Driving**
• **Lily Wong**, Yukiyo Kurikagawa, Nikhil Gowda, Patrick Cravalho, Theerawit Wilaiprasitporn, Javier Garcia, Erin Flynn-Evans
• Presented by Erin Flynn-Evans on behalf of Lily Wong
- 09:45 **Self-Reported Driver Sleepiness in London Bus Drivers**
• **Ashleigh Filtress**, Anna Anund, Karl Miller, Sally Maynard, Fran Pilkington-Cheney, Anna Dahlman, Jonas Ihlström

ORAL SESSION 4 SLEEP & WORK–LIFE BALANCE

Wednesday, September 11, 09:00–10:00, Conference Center Bay 4

CHAIR: PHILIP BOHLE

- 09:00 **Insomnia Interventions among Shift Workers: An RCT Trial in Occupation Health Services**
• **Heli Järnefelt**, Mikko Härmä, Mikael Sallinen, Teemu Paajanen, Jussi Virkkala, Kari-Pekka Martimo, Christer Hublin
- 09:15 **The Impact of Different Daytime Sleep Strategies on Sleep Duration During a Week of Simulated Night Work**
• **Charli Sargent**, Drew Dawson, Charmane Eastman, Gregory Roach
- 09:30 **What is the Impact of On-Call Working Time Arrangements for the Partners of On-Call Workers?**
• **Sally Ferguson**, Simone Karan, Jessica Paterson, Amy Reynolds, Michelle Dominiak, Grace Vincent
- 09:45 **Health and Work-Life Balance Across Types of Work Schedules: A Latent Class Analysis**
• **Corinna Brauner**, Anne Wöhrmann, Kilian Frank, Alexandra Michel

ORAL PRESENTATIONS

ORAL SESSION 5 SHIFTWORK & PATIENT CARE

Wednesday, September 11, 18:30–19:30, Conference Center Bay 1

CHAIR: SIRI WAAGE

- 18:30 **The Impact of Cumulative 12-Hour Work Shifts on Nursing Critical Skills**
• **Lois James**, Stephen James, Marian Wilson, Kevin Stevens, Patricia Butterfield
- 18:45 **The Impact of Day and Night Shifts on Sleep and Patient Care Skills in Registered Nurses**
• **Nathaniel Elkins-Brown**, Elizabeth Dotson, Lois James, Stephen James, Marian Wilson, Kevin Stevens, Patricia Butterfield
- 19:00 **Teaching Strategies for Sleep and Recuperation to New Nurses Who are Starting Shift Work: Can It Mitigate Fatigue and Ill-Health? Results from a Randomized Controlled Trial**
• **Anna Dahlgren**, Majken Epstein, Maria Reinius, Petter Gustavsson, Marie Söderström
- 19:15 **The Impact of Hours Worked on Near Miss Medication Error Alerts**
• **Jlynn Westley**, Robert List, Jessica Peterson, Daniel Fort, Jeff Burton, Tracey Moffatt

ORAL SESSION 6 CIRCADIAN MISALIGNMENT & LIGHT

Wednesday, September 11, 18:30–19:30, Conference Center Bay 4

CHAIR: ANASTASI KOSMADOPOULOS

- 18:30 **Daylight Light Exposure Affects Circadian Adaptation to a Week of Night Shifts**
• **Gregory Roach**, Drew Dawson, Charmane Eastman, Charli Sargent
- 18:45 **Individual Differences in Response to Bright Light Exposure to Enhance Adaptation to a Counterclockwise Shift Work Rotation**
• **Heidi Lammers-van der Holst**, James Wyatt, Todd Horowitz, Joseph Ronda, Jeanne Duffy, Charles Czeisler
- 19:00 **Effects of Different Light Intensities on Adaptation to Simulated Night Shifts: A Randomized Counterbalanced Crossover Study**
• **Erlend Sunde**, Jelena Mrdalj, Torhild Pedersen, Eirunn Thun, Janne Grønli, Anette Harris, Bjørn Bjorvatn, Siri Waage, Ståle Pallesen
- 19:15 **Risk-Taking and Circadian Misalignment in Night Shift Workers**
• **Philip Cheng**, Andrea Cuamatzi-Castelan, Christopher Drake

ORAL SESSION 7 SHIFTWORK & DISEASE

Thursday, September 12, 09:00–10:00, Conference Center Bay 1

CHAIR: ADAM FLETCHER

- 09:00 **Shift Work and Incidence of Dementia: A Danish Nurse Cohort Study**
• **Jeanette Jørgensen**, Rudi Westendorp, Johnni Hansen, Leslie Stayner, Mette Simonsen, Zorana Andersen
- 09:15 **Shift Workers in Healthcare Have a Higher Incidence and Severity of Respiratory Infections Than Non-Shift Workers**
• **Bette Loef**, Debbie van Baarle, Allard van der Beek, Elisabeth Sanders, Patricia Bruijning-Verhagen, Karin Proper
- 09:30 **Changes in Body Weight after Exogenous Melatonin Supplementation on Days-Off in Overweight Nurses Who Work Permanent Night Shifts: Preliminary Results**
• **Elaine Marqueze**, Céline Vetter, Debra Skene, José Cipolla-Neto, Claudia Moreno
- 09:45 **Night Shift Disrupts the DNA Repair and Enhances DNA Damage in Humans**
• **Bala Koritala**, Kenneth Porter, Hans Van Dongen, Shobhan Gaddameedhi

ORAL SESSION 8 FOOD & CAFFEINE INTAKE

Thursday, September 12, 09:00–10:00, Conference Center Bay 4

CHAIR: ANNA ARLINGHAUS

- 09:00 **The Quantity and Timing of Food Intake by Police Officers on Rotating Shift Schedules Varies by Shift Type**
• **Anastasi Kosmadopoulos**, Laura Kervezee, Philippe Boudreau, Fernando Gonzales-Aste, Nina Vujovic, Frank Scheer, Diane Boivin
- 09:15 **Strategically Timed Food Intake During the Night Shift: Putting These Countermeasures to Practice**
• **Crystal Yates**, Alison Coates, Jillian Dorrian, David Kennaway, Gary Wittert, Leonie Heilbronn, Maja Pajcin, Chris Della Vedova, Charlotte Gupta, Siobhan Banks
• Presented by Siobhan Banks on behalf of Crystal Yates
- 09:30 **Effects of Repeated Dose Caffeine on Neurobehavioral Performance during 48 hours of Total Sleep Deprivation**
• **Devon Hansen**, Sridhar Ramakrishnan, Brieann Satterfield, Nancy Wesensten, Matthew Layton, Jaques Reifman, Hans Van Dongen
- 09:45 **The Relationships between Coping Styles and Food Intake in Shiftworking Nurses and Midwives**
• **Alex Agostini**, Stephanie Centofanti, Antonietta Colella, Lisa Devine, Caroline Dingle, Helen Galindo, Sophie Pantelios, Gorjana Brkic, Siobhan Banks, Mary Carskadon, Jill Dorrian

POSTER SESSIONS

POSTER SESSION 1 CIRCADIAN RHYTHMS

Tuesday, September 10, 16:15–17:15, Conference Center Bay 1

1.1	Predicting circadian phase in night shift workers using actigraphy	• Philip Cheng , Olivia Walch, Andrea Cuamatzi-Castelan, Christopher Drake
1.2	Assessment of circadian adaptation of police officers across seven consecutive night shifts	• Anastasi Kosmadopoulos , Laura Kervezee, Phillippe Boudreau, Diane Boivin
1.3	Examination of stimulated nightshifts conducted at 100 lux and the endogenous melatonin secretion profile in relation to nap quality: A preliminary study	• Jacqueline Stepien , Jill Dorrian, Alison Coates, Stephanie Centofanti, Kurt Lushington, Antonietta Colella, David Kennaway, Siobhan Banks • Presented by Siobhan Banks on behalf of Jacqueline Stepien
1.4	Phase relationships between dim light melatonin onset and sleep markers determined by actigraphy and the Munich chronotype questionnaire	• Andrew Reiter , Gregory Roach, Charli Sargent
1.5	Melatonin profiles during the third trimester of pregnancy and health status in the offspring among day and night workers: A case series study	• Patrícia Nehme , Fernanda Amaral, Benita Middleton, Arne Lowden, Elaine Marqueze, Ivan França-Junior I, José Antunes Filho, José Cipolla-Neto, Debra Skene, Cláudia Moreno
1.6	No time to eat: a qualitative study about nurses' food intake, shiftwork and gender	• Anna Carolina Siqueira , Cláudia Moreno
1.7	Shiftworking nurses and diet changes across rotating shifts	• Gabe Hart, Alison Coates, Jillian Dorrian , Georgina Heath
1.8	Dietary intake of registered nurses working nights compared to days off work	• Teresa Bigand , Moriah Cason, Tullamora Diede, Marian Wilson
1.9	Association between eating duration and food consumption throughout a complete shift rotation schedule: a prospective and observational study	• Luisa Marot , Dayane Rosa, Tássia Lopes, Cláudia Moreno, Cibebe Crispim
1.10	Effect of high-protein meal during a night shift on the food consumption pattern the following day: a randomized crossover study with fixed night workers	• Catarina Silva, Nayara Cunha, Maria Mota, Kely Teixeira, Luisa Marot , Cibebe Crispim
1.11	Internal desynchrony of central and peripheral circadian rhythms during stimulated night shift work	• Hans Van Dongen , Shobhan Gaddameedhi, Elena Crooks, Namrata Chowdhury, Rajendra Gajula, Benita Middleton, Brieann Satterfield, Kenneth Porter, Debra Skene

POSTER SESSION 2 MENTAL HEALTH

Tuesday, September 10, 16:15–17:15, Conference Center Bay 4

2.1	A prospective study on shift work and lifestyle factors among nurses	• Hogne Vikanes Buchvold , Ståle Pallesen, Siri Waage, Bjørn Bjorvatn
2.2	Leisure activities and rest after long work hours and night work – a pilot diary study using mobile devices	• Anna Arlinghaus , Johannes Gärtner, Bettina Stadler, Hubert Eichmann, Bernhard Saupe, Annika Schönaauer
2.3	When work invades life: work, everyday life, and health of teachers	• Jefferson da Silva , Frida Fischer
2.4	Strategies for time management as part of daily routine of medical residents	• Rafael Torres , Frida Fischer
2.5	The effects of night shift and overtime work on the recovery and the social life among nurses in Korea	• Mia Son , Domyung Paek, Jaewon Yun
2.6	Longitudinal study of nurses' quick returns and self rated stress when entering work life	• Anna Dahlgren , Philip Tucker, Petter Gustavsson, Aleksandra Bujacz
2.7	Longitudinal measurement of occupational fatigue types among hospital nurses	• Diane Drake , Linsey Steege
2.8	Tracking the psychosocial working conditions of shiftworking and non-shiftworking nurses across early to mid-career	• Aleksandra Sjöstrom-Bujacz , Philip Tucker , Anna Dahlgren, Petter Gustavsson, Ann Rudman
2.9	Can psychosocial working environment factors explain gender differences in the association between work schedule and health?	• Philip Tucker , Paraskevi Peristera, Constanze Leineweber, Göran Kecklund
2.10	Long and irregular work days and worker health	• Adekemi Suleiman , Ragan Decker, Nina Franzen, Jennifer Garza, Alicia Dugan, Jennifer Cavallari
2.11	Characteristics of compensated claims for overwork-related mental disorders among employees in transport and postal activities in Japan	• Masaya Takahashi , Toru Yoshikawa, Takashi Yamauchi, Shigeo Umezaki
2.12	Mental disorders and absenteeism in federal civil servants in Acre, Brazil, from 2013 to 2017	• Suleima Vasconcelos , Priscila Miranda
2.13	Development of a tool for assessing the health and social risks associated with shiftwork	• Jan de Leede
2.14	A longitudinal study of shift work, long work hours and dementia	• Kirsten Nabe-Nielsen , Åse Marie Hansen, Kazi Ishtiaq-Ahmed, Matias Grynderup, Finn Gyntelberg, Sabrina Islamoska, Erik Mortensen, Thien Phung, Naja Rod, Gunhild Waldemar, Rudi Westendorp, Anne Helene Garde
2.15	Association between nightshift schedule and mental health symptoms among Filipino factory workers	• Sophia Francesca Lu

POSTER SESSIONS

POSTER SESSION 3 SHIFTWORK AND DISEASE

Tuesday, September 10, 17:15–18:15, Conference Center Bay 1

3.1	Cumulative exposure to shift work and select chronic diseases: a systemic review	• Ivorie Stanley , Alison Hernandez, Molly Beestrum
3.2	The longitudinal association between shift work and headache	• Andreas Appel , Eszter Török, Marie Jensen, Anne Helene Garde, Åse Marie Hansen, Linda Kaerlev, Matias Grynderup, Kirsten Nabe-Nielsen
3.3	The association between shift intensity and low-back pain in nurses	• Maria Katsifaraki, Kristian Bernhard Nilsen, Jan Olav Christensen, Morten Wærsted, Stein Knardahl, Bjørn Bjorvatn, Mikko Härmä, Dagfinn Matre
3.4	Acute effects of night work and meals on blood glucose levels – preliminary results	• Marie Aarrebo Jensen , Åse Marie Hansen, Mette Sallerup, Nina Odgaard Nielsen, Vivi Schlünssen, Anne Helene Garde
3.5	Short sleep, psychosocial work stressors, and measures of obesity: results from an Australian cohort study	• Christopher Bean , Anastasi Kosmadopoulos, Amanda Hutchinson, Raymond Matthews, Charli Sargent, Johanna Stengård, Noora Berg, Helen Winefield, Robert Adams • Presented by Anastasi Kosmadopoulos on behalf of Christopher Bean
3.6	Exploring the eating behaviours and gastrointestinal health of residential support workers during dayshifts and sleepover nightshifts	• Charlotte Gupta , Jillian Dorrian, Alison Coates, Amy Zadow, Maureen Dollard, Siobhan Banks
3.7	Working time characteristics and long-term sickness absence. A study of Danish and Finnish nurses and nurse assistants	• Ann Dyreborg Larsen , Annina Ropponen, Johnni Hansen, Åse Marie Hansen, Henrik Kolstad, Aki Koskinen, Mikko Härmä, Anne Helene Garde
3.8	Night work for hospital nurses and sickness absence: a retrospective study using routinely collected data	• Chiara Dall’Ora , Oliver Redfern, Jane Ball, Paul Meredith, Peter Griffiths
3.9	Short shift interval and risk of hypertension in hospital workers: a longitudinal study	• Inchul Jeong , Jin-ha Yoon, Yun-Sik Cho, Kyung-Jong Lee, Jae Bum Park
3.10	Night work and the risk of ischemic heart disease and anti-hypertensive drug use. A cohort study of 145,861 Danish employees	• Ann Larsen, Reiner Rugulies, Johnni Hansen, Henrik Kolstad, Åse Marie Hansen , Harald Hannerz, Anne Helene Garde
3.11	Effects of sufficient sleep on fatigue and blood pressure in local and long-haul truck drivers: a field study	• Shun Matsumoto , Tomohide Kubo, Shuhei Izawa, Hiroki Ikeda, Masaya Takahashi, Shigeki Koda
3.12	Examining excessive fatigue symptoms among truck drivers by the list of prodrome of karoshi (overwork-related cerebrovascular and cardiovascular diseases)	• Tomohide Kubo , Shun Matsumoto, Takeshi Sasaki, Hiroki Ikeda, Shuhei Izawa, Masaya Takahashi, Shigeki Koda, Tsukasa Sasaki, Kazuhiro Sakai
3.13	Discrepancies in biological aging in truck drivers in Ukraine	• Natalia Bobko, Volodymyr Cherniuk, Diana Gadayeva
3.14	Age limits of satisfactory blood circulation effectiveness in shiftworkers	• Volodymyr Cherniuk, Natalia Bobko, Volodymyr Mazur, Tetiana Martynovska, Diana Gadayeva, Roman Yabchanka

• **Bold name** indicates presenter, unless otherwise noted.

POSTER SESSION 4 SLEEP AND SLEEPINESS

Tuesday, September 10, 17:15–18:15, Conference Center Bay 4

4.1	Cooperative behavior decreases during stimulated nightshifts	<ul style="list-style-type: none"> • Raymond Matthews, Peter Roma, Steven Hursh, Stephanie Centofanti, Crystal Yates, Jacqueline Stepien, Darian Sidebottom, Ellyse Greer, Charlotte Gupta, Jill Dorrian, Alison Coates, David Kennaway, Gary Wittert, Leonie Heilbronn, Peter Catchside, Manny Noakes, Siobhan Banks
4.2	Predictors of sleepiness in two-week offshore day-shift workers	<ul style="list-style-type: none"> • Vanessa Riethmeister, Ute Bültmann, Michiel de Boer, Sandra Brouwer
4.3	Operator self-assessment of alertness levels over a 12-hour shift	<ul style="list-style-type: none"> • Michele Terranova
4.4	Sleepiness among pilots and helicopter emergency medical service crew members in the Norwegian air ambulance service	<ul style="list-style-type: none"> • Tine Flaa, Anette Harris, Bjørn Bjorvatn, Hilde Gundersen, Erik Zakariassen, Ståle Pallesen, Siri Waage
4.5	Sleep, sleepiness and, sleepiness countermeasures among tram drivers	<ul style="list-style-type: none"> • Mikael Sallinen, Jussi Onninen, Tarja Hakola, Jussi Virkkala, Sampsa Puttonen
4.6	City bus drivers' fatigue – an explorative study among city bus drivers in London	<ul style="list-style-type: none"> • Anna Anund, Ashleigh Filtness, Karl Miller, Anna Dahlman, Jonas Ihlström, Sally Maynard, Fran Pilkington-Cheney
4.7	Estimating risk of safety critical events in trucking operations based on drivers hours of service data	<ul style="list-style-type: none"> • Daniel Mollicone, Kevin Kan, Christopher Mott
4.8	Sensitivity of brief cognitive tests to sleep loss and time-of-day: results from the Stockholm WakeAPP	<ul style="list-style-type: none"> • John Axelsson, Benjamin Holding, Michael Ingre, Tina Sundelin
4.9	Associations of TNF α gene polymorphism with resilience to sleep deprivation and caffeine sensitivity	<ul style="list-style-type: none"> • Lillian Skeiky, Allison Brager, Devon Hansen, Briann Satterfield, Martha Petrovick, Thomas Balkin, Vincent Capaldi, Ruthie Ratcliffe, Hans Van Dongen
4.10	How much sleep does an elite athlete need?	<ul style="list-style-type: none"> • Charli Sargent, Michele Lastella, Shona Halson, Gregory Roach
4.11	“Working out” a countermeasure for sleep inertia	<ul style="list-style-type: none"> • Katya Kovac, Grace Vincent, Sarah Jay, Jessica Paterson, Amy Reynolds, Brad Aisbett, Sally Ferguson
4.12	Sleep hygiene in paramedics: what do they know and what do they do?	<ul style="list-style-type: none"> • Alexandra Prescott, Sally Ferguson, Sarah Jay, Alex Russel, Grace Vincent • Presented by Sally Ferguson on behalf of Alexandra Prescott
4.13	Objectively measured sleep of shift workers in healthcare	<ul style="list-style-type: none"> • Gerben Hulsege, Bette Loeff, Linda van Kerkhof, Till Roenneberg, Allard van der Beek, Karin Proper
4.14	Total sleep time in shift work disorder after a shift work washout period – an onsite questionnaire study	<ul style="list-style-type: none"> • Päivi Vanttola, Mikko Härmä, Sampsa Puttonen

(continued on next page)

POSTER SESSIONS

POSTER SESSION 4 SLEEP AND SLEEPINESS (CONTINUED)

4.15	A good night's rest: trait inter-individual differences in deep sleep	• Julie Erwin , Lillian Skeiky, Devon Hansen, Brieann Satterfield, Gemma Paech, Hans Van Dongen
4.16	The effect of total sleep deprivation on cognitive performance during the first night-shift for early and late chronotypes	• Andrew Reiter , Gregory Roach, Charli Sargent
4.17	Can your fingers separate REM and non-REM sleep?	• Andrew Reiter , Gregory Roach, Charli Sargent, Leon Lack
4.18	Shift work disorder among Norwegian nurses – a two year follow-up study	• Siri Waage , Ståle Pallesen, Anette Harris, Bente Moen, Bjørn Bjorvatn
4.19	Brain health during simulated night shift work in rats	• Janne Grønli , Øystein Holmelid, Josien Janssen, Jelena Mrdalj, Sudarshan Patil, Jonathan Wisor, Torhild Pedersen, Peter Meerlo, Clive Bramham, Andrea Marti

POSTER SESSION 5 SHIFTWORK AND SAFETY

Wednesday, September 11, 16:15–17:15, Conference Center Bay 1

5.1	Online survey on fatigue hotspots among flight and cabin crew members across Europe	• Henk van Dijk , Anneloes Maij, Rolf Zon • Presented by Anneloes Maij on behalf of Henk van Dijk
5.2	The relationship between workload, performance and fatigue in a short-haul airline	• Lucia Arsintescu , Ravi Chachad, Kevin Gregory, Jeffrey Mulligan, Erin Flynn-Evans
5.3	Fatigue in a search and rescue crew population	• Jannicke Sandvik , Anders Meland, Anthony Wagstaff
5.4	A qualitative investigation into the use of sleepiness countermeasures in London city bus drivers	• Frances Pilkington-Cheney , Ashleigh Filtress, Cheryl Haslam, Sally Maynard
5.5	Association between shiftwork of long-haul bus and truck drivers and road collisions in Metro Manila	• Sophia Francesca Lu
5.6	The likelihood of crashing during the post-work commute decreases throughout a week of night shifts	• Gregory Roach , Drew Dawson, Charli Sargent
5.7	Cohort study of short time between shifts and risk of injury	• Helena Nielsen , Åse Hansen, Sadie Conway, Johnny Dyreborg, Johnni Hansen, Henrik Kolstad, Ann Larsen, Kirsten Nabe-Nielsen, Lisa Pompeii, Anne Helene Garde • Presented by Anne Helene Garde on behalf of Helena Nielsen
5.8	Characteristics of working hours and the risk of occupational injuries among hospital employees: a case-crossover study	• Mikko Härmä , Aki Koskinen, Mikael Sallinen, Annina Ropponen, David Lombardi
5.9	Occupational exposure to chemicals and unusual working hours. A literature review	• Jenny-Anne Lie , Magne Bråtveit, Shanbeh Zienolddiny

POSTER SESSION 6 MEASUREMENT AND MODELING

Wednesday, September 11, 16:15–17:15, Conference Center Bay 4

6.1	Fatigue factors in San Francisco bar pilot operations	<ul style="list-style-type: none"> • Kevin Gregory, Alan Hobbs, Bonny Parke, Nicholas Bathurst, Sean Pradhan, Erin Flynn-Evans
6.2	Distinguishing resting from driving truck drivers	<ul style="list-style-type: none"> • Wessel van Leeuwen, Christiana Harous, Jon Friström, Christer Ahlström, Anna Anund, Göran Kecklund • Presented by Göran Kecklund on behalf of Wessel van Leeuwen
6.3	Driving time and rest periods in highly automated long-haul trucking	<ul style="list-style-type: none"> • Christer Ahlström, Herman Jansson, Stas Krupenia, Wessel van Leeuwen, Göran Kecklund, Anna Anund • Presented by Anna Anund on behalf of Christer Ahlström
6.4	Creating a standardized procedure for measuring sleep by actigraphy in aviation field studies	<ul style="list-style-type: none"> • Ian Rasmussen, Amanda Lamp, Maxwell Cook, Rhiannon Soriano Smith, Natasha Gage, Gregory Belenky
6.5	Implementation of fatigue risk systems in pipeline control rooms	<ul style="list-style-type: none"> • Charles Alday
6.6	The effect of the use of tool for participatory working time scheduling on working hour characteristics and well-being: a quasi-experimental intervention study	<ul style="list-style-type: none"> • Kati Karhula, Jarno Turunen, Annina Ropponen, Sampsa Puttonen, Tarja Hakola, Aki Koskinen, Mika Kivimäki, Mikko Härmä
6.7	An accessible web-based tool to evaluate risk of on-duty sleepiness	<ul style="list-style-type: none"> • Mikael Sallinen, Christian Portin, Jukka Terttunen, Petra Vainio, Göran Kecklund, Torbjörn Åkerstedt
6.8	Modeling SAFTE-FAST predicted effectiveness at final top of descent: actigraphy v. self report v. SAFTE-FAST autosleep	<ul style="list-style-type: none"> • Rhiannon Soriano Smith, Amanda Lamp, Maxwell Cook, Ian Rasmussen, Natasha Gage, Gregory Belenky
6.9	Biomathematical modelling for shift planning in the tunneling industry	<ul style="list-style-type: none"> • Ashleigh Filtress, Fran Pilkington-Cheney, Wendy Jones, Nathan Stuttard, Sally Maynard, Roger Haslam, Alistair Gibb
6.10	Circadian dynamics for jet lag and performance prediction after long-distance travel	<ul style="list-style-type: none"> • Peter McCauley, Mark McCauley, Leonid Kalachev, Hans Van Dongen
6.11	Improving a BMM to better cope with large time zone transitions	<ul style="list-style-type: none"> • David Karlsson, Torbjörn Åkerstedt
6.12	Estimating injury risks of working hours – presenting a new open access calculation engine	<ul style="list-style-type: none"> • Johannes Gärtner, Anna Arlinghaus, Werner Schafhauser, Magdalena Widl
6.13	Experiences from large-scale, non-incentivized, fatigue data collections in aviation	<ul style="list-style-type: none"> • Henk van Dijk, Tomas Klemets
6.14	BMM usage for post-analysis of accidents, incidents and fatigue reports	<ul style="list-style-type: none"> • Tomas Klemets, David Karlsson
6.15	The no wake zone: a novel way to prospectively predict the magnitude of sleep inertia after awakening	<ul style="list-style-type: none"> • Mark McCauley, Hans Van Dongen, Peter McCauley

POSTER SESSIONS

POSTER SESSION 7 POLICY AND EDUCATION

Wednesday, September 11, 17:15–18:15, Conference Center Bay 1

7.1	New rules for fatigue management in Brazilian civil aviation	• Izabela Sampaio , <i>Frida Fischer</i>
7.2	Working time issues for food-service workers in participatory improvement steps	• <i>Yumi Sano</i> , Kazutaka Kogi
7.3	Culture change in the US Navy: from data collection to mandated policies	• Nita Lewis Shattuck , <i>Panagiotis Matsangas</i>
7.4	Nutritionist counseling as a health promotion strategy for shift workers in oil and gas industry, Brazil	• Luciana Campos , <i>Rodrigo Silva, Frida Marina Fischer, Nuno Borges</i>
7.5	Good practices on education and training in sleep habits and lifestyles in shift-work security guards at an agency in Piura, Peru	• Norvil Mera Chu
7.6	Beyond position statements: one hospital's successful initiative to implement napping for night shift nurses	• Jeanne Geiger Brown , <i>Knar Sagherian, Pamela Hinds; for the Night Shift Napping Translation Team</i>
7.7	Qualitative interviews of registered nurses' experiences taking breaks on night shift	• Tullamora Diede , <i>Marian Wilson, Moriah Cason, Carlana Coogle, Teresa Bigand, Josh Burton, Leah Furman</i>
7.8	Survey of healthcare workers' break use and sleep interruptions at two U.S. hospitals	• Moriah Cason , <i>Samantha Riedy, Ashley English, Patricia Morgan, Marian Wilson</i> • <i>Presented by Marian Wilson on behalf of Moriah Cason</i>
7.9	Night napping at work in practice: a qualitative study of shift workers' perceptions and strategies at a French industrial company	• <i>Valentine Garnier-Falanga</i> , Evelyne Morvan
7.10	Establishing a national working time registry in Norway – a feasibility study	• Dagfinn Matre , <i>Einar Schønning, Roger Strøm, Jan Olav Christensen, Stein Knardahl, Karl-Christian Nordby, Tom Sterud, Shan Zienolddiny, Jenny-Anne Lie</i>
7.11	German language working time society – bringing together research and practice on working hours	• <i>Anne Wöhrmann</i> , Anna Arlinghaus , <i>Johannes Gärtner, Sylvia Rabstein, Sebastian Schief</i>

POSTER SESSION 8 WORKING TIME ARRANGEMENTS

Wednesday, September 11, 17:15–18:15, Conference Center Bay 4

8.1	Design and compensation of shift work schedules: the case of the Dutch disability sector	• Jan de Leede
8.2	Working time preferences of employees in Germany: a representative overview	• Corinna Brauner , <i>Anne Wöhrmann, Alexandra Michel</i>
8.3	Shortened rest periods and well-being of full-time employees in Germany: evidence from the BAuA Working Time Survey 2017	• Nils Backhaus , <i>Corinna Brauner, Anita Tisch</i>
8.4	Association between daily rest periods and sleep duration/ timing on workdays and non-workdays: a cross sectional web survey	• Hiroki Ikeda , <i>Tomohide Kubo, Takeshi Sasaki, Xinxin Liu, Tomoaki Matsuo, Rina So, Shun Matsumoto, Masaya Takahashi</i>
8.5	Associations between shiftwork organization and sleep disturbance in the oil industry	• Katherine McNamara , <i>Wendie Robbins</i>
8.6	The workplace based participatory research for changing night shifts: 14 consecutive night shift workers in the underground railway in Korea	• Mia Son , <i>Domyung Paek, Jaewon Yun</i>
8.7	Comparison of fatigue among flight crews during the night-night flights versus the night-early morning flights by single operations in Japanese major airline companies	• Tsukasa Sasaki , <i>Hiroaki Tatenno, Retsu Akutsu, Yoshihiro Baba, Keiji Shinozaki</i>
8.8	Sleep patterns in relation to work schedules in London city bus drivers	• Anna Sjörs Dahlman , <i>Anna Anund, Ashleigh Filtress, Jonas Ihlström, Karl Miller, Fran Pilkington-Cheney, Sally Maynard</i>
8.9	Biological effects of night shift work on total sleep time	• Myles Finlay , <i>Shobhan Gaddameedhi, Hans Van Dongen</i>
8.10	Dose automation probability associate with working hours and shift work prevalence? Results from national surveys in Taiwanese workers 2001–2016	• Wan-Ju Cheng , <i>Yawen Cheng</i> • Presented by <i>Kati Karhula</i> on behalf of Wan-Ju Cheng
8.11	Objective working hour characteristics and control over scheduling of shifts	• Kati Karhula , <i>Paula Salo, Aki Koskinen, Anneli Ojajärvi, Tuula Oksanen, Sampsa Puttonen, Mika Kivimäki, Mikko Härmä</i>
8.12	Is reduced working times and self-scheduling beneficial for shift workers sleep and health?	• Göran Kecklund , <i>Sofia Westerlund, Ulla Olofsson, Bernt Karlsson</i>
8.13	Motivation behind informal workshift arrangements of crime scene forensic investigators	• Greice Carvalho , <i>Frida Fischer, Maria da Penha Vasconcellos</i> • Presented by <i>Frida Fischer</i> on behalf of Greice Carvalho
8.14	Working time demands and working time control of teleworkers	• Anne Wöhrmann , <i>Corinna Brauner, Alexandra Michel</i>
8.15	The role of working time and space for employees health and work-life balance in the health care sector	• Anne Wöhrmann , <i>Kati Karhula</i>
8.16	Shift work in the wholesale and retail trade sector	• Anasua Bhattacharya , <i>Brian Quay</i>



LIST OF PARTICIPANTS

In order to comply with GPDR rules, the Shiftwork2019 participants list is available to attending participants only.



SAVE THE DATE | 25TH INTERNATIONAL SYMPOSIUM



LecTore Yugawara

Yugawara, Kanagawa, Japan

www.tkp-resort.net/lecture/yugawara

LATE SEPTEMBER–EARLY OCTOBER 2021

ORGANIZER

Masaya Takahashi

President, Working Time Japan Society (WTJS)

Director, Research Center for Overwork-Related Disorders,

National Institute of Occupational Safety and Health, Japan (JNIOSH)

SECRETARIES

Tomohide Kubo, Shun Matsumoto, Hiroki Ikeda (WTJS and JNIOSH)

LOCAL ORGANIZING COMMITTEE

WTJS Board Members and more

INTERNATIONAL SCIENTIFIC COMMITTEE

WTS Board Members and more



労働時間日本学会

Working Time Japan Society

CO-ORGANIZATIONS

The Scientific Committee on Shiftwork and Working Time of the International Commission on Occupational Health (ICOH) and the Working Time Society (WTS) are twin associations focused on studies, research and practices related to the biological, psycho-social and health aspects connected with night and shift work and, more generally, with working hours.

The two associations operate in very strict connection, with the ICOH Scientific Committee chartered in 1957 and the Working Time Society founded in 1997 and incorporated as a not-for-profit organization in 2018. The co-organizations share the primary officers (chair/president and secretary) and activities, with the explicit aim of avoiding useless competition and redundancy, but keeping together people with different scientific backgrounds, job positions and interests, for a factual contribution to improving comprehension and management of working time organizational issues.

The founding, and continuing objectives of our organization are to:

- a. provide a forum for discussing basic and applied problems related to shift and night work;
- b. be an advisor for national and international bodies;
- c. promote cooperative efforts for the solution of occupational work problems in this area.

These objectives are ultimately meant to improve workers health and well-being via proper preventive measures (e.g., flexible working hours, ergonomic shift schedules) and compensative measures (e.g., work and social organization, counseling, medical surveillance). The best way to accomplish this is the research and discourse we have within our communities and at the biennial International Symposium on Shiftwork & Working Time.

The increasing number of members of both the ICOH Scientific Committee and the Working Time Society, including scholars with different backgrounds (biology, medicine, psychology, sociology, management, economics, etc.), many young scientists, and people from economically developed and developing countries, testifies the growing interest and importance of this issue and its multifaceted aspects worth increasing attention in a globalizing world.

In fact, modern society is changing quite rapidly both in terms of economic and production strategies, and in terms of social organization and individual behaviors. The so-called “24-hour society” requires a social organization where time constraints are no longer limits to human activities. Consequently, the arrangement of working time has become a crucial factor in work organization, and acquires different values according to the economic and social consequences likely to arise at different periods in a company’s and worker’s life.

As more and more workers are engaged in irregular or non-standard working hours all over the world (for example, in Europe, only 1 employed worker out of 4, and 1 self-employed worker out of 10 are engaged in typical day work on weekdays), the efforts of the ICOH Scientific Committee and the Working Time Society and the greater professional community become all that more important as surely people’s health and lives are in the balance.

ABOUT THE SHIFTWORK2019 ORGANIZERS



Hans Van Dongen

*Sleep and Performance Research Center
Washington State University*

Hans Van Dongen is Director of the Sleep and Performance Research Center and Professor with tenure in the Elson S. Floyd College of Medicine at Washington State University in Spokane, Washington, USA. Hans earned his Master's degree in astrophysics and his Ph.D. degree in psychophysiology from the University of Leiden in the Netherlands, and he did his postdoctoral training in the laboratory of David Dinges at the University of Pennsylvania in Philadelphia. Over the last 20+ years, Hans has conducted research on sleep, sleep deprivation, shift work, health, cognitive performance, and fatigue risk management. His research program includes laboratory, field, and simulator studies, as well as mathematical modeling of sleep and performance. He has published over 150 peer-reviewed papers, and is a named inventor on two United States patents. He has been awarded funding by the National Institutes of Health, National Institute of Occupational Safety and Health, NASA, United States Department of Defense (including Army, Navy, and Air Force), Federal Aviation Administration, Federal Motor Carrier Safety Administration, and various industry partners. More than 100 undergraduate, graduate and medical students and postdoctoral fellows have been trained in his laboratory. Hans is a Fellow of the Association for Psychological Science and an elected member of the Washington State Academy of Sciences. He is excited at the opportunity to organize Shiftwork2019 together with his colleague and rising star, Kimberly Honn, and thanks everyone in his laboratory for being such a rock-solid team.



Kimberly Honn

*Sleep and Performance Research Center
Washington State University*

Kimberly Honn is a core faculty member of the Sleep and Performance Research Center and Assistant Research Professor in the Elson S. Floyd College of Medicine at Washington State University in Spokane, Washington, USA. She has been a part of the Sleep and Performance Research Center for over a decade, beginning as an undergraduate research assistant. Kimberly earned her Bachelor's degrees in Neuroscience and Psychology from Washington State University in Pullman, before returning to the Washington State University Spokane campus, where she earned her Ph.D. in Neuroscience under the mentorship of her Shiftwork2019 co-organizer, Hans Van Dongen. She has been on the faculty with Washington State University since 2016. Her research focuses on sleep and performance, as well as the underlying neurobiological causes for performance deficits during sleep deprivation, and includes laboratory, field, and clinical sleep research studies. Making use of specially designed, computer-based cognitive tests that isolate distinct cognitive functions, in conjunction with physiological assessments, she investigates what aspects of laboratory and real-world performance tasks are especially vulnerable to impairment due to sleep loss. Additionally, she examines how to protect against these impairments (e.g., with cognitive flexibility training or stimulant use). Kimberly's laboratory research is translated into operational settings through field research in transportation settings and clinical studies in stroke patients. She also applies her expertise in regulatory contexts, and presents at national and international meetings, including two previous International Symposia of Shiftwork & Working Time. She was a co-editor of the proceedings of the 22nd International Symposium on Shiftwork & Working Time. As the biennial International Symposia foster a wonderful scientific community, Kimberly is delighted to have the opportunity to organize Shiftwork2019.

PRE-MEETING

FATIGUE RISK MANAGEMENT INDUSTRY DAY

September 8–9, 2019

Washington State University, Spokane, Washington, USA

The Fatigue Risk Management Industry Day will kick off the week of the International Symposium with a welcome reception on Sunday, September 8, followed by a full-day meeting on Monday, September 9, to discuss the challenges of fatigue, performance, and safety associated with shiftwork and extended work hours. This event will be held at Washington State University's Health Sciences campus in Spokane, Washington. Ground transportation will be provided to *The Coeur d'Alene* so that you will arrive in time for the Welcome Reception of Shiftwork2019. For more information about the Fatigue Risk Management Industry Day, visit www.go.wsu.edu/industryday.

Pulsar Informatics is a proud sponsor of the Fatigue Risk Management Industry Day.



Pulsar Informatics makes products to help safety management teams identify fatigue risk in operations so that they can make the necessary adjustments to reduce risk, improve safety, and optimize performance.

POST-MEETING

WORKING HOURS, SLEEP & FATIGUE FORUM

September 13–14, 2019

The Coeur d'Alene, Coeur d'Alene, Idaho, USA

The National Institute for Occupational Safety and Health (NIOSH), in collaboration with the Working Time Society, will host this meeting to address the research gaps and needs related to working hours, sleep and fatigue among U.S. workers and employers. NIOSH researchers will lead sessions dedicated to specific industry sectors and one for vulnerable populations. Shiftwork2019 participants are invited to attend this meeting and provide feedback and suggestions. Registration for the NIOSH meeting is free, and separate from Shiftwork2019.

For more information, visit www.cdc.gov/niosh/topics/workschedules/fatigue2019.html.

To register, visit <https://cvent.me/ngdB3>.

NOTES

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SHIFTWORK2019 CONTRIBUTING ORGANIZATIONS

The 24th International Symposium on Shiftwork & Working Time is organized by Washington State University (WSU), with support from WSU's Sleep and Performance Research Center and the Elson S. Floyd College of Medicine, under the auspices of the Scientific Committee on Shiftwork and Working Time of the International Commission on Occupational Health (ICOH) and the Working Time Society (WTS).



The organizers gratefully acknowledge conference support by the National Institute for Occupational Safety and Health (NIOSH) through Centers for Disease Control and Prevention (CDC) grant U13OH011785.

Abstracts accepted for Shiftwork2019 have been published in an open-access, special issue of the journal Sleep Science (see <http://sleepscience.org.br/details/589/en-US>), thanks to the generous support of the Working Time Society and the Associação Brasileira de Sono (ABS). Founded in 1985, ABS brings together all Brazilian professionals who study sleep, ranging from basic experimental areas and biologists to polysomnography technicians, physiotherapists, speech therapists, psychologists, dentists, and doctors.

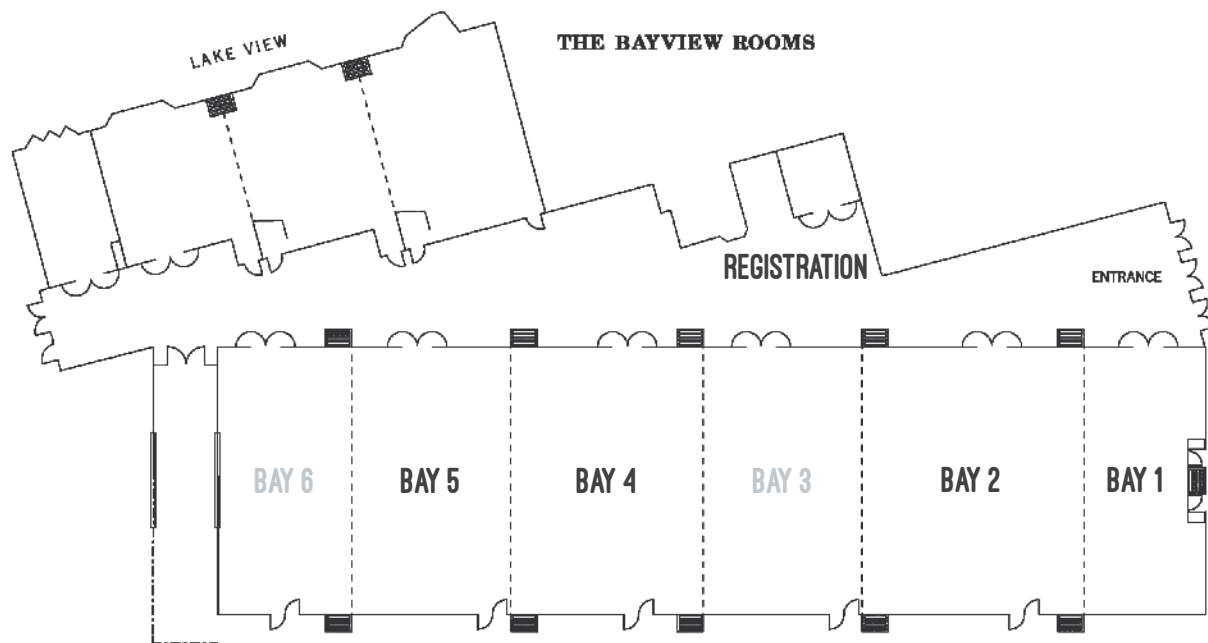


Associação Brasileira do Sono

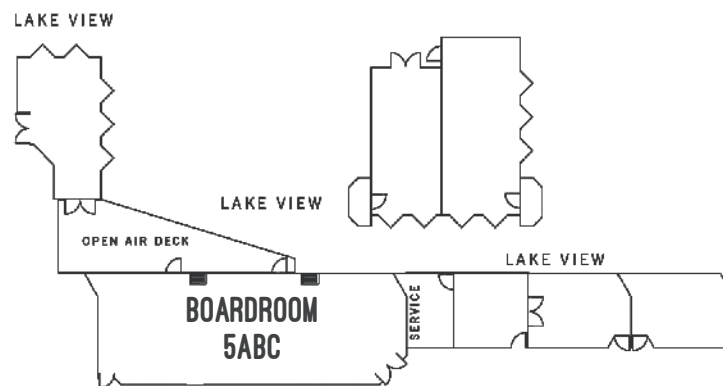
The Early Career Researchers Event on Monday, September 9, is sponsored by Integrated Safety Support. This company was founded in 2006 to advise government and industry clients on how to better manage occupational sleep, alertness and fatigue issues in their workforces. The company was founded by Dr. Adam Fletcher, who has worked globally as a research scientist and industry consultant for almost 25 years. Integrated Safety Support provides digital training resources, worker fatigue apps, risk assessment tools, contract research and strategic advice in all 24-hour industry settings. The Early Career Researchers committee gratefully acknowledges the sponsorship received from Integrated Safety Support.



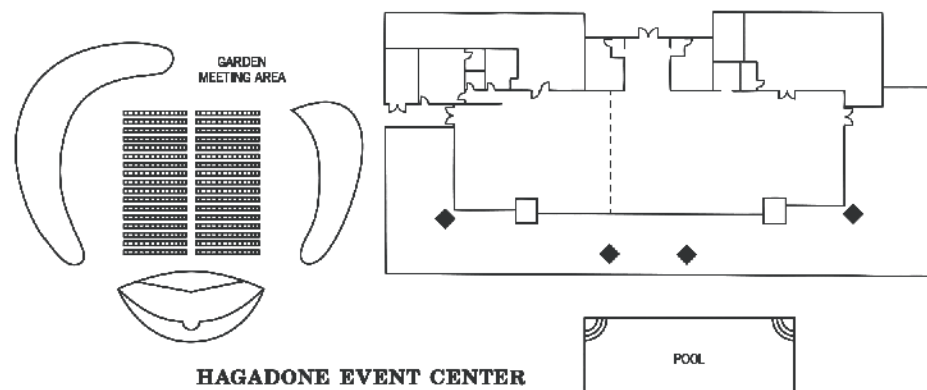
VENUE



THE CONFERENCE CENTER BAYS



THE SEVENTH FLOOR BOARDROOMS



MEETING SCHEDULE AT-A-GLANCE

MONDAY
SEPTEMBER 9, 2019

TUESDAY
SEPTEMBER 10, 2019

WEDNESDAY
SEPTEMBER 11, 2019

THURSDAY
SEPTEMBER 12, 2019

FRIDAY
SEPTEMBER 13, 2019

08:00	FATIGUE RISK MANAGEMENT INDUSTRY DAY Spokane, WA (with reception on Sunday, Sept. 8)	08:00	BREAKFAST Bay 2	08:00	BREAKFAST Bay 2	08:00	BREAKFAST Bay 2	08:00	BREAKFAST Bay 2
08:30		08:30		08:30		08:30		08:30	
09:00		09:00	OPENING SESSION Bay 4	09:00	ORAL SESSION 3 Bay 1	09:00	ORAL SESSION 7 Bay 1	09:00	
09:30		09:30	KEYNOTE 1 Bay 4	09:30	ORAL SESSION 4 Bay 4	09:30	ORAL SESSION 8 Bay 4	09:30	
10:00		10:00		10:00	COFFEE/TEA BREAK	10:00	COFFEE/TEA BREAK	10:00	SYMPOSIUM 7 Bay 1
10:30		10:30	COFFEE/TEA BREAK	10:30		10:30		10:30	
11:00		11:00		11:00	SYMPOSIUM 3 Bay 1	11:00	SYMPOSIUM 5 Bay 1	11:00	
11:30		11:30	ORAL SESSION 1 Bay 1	11:30	SYMPOSIUM 4 Bay 4	11:30	SYMPOSIUM 6 Bay 4	11:30	SYMPOSIUM 8 Bay 4
12:00		12:00	ORAL SESSION 2 Bay 4	12:00		12:00		12:00	CLOSING SESSION Bay 4
12:30		12:30		12:30		12:30		12:30	
13:00		13:00	LUNCH Lakeview Terrace	13:00	LUNCH Lakeview Terrace	13:00	LUNCH Lakeview Terrace	13:00	LUNCH Bay 2
13:30		13:30		13:30		13:30		13:30	TRANSPORT TO SPOKANE INTERNATIONAL AIRPORT
14:00		14:00		14:00	KEYNOTE 2 Bay 4	14:00	KEYNOTE 3 Bay 4	14:00	NIOSH WORKING HOURS, SLEEP, & FATIGUE FORUM The Coeur d'Alene (Sept. 13-14)
14:30		14:30	SYMPOSIUM 1 Bay 1	14:30		14:30		14:30	
15:00		15:00	SYMPOSIUM 2 Bay 4	15:00	50TH ANNIVERSARY SYMPOSIUM Bay 4	15:00	COFFEE/TEA BREAK	15:00	
15:30		15:30		15:30		15:30		15:30	
16:00		16:00	COFFEE/TEA BREAK	16:00	COFFEE/TEA BREAK	16:00	GENERAL ASSEMBLY Bay 4	16:00	
16:30		16:30	POSTER SESSION 1 Bay 1	16:30	POSTER SESSION 5 Bay 1	16:30		16:30	
17:00		17:00	POSTER SESSION 2 Bay 4	17:00	POSTER SESSION 6 Bay 4	17:00		17:00	
17:30		17:30	POSTER SESSION 3 Bay 1	17:30	POSTER SESSION 7 Bay 1	17:30		17:30	
18:00		18:00	POSTER SESSION 4 Bay 4	18:00	POSTER SESSION 8 Bay 4	18:00		18:00	
18:30	WELCOME RECEPTION Lakeview Terrace (Drinks and hors d'oeuvres)	18:30	BREAK	18:30	BREAK	18:30	BOAT CRUISE AND DINNER BUFFET Lake Coeur d'Alene and Hagadone Event Center (meet at the Boardwalk Marina for boarding)	18:30	
19:00		19:00	INDUSTRIAL HEALTH SPECIAL ISSUE DISCUSSION Bay 4	19:00	ORAL SESSION 5 Bay 1	19:00		19:00	
19:30		19:30		19:30	ORAL SESSION 6 Bay 4	19:30		19:30	
20:00		20:00	DINNER Lakeview Terrace	20:00	DINNER Lakeview Terrace	20:00		20:00	
20:30	EARLY CAREER RESEARCHER EVENT Taphouse Unchained	20:30		20:30		20:30		20:30	
21:00		21:00		21:00		21:00		21:00	
21:30		21:30		21:30	WTS BOARD MEETING 7th Floor Boardroom 5ABC	21:30		21:30	
22:00		22:00		22:00		22:00		22:00	
22:30		22:30	AUSSIE STYLE TRIVIA NIGHT Bay 2	22:30		22:30	DISCO NIGHT Bay 5	22:30	
23:00		23:00		23:00		23:00		23:00	
23:30		23:30		23:30	FREE TIME FOR NETWORKING	23:30		23:30	