



Stem Cells @ UCR

Stem Cell Center Newsletter – June 2019, No. 2

Upcoming Event! Save The Date!

**2019 Inland Empire Stem Cell Consortium Symposium
Hosted by UCR**

November 1st, 2019



What's Inside

Upcoming Event!

New Instruments and Updates in the SCC

Recent Publications

Stem Cell Lab Grants and Awards

Graduations

Stem Cell Courses

Job Opportunities

New Instruments and Updates in the UCR Stem Cell Core

Nikon 80i Upright Microscope – Available Now!

Color and Emulated Monochrome Camera

10x, 20x, 40x, 100x Objectives

Fluorescence (Blue, Red, Green, and Orange Channels)

Newest Version of Nikon Elements Software

* Excellent for High Resolution Images on Glass Slides *



Seahorse XFp Analyzer: Live-cell Metabolic Assay Platform – Coming Soon!

- Compatibility with both adherent and suspension cells as well as isolated mitochondria and non-mammalian samples.
- Ability to perform up to 4 independent injections per well with automatic mixing
- Automatic calculation of oxygen consumption rate (OCR) and extracellular acidification rate (ECAR).
- Simultaneous measurement of OCR and ECAR in the same well
- Ability to measure mito function & rate of glycolysis in live cells
- Analytical sensitivity for small sample sizes
- Label-free detection in real time

Recent Publications!

Learn about Stem Cell Research @ UCR

Human neural crest induction by temporal modulation of WNT activation. Gustavo A. Gomez, Maneeshi S. Prasad, Nabjot Sandhu, Patrick B. Shelar, Alan W. Leung and Martín I. García-Castro. (2019), *Developmental Biology*. 449: 99-106.

Bone marrow derived mesenchymal stem cell response to the RF magnetron sputter deposited hydroxyapatite coating on AZ91 magnesium alloy. Maria A. Surmeneva, Anna A. Ivanova, Qiaomu Tian, Rebekah Pittman, Wensen Jiang, Jiajia Lin, Huinan H. Liu, Roman A. Surmenev, (2019), *Materials Chemistry and Physics*, 221: 89-98.

Video-based kinetic analysis of calcification in live osteogenic human embryonic stem cell cultures reveals the developmentally toxic effect of Snus tobacco extract. Ivann K.C. Martinez, Nicole R.L. Sparks, Joseph V. Madrid, Henry Affeldt, Madeline K.M. Vera, Bir Bhanu, Nicole I. zur Nieden, (2019), *Toxicology and Applied Pharmacology*, 363:111-121.

A Mitochondrial Stress Response in Neural Stem Cells Exposed to Electronic Cigarettes. Atena Zahedi, Rattapol Phandthong, Angela Chaili, Guadalupe Remark and Prue Talbot (2019), *iScience*, In Press. <https://doi.org/10.1016/j.isci.2019.05.034>

Multi-label Classification of Stem Cell Microscopy Images Using Deep Learning. Witmer, Adam, and Bir Bhanu. 24th International Conference on Pattern Recognition (ICPR). IEEE, 2018 (Conference Paper).

HESNET: A Synthetically Pre-Trained Convolutional Neural Network for Human Embryonic Stem Cell Colony Classification. Witmer, Adam, and Bir Bhanu. 25th IEEE International Conference on Image Processing (ICIP). IEEE, 2018 (Conference Paper).

UCR Stem Cell Lab Grants & Awards

Dr. Jin Nam received a \$400,000 grant from the National Science Foundation to engineer a human-like nerve tissue to study neurological diseases. **Press Release:**

<https://news.ucr.edu/articles/2018/11/27/grant-will-help-engineer-human-nerve-tissue>

Dr. Joshua Morgan an Innovative Project Award (19IPLOI34760636) by the American Heart Association titled: "Integration of tardigrade survival proteins to increase resilience of vascularized graft tissue in ischemic environments"

Dr. Atena Zahedi (Talbot Lab) awarded UOP President's Postdoctoral Fellowship and will do her postdoctoral training with Dr. Arleen Anderson at UCI.

Dr. Lauren Walker (zur Nieden Lab) awarded the Teratology Society Howard Garrison Public Affairs Fellowship in March 2019.

Carys Layton (Tsutsui Lab) received the Graduate Research Mentoring Program award for the 2019-2020 academic year.

Congratulations to these recent graduates!



Dr. Erin Sternburg (Karginov Lab)

Dr. Cheryl Stork (Zheng Lab)

Dr. Lauren Walker (zur Nieden Lab)

UCR Training Course in Human Embryonic Stem Cell Culture (CMDB 211)

In January 2019, twelve CIRM-Bridges students from California State University, San Bernardino completed an intensive 1-week pluripotent cell culture course in the Stem Cell Core Facility.



The twelve students are all currently interning in stem cell research labs around Southern California. Teresa Martinez and Vincent Quiroz are two of CIRM-Bridges students from the cohort that are currently working at UCR.

Vincent, who is working in Dr. Martin Garcia-Castro's lab, is using neural crest cells derived from human embryonic stem cells to create a cell line that can be used to characterize the development of neuroblastoma, a cancer that commonly affects children.



Teresa is working in Dr. Prue Talbot's lab where she studies the impact of electronic cigarette refill fluids on early development using human embryonic stem cells as a prenatal model.



**Interested in learning more about stem cells?
Watch out for these courses in the future!**



**CBNS 165 - Stem Cell Biology
CBNS 169 - Human Embryology
CMDB 207 - Stem Cell Biology and Medicine**

2019 Winter and Spring Inland Empire Stem Cell Consortium Seminar Series (CMDB 255 and 256)

Thank you to all the UCR, Loma Linda and Western University faculty, students and staff that presented, attended, and participated in the stem cell seminars to make our 2019 series a success!



UCR seminar group

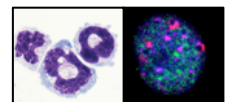


Video conferencing with LLU

Job Opportunities

Postdoctoral position available in the laboratory of Dr. Sihem Cheloufi (Department of Biochemistry, UCR) to study epigenetic regulation of cellular plasticity in the context of cancer and regenerative medicine. For more information, please see the job posting via the link below.

<https://stemcell.ucr.edu/index.php?content=jobs/postdoc.html>



For more information on the UCR Stem Cell Core and Center contact Dr. Rachel Behar (rbeha001@ucr.edu) or Dr. Prue Talbot (talbot@ucr.edu).

Have an announcement for the next newsletter? Email Dr. Behar.