

# NEWSLETTER

## FALL 2019

---

### CEM MEMBERS

Pierre Baldi, Ph.D.  
Tallie Z. Baram, M.D., Ph.D.  
Bruce Blumberg, Ph.D.  
Emiliana Borrelli, Ph.D.  
Rémi Buisson, Ph.D.  
John Chaput, Ph.D.  
Xing Dai, Ph.D.  
Michelle Digman, Ph.D.  
Tim Downing, Ph.D.  
Enrico Gratton, Ph.D.  
Peter Kaiser, Ph.D.  
Kai Kessenbrock, Ph.D.  
Devon Lawson, Ph.D.  
Andrej Luptak, Ph.D.  
Selma Masri, Ph.D.  
Ali Mortazavi, Ph.D.  
Nick Pannunzio, Ph.D.  
Suzanne Sandmeyer, Ph.D.  
Paolo Sassone-Corsi, Ph.D.  
Marcus Seldin, Ph.D.  
Yongsheng Shi, Ph.D.  
Rob Spitale, Ph.D.  
Joan Steffan, Ph.D.  
Leslie Thompson, Ph.D.  
Marcelo Wood, Ph.D.  
Kyoko Yokomori, Ph.D.

### QUARTER HIGHLIGHTS

- **Devon Lawson, Ph.D.** and **Kai Kessenbrock, Ph.D.** were awarded a \$4 million Seed Network grant from the Chan Zuckerberg Initiative
- **Tallie Z. Baram, M.D., Ph.D.** was awarded a \$15 million Conte Center grant
- **Shogo Sato, Ph.D.** received the NARSAD Young Investigator grant
- **Tim Downing, Ph.D.** received the 2019 NIH Director's New Innovator Award with \$2.2 million of funding
- \$10,000 CEM Seed Grants were awarded to **Cholsoo Jang, Ph.D.** and **Nick Pannunzio, Ph.D.**
- **Devon Lawson, Ph.D.** was the recipient of the V Scholar Award from the V Foundation
- **Rémi Buisson, Ph.D.** received the Innovative Development and Exploratory Award
- **Nick Pannunzio, Ph.D.,** received the ACS-IRG grant
- **Robert Lewis** received the UC Irvine School of Medicine Dean's Fellowship

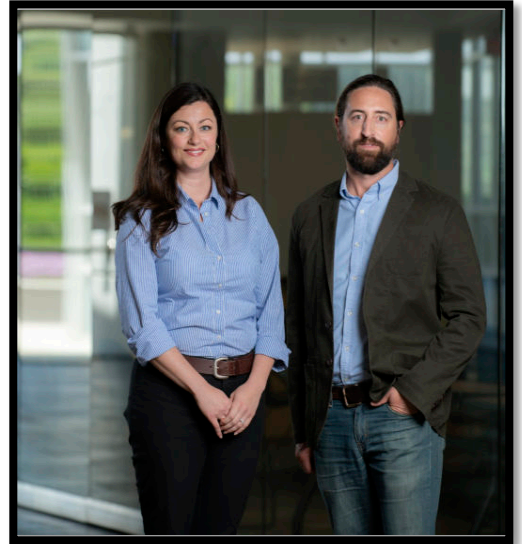
## AWARDS AND GRANTS

### CHAN ZUCKERBURG INITIATIVE

**Devon Lawson, Ph.D.** and **Kai Kessenbrock, Ph.D.** were awarded a \$4 million Seed Network grant from the Chan Zuckerberg Initiative to lead a national effort to document the intricate cell types and states in breast tissue that underlie cancer.

*For further reading, please visit:*

<https://news.uci.edu/2019/07/01/uci-researchers-to-lead-national-effort-to-build-atlas-of-human-breast-cells/>



### CONTE CENTER GRANT

The National Institute of Mental Health awarded **Tallie Z. Baram, M.D., Ph.D.**, a five-year, \$15 million Silvio O. Conte Center grant to continue studying how unpredictable parental and environmental signals influence an infant's vulnerability to cognitive and emotional problems, including addiction and post-traumatic stress disorder.

*For further reading, please visit:*

<https://news.uci.edu/2019/07/10/uci-child-neurologist-dr-tallie-z-baram-is-awarded-15-million-conte-center-grant/>

### YOUNG INVESTIGATOR GRANT

**Shogo Sato, Ph.D.**, a postdoctoral researcher from the Sassone-Corsi Laboratory, received the 2020 – 2022 NARSAD Young Investigator grant. This grant provides two years of funding to promising investigators to either extend research fellowship training or to begin careers as independent research faculty.



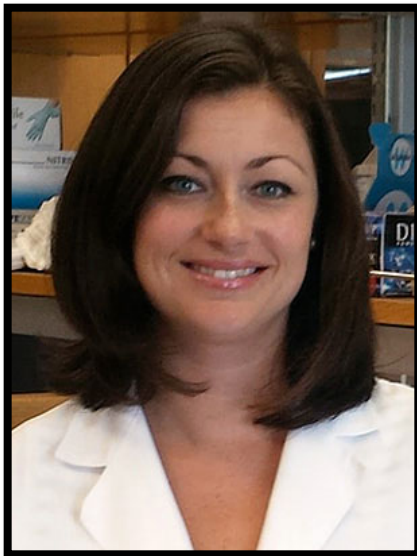
## AWARDS AND GRANTS

### NIH: DIRECTOR'S NEW INNOVATOR

The National Institutes of Health honored **Tim Downing, Ph.D.** with the 2019 Director's New Innovator Award to support innovative biomedical research from early career investigators. As one of NIH's most prestigious awards, the Downing Laboratory will receive around \$2.2 million in funding over five years.

*For further reading, please visit:*

<http://engineering.uci.edu/news/2019/10/two-uci-engineers-named-nih-new-innovators>



### V SCHOLAR

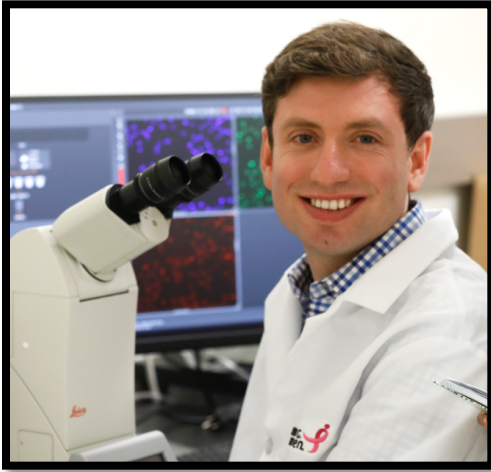
In addition to receiving the Chan Zuckerberg Initiative Seed Network grant, **Devon Lawson, Ph.D.** was also the recipient of the V Scholar Award from the V Foundation to study the role of metabolism in breast cancer metastasis.

### ACS-IRG SEED GRANT

Nick Pannunzio, Ph.D., Assistant Professor of Medicine and Biological Chemistry was the recipient of a \$45,000 seed grant through the UC Irvine American Cancer Society Institutional Research Grant (ACS-IRG). This award will allow Dr. Pannunzio to develop genetic assays to quantify large-scale, oncogenic genome rearrangements in human B cells and further dissect genetic, environmental, and pharmacological factors that lead to genome instability and cancer.



## AWARDS AND GRANTS



### INNOVATIVE DEVELOPMENT AND EXPLORATORY AWARD

The California Breast Cancer Research Program awarded **Rémi Buisson, Ph.D.** with the Innovative Development and Exploratory Award. The proposed research will define the mechanisms by which developing tumors generate heterogeneity through A3A and A3B regulation to fill a critical knowledge gap in preventing tumor heterogeneity and suppressing drug resistance.

*For further reading, please visit:*

[https://som.uci.edu/news\\_releases/mutations-responsible-for-promoting-cancer-growth.asp](https://som.uci.edu/news_releases/mutations-responsible-for-promoting-cancer-growth.asp)

### CEM SEED GRANTS

**Cholsoon Jang, Ph.D.** (left) and **Nick Pannunzio, Ph.D.** (right) were selected for the Center for Epigenetics and Metabolism's 2019 Seed Grants. Both Dr. Jang and Dr. Pannunzio will receive \$10,000 each for their proposed research.



### UC IRVINE SCHOOL OF MEDICINE DEAN'S FELLOWSHIP

**Robert Lewis**, a Ph.D. student in Emiliana Borrelli's Laboratory, was awarded a School of Medicine Dean's Fellowship.

## PUBLICATIONS

Ali Mortazavi and Tallie Z. Baram

Intra-individual changes in methylome profiles: an epigenetic 'scar' of early-life adversity? (2019)

**Neuropsychopharmacology**

*Available at:* <https://www.nature.com/articles/s41386-019-0496-3>

Marcus Seldin, Xia Yang, and Aldons J. Lusis

Systems genetics applications in metabolism research (2019)

**Nature Metabolism**

*Available at:* <https://www.nature.com/articles/s42255-019-0132-x.pdf>

Rémi Buisson

Researchers discover new way to discriminate between mutations responsible for promoting cancer growth and those that are not

**UC Irvine School of Medicine**

*Available at:* [https://som.uci.edu/news\\_releases/mutations-responsible-for-promoting-cancer-growth.asp](https://som.uci.edu/news_releases/mutations-responsible-for-promoting-cancer-growth.asp)

Amandine Verlande and Selma Masri

Trends in Endocrinology & Metabolism

**CellPress**  
REVIEWS

**Review**

Circadian Clocks and Cancer: Timekeeping Governs Cellular Metabolism

Amandine Verlande<sup>1,2,3</sup> and Selma Masri<sup>1,2,3,\*</sup>

## PUBLICATIONS

Rémi Buisson, Adam Langenbucher, Danae Bowen, Eugene E. Kwan,  
Cyril H. Benes, Lee Zou, and Michael S. Lawrence

Passenger hotspot mutations in cancer driven by APOBEC3A and mesoscale genomic features (2019)

### Science

*Available at:*

[https://science.sciencemag.org/content/364/6447/eaaw2872?utm\\_campaign=to\\_c\\_s-ci-mag\\_2019-06-27&et rid=79777156&et\\_cid=2878805](https://science.sciencemag.org/content/364/6447/eaaw2872?utm_campaign=to_c_s-ci-mag_2019-06-27&et rid=79777156&et_cid=2878805)

Shan Jiang, Noriko Kamei, Jessica L Bolton, Xinyi Ma,  
Hal S Stern, Tallie Z Baram, and Ali Mortazavi

Intra-individual methylomics detects the impact of early-life adversity (2019)

### Life Science Alliance

*Available at:* <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6445397/>

Jonathan Gaucher, Kenichiro Kinouchi, Nicholas Ceglia, Emilie Montellier,  
Shahaf Peleg, Carolina Magdalen Greco, Andreas Schmidt, Ignasi Forne,  
Selma Masri, Pierre Baldi, Axel Imhof and Paolo Sassone-Corsi, *in press*

Distinct metabolic adaptation of liver circadian pathways to acute and chronic patterns of alcohol intake

### Proceedings of the National Academy of Sciences

## EVENTS



The Center for Epigenetics and Metabolism  
**EPiGENETICS DAY**  
December 6<sup>th</sup>, 2019  
Sprague Hall, First Floor Conference Room  
School of Medicine

Speakers

Opening Lecture by  
**James Kadonaga**  
University of California, San Diego

**Kai Kessenbrock**  
University of California, Irvine

**Janine La Salle**  
University of California, Davis

**Andrej Luptak**  
University of California, Irvine

**Yinsheng Wang**  
University of California, Riverside

**Rolf Bodmer**  
Sanford-Burnham Prebys Medical  
Discovery Institute


**Peter Kaiser**  
University of California, Irvine

**Rémi Buisson**  
University of California, Irvine

**Olga Razorenova**  
University of California, Irvine

**Cédric Blanpain**  
Université Libre de Bruxelles

Chromatin and Transcription;  
Metabolism; Cancer; Stem Cells

    To register, please contact:  
Lauren Gihat Igih@uci.edu

### EPiGENETICS DAY

Our annual Epigenetics Day will be held on Friday, December 6<sup>th</sup>, 2019 on the first floor of Sprague Hall. Epigenetics Day will feature ten, thirty-minute seminars, including seminars by UC Irvine faculty.

The event will begin at 10:00 am and conclude at 5:00 pm with a Wine and Cheese Reception immediately following. Lunch will also be provided.

To view the full program, please visit:  
<https://tinyurl.com/epigenday2019>

## CEM SEMINARS

**Charles Brenner, Ph.D.**

University of Iowa

December 4, 2019

*Title to be announced*

**Bambos Kyriacou, Ph.D.**

University of Leicester

December 16, 2019

*Sharing clock genes: circadian and circatidal rhythms in flies and crustacea*

**Steve Horvath, Ph.D.**

University of California, Los Angeles

October 23, 2019

*Epigenetic clock studies in mammals*