



# *Oregon Institute of Occupational Health Sciences*

[OccHealthSci Website](#)  
[2023 Annual Report](#)

**Steven Shea, Ph.D. ,  
Professor and Director**

MLAC meeting  
Thursday, October 10, 2024

# Oregon Institute of Occupational Health Sciences (Oregon Statute 353.460)

- **What:** Promote wellbeing, and prevent disease and disability among workers.
- **How:** Conduct basic, clinical and applied research and develop evidence-based tools, trainings, and educational programming.



# Research categorized into 4 themes

## 1. Environmental Exposure

*How exposure to sun, heat, smoke and other pollutants impact workers*

## 2. Sleep and Circadian Health

*How healthy sleep, diet and exercise combat the negative impacts of shiftwork and sedentary work; how poor sleep, diet and inactivity contribute to heart disease and obesity*

## 3. Safety at Work

*How to create safe worksites; minimizing injury and fatality at work*

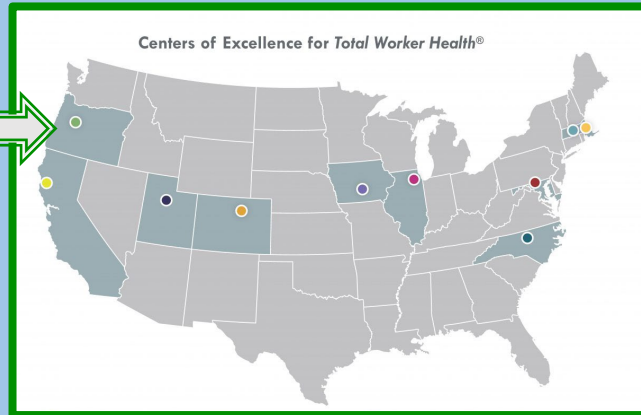
## 4. Supportive Workplace Practices

*Designing and testing supportive workplace interventions including work-schedule, work-family balance, supervisor check-ins and mental health supports*

# Oregon Healthy Workforce Center



*Center Director,  
Leslie Hammer, Ph.D.*



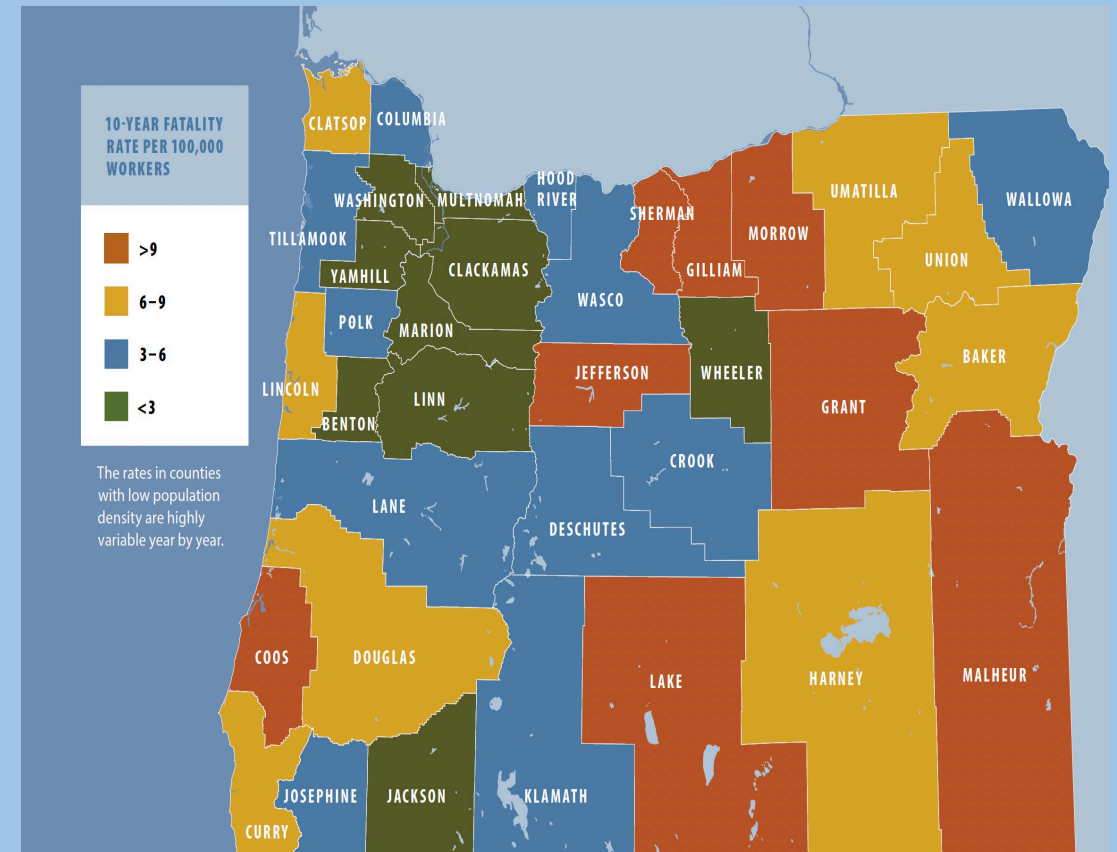
*NIOSH funding:  
\$7,361,278 (2021-2026)*

## Total Worker Health Approach<sup>®</sup>



# OHSU Occupational Public Health Program: A NIOSH State Surveillance Program in Partnership with Oregon Health Authority

- State Surveillance Program tracks workplace injuries, illnesses, hazards, deaths and exposures annually
- Provides information on where, how and why workers get sick or hurt on the job



# Supportive Workplaces

ONLINE TRAINING

Advance the health and safety of your workplace  
with evidence-based, online training programs from the  
Oregon Institute of Occupational Health Sciences, OHSU.



**Mental Health Training**

**Sleep Training**

**Safety Training**



[supportiveworkplaces website](https://supportiveworkplaces.org)



# Mental Health Training for Managers



 **Workplace  
Mental Health  
Support**  
Training for Managers

# Workplace Mental Health Training Licenses

- Bureau of Reclamation
- Harvard
- Hoffman Construction
- Mosaic Community Health
- Northwestern Univ
- OHSU
- Oregon OSHA
- Oregon Department of Environmental Quality
- Oregon Dept. of Transportation
- Oregon Internal Revenue
- Oregon Water Resources Management
- University of California, Santa Cruz
- NOAA
- State of Oregon
- City of Eugene-Public Works
- Urban League of Portland
- Ashland Food Coop

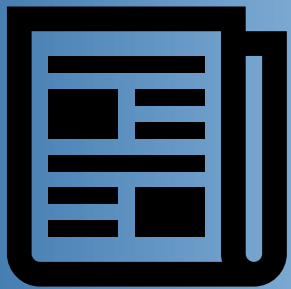
# Seats & Source Files

6 seats  
Source files  
12 seats  
72 seats  
Source Files  
Source Files  
11 seats  
72 seats  
10 seats  
140 seats  
30 seats  
Source files  
Source files  
Source files  
65 seats  
30 seats  
12 seats

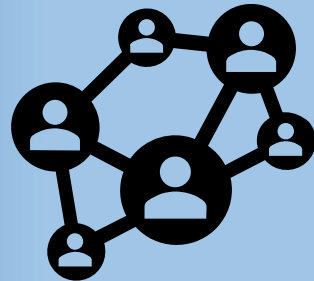


# Outreach & Education

Communicate Research Significance



Monthly  
Newsletter



Social Media  
Posts



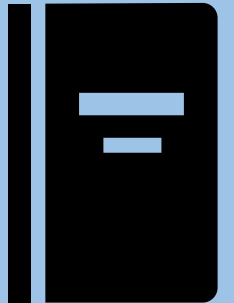
Blog



Podcast



New  
Website



Annual  
Reports

# Education



*Partnership between*

- *Oregon Institute of Occupational Health Sciences*
- *Oregon OSHA*
- *SAIF Corporation*

*Total Worker Health® Curriculum: Delivered to over 1500 Oregon-based occupational safety & health professionals since 2018*



Oregon Institute of  
Occupational  
Health Sciences

# WORKING WELL

Conversations at the intersection  
of **work** and **health**.



**Too hot to work: How to protect workers  
from extreme heat and poor air quality**

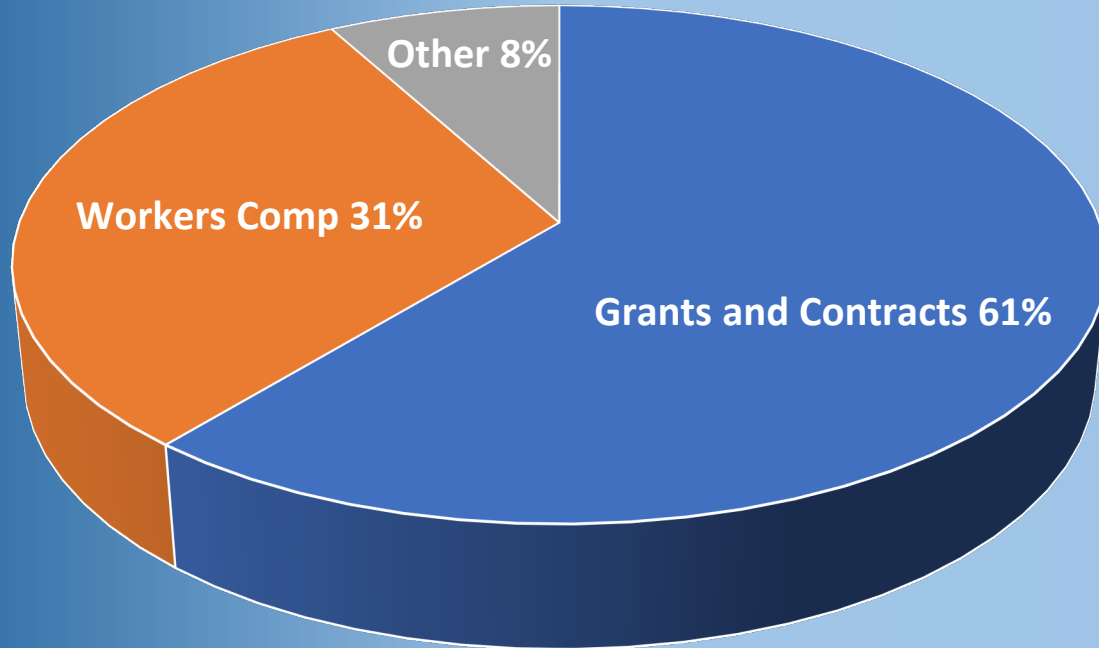
Free Virtual Webinar

Tuesday, October 15, 2024 - Noon to 1:00 p.m.

[Hyperlink](#)



# Annual Institute Funding



Workers Compensation Income \$ 3,982,628

Total Grants and Contracts \$ 7,708,542

Other Gifts, Sale of Service \$ 986,885

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Total Income 2022 \$12,678,055

## 2023 Financials

# Shift Work and Eating Time Affect Reproductive Health

Matthew P. Butler

Oregon Institute of Occupational Health Sciences

Oregon Health & Science University, [butlema@ohsu.edu](mailto:butlema@ohsu.edu)

# Reproductive Consequences of Shift Work



- Shift work → irregular menstrual cycles, pre-term birth, low birth weight, infertility
- 16% of working women on non-standard work shifts
- U.S. infertility rate as high as 24% (first birth)
- 40% increased need for fertility treatment among night shift workers
- 75% increased risk for gestational diabetes

**Shift work alters when you eat**

# How does mis-timed eating compromise reproductive success?



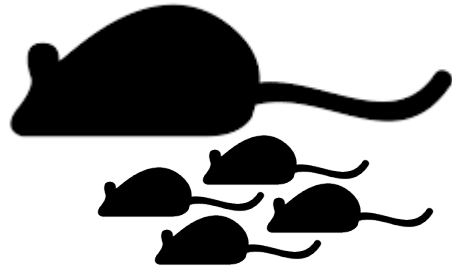
Response to food timing



Social and mating behavior

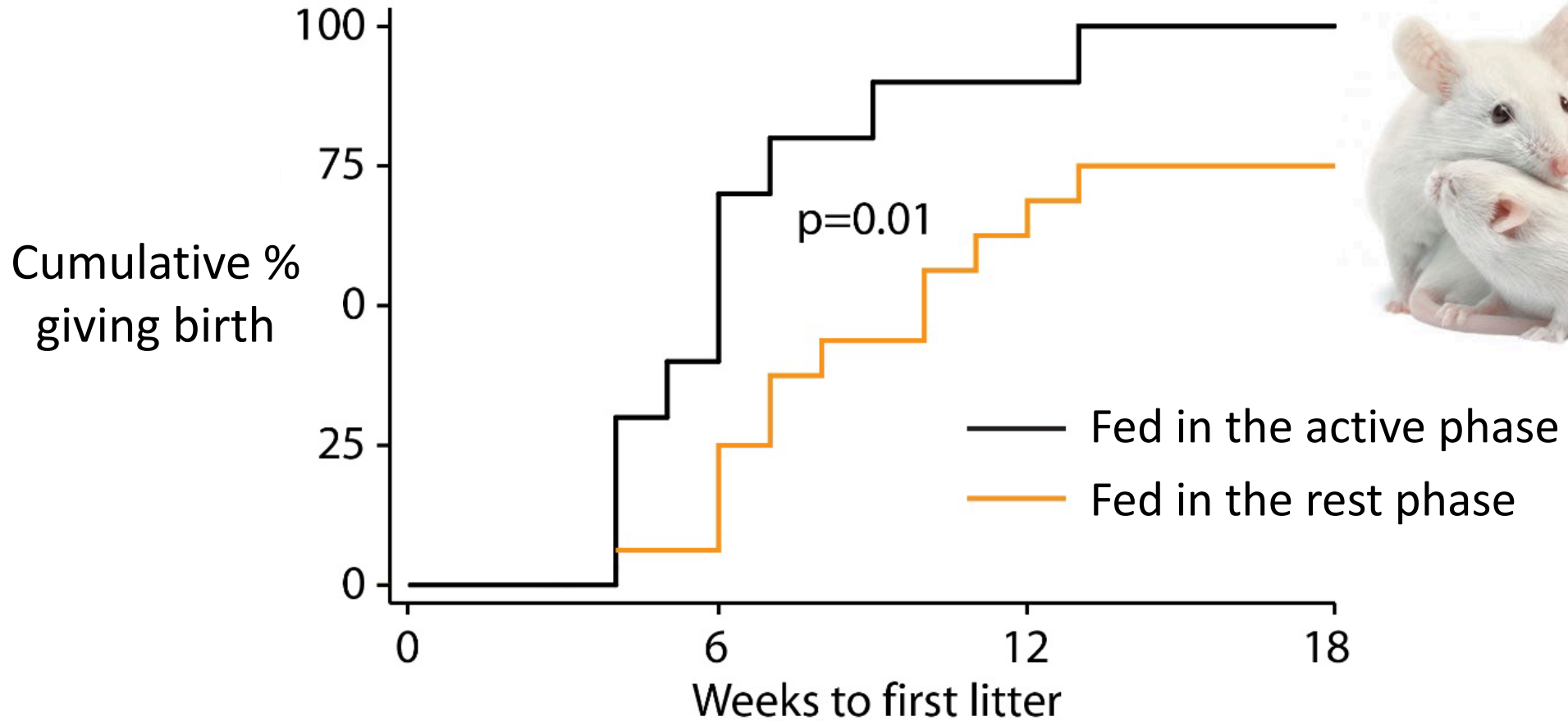


Pregnancy health



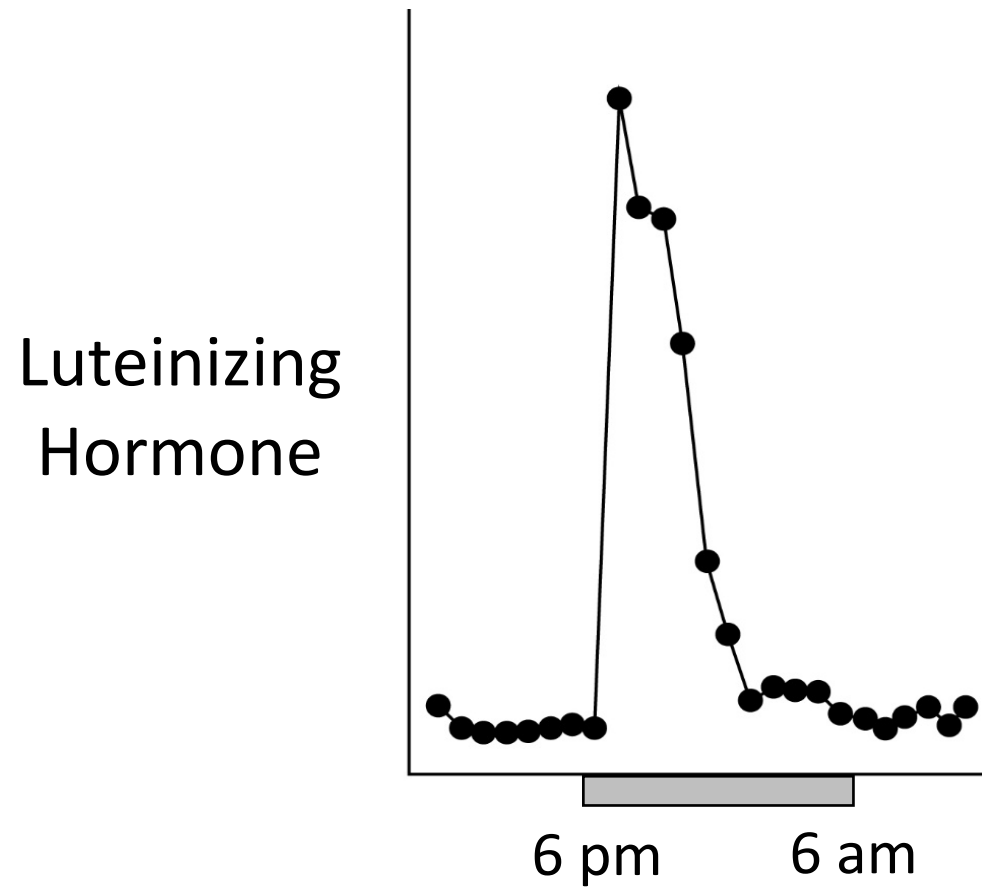
Pregnancy success

# Rest-phase feeding reduces fertility

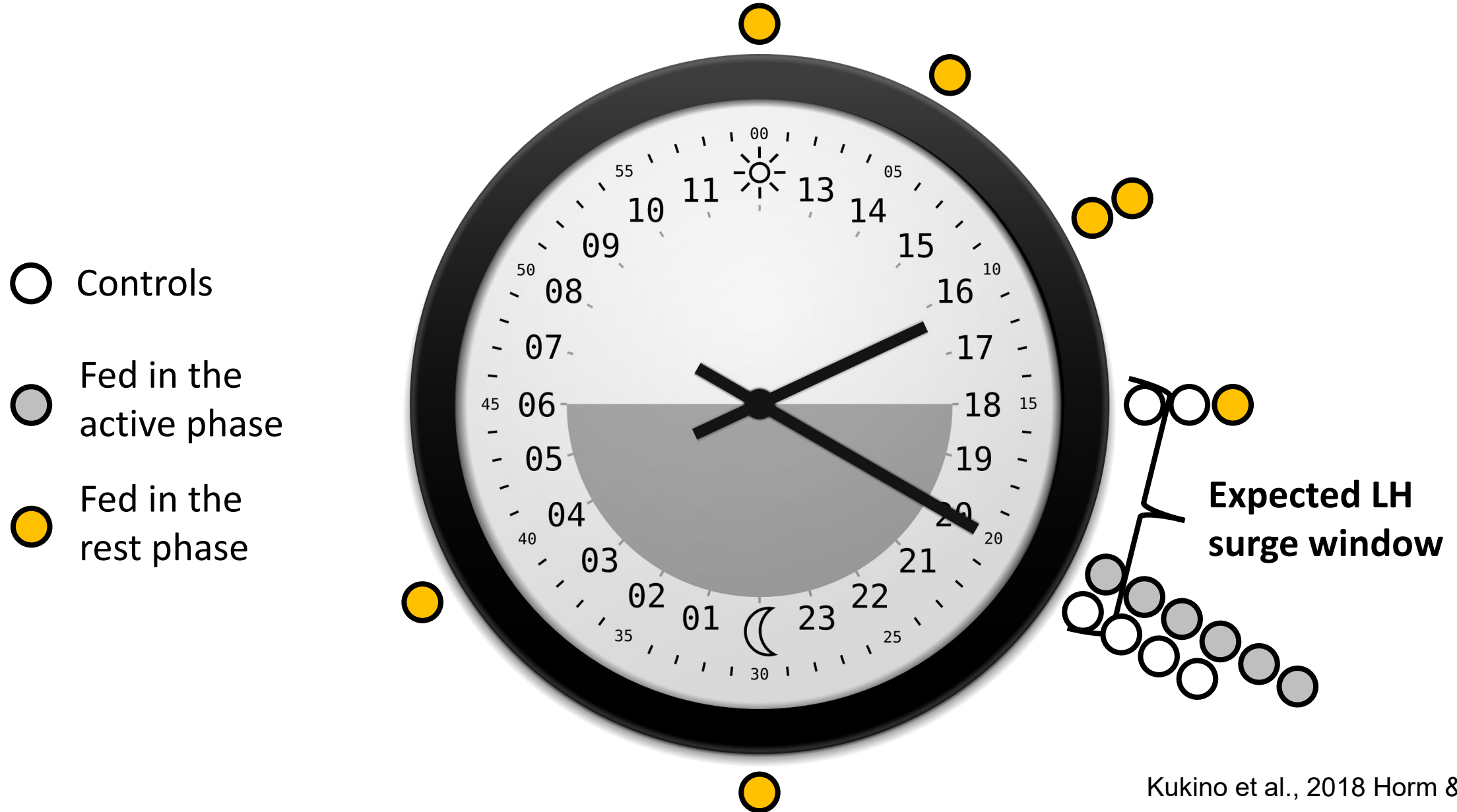




# The luteinizing hormone (LH) surge triggers ovulation and occurs at the same time each day



# Food timing disrupts ovulation time



# Bench to Bedside: Eating time and reproductive health

- Gestational diabetes:
  - 5-9% of all pregnancies in the US
  - Risk of future heart disease and diabetes for mother
  - Risk of preterm birth and development of diabetes in child
- Preliminary findings in 74 women with gestational diabetes and continuous glucose monitoring\*
  - Women who eat earlier have lower 24h glucose and lower morning fasting glucose (less severe gestational diabetes)

\*In collaboration with Dr. Amy Valent, OHSU OBGYN

# Summary and implications

- Shift workers experience reproductive health challenges
- Potential mechanism:
  - Mis-timed eating disrupts the normal timing of ovulation and reduces fertility (in mice)
- Potential health interventions:
  - Clinical trials to study meal timing and reproductive health
  - Adjusting meal timing in shift workers may improve fertility and metabolic health

Funding from R01HD109477, R01NS102962, the Medical Research Foundation, and the **State of Oregon via the Oregon Institute of Occupational Health Sciences**