



Stem Cells @ UCR

Stem Cell Center Newsletter – March 2022, No. 7

New CIRM Training Grants!

UCR's TRANSCEND (PI: Prue Talbot)

TRANSCEND will train 16 PhD students and 11 postdoctoral scientists, provide three core graduate level courses, two stem cell seminars, an annual symposium, community outreach, interaction with patient advocates, and opportunities to interact with the Center for Health Disparities and the School of Public Policy. Partnerships have been established with City of hope, UCI, and the Inland Empire Stem Cell Consortium campuses.

UCR's STRIDE (PI: Huinan Liu)

The UCR based SPARK program will support 5-week internships for 60 diverse students from the Inland Empire. In addition to research training, students will learn communication and writing skills through a set of core workshops, seminars, and mentoring sessions. This program will serve an important, underserved group of students in California. Students will participate in structured patient engagement and community outreach activities.

What's Inside

New CIRM Grants

**TRANSCEND
Trainees**

Recent Publications

**Pluripotent Stem Cell
Training Course**

**Stem Cell Course
Offered in Spring
Quarter**

Congratulations to the First Cohorts of UCR TRANSCEND Trainees

Predoctoral Trainees

Youyi Tai (Mentor: Jin Nam)

- *Signaling mechanisms of neural stem cell fate control under mechano-electrical stimulation.*

Shabnam Etemadi (Mentor: Prue Talbot)

- *Does activation of TRP receptors by electronic cigarette flavor chemicals adversely affect human embryonic/fetal development?*

Isabella Bagdasarian (Mentor: Josh Morgan)

- *Engineering a perfusable hPSC derived skeletal muscle model.*

Ruthia Soh (Mentor: Nicole zur Nieden)

- *Long term hyperglycemia impairs stem cell pluripotency.*

Aihik Banerjee (Mentor: Iman Noshadi)

- *Engineering smart self oxygenating hydrogel for development of organ size vascularized cardiac tissue*

Ariana Hardy (Mentor: Nicole zur Nieden)

- *A Prickly Situation: miR361 enhances ESC osteogenesis by directly targeting Prickle.*

Czarina Juan-Sing (Mentor: Martin Garcia-Castro)

- *Guided differentiation of corneal tissue for therapeutic purposes.*

Victoria Wagner: (Mentor: Iryna Ethell)

- *Astrocyte cholesterol metabolism in mouse and iPSC-based human models of Fragile X Syndrome.*

Postdoctoral Trainees

JingRong Zhao (Mentor: Sika Zheng)

- *Modeling NMD deficiency diseases in human embryonic stem cells*

Dongwei Sun (Mentor: Huinan Liu)

- *Induced stem cells seeded tissue-engineering grafts for nerve regeneration and multiscale modeling to optimize their behavior on grafts.*

Rattapol Phandthong (Mentor: Prue Talbot)

- *Identification of the critical activation factors for lung stem cells during lung regeneration.*

Recent Publications! Learn about Stem Cell Research @ UCR

Adam Witmer, and Bir Bhanu. **Generative Adversarial Networks for Morphological–Temporal Classification of Stem Cell Images.** *Sensors*. 2022; 22(1):206. <https://doi.org/10.3390/s22010206>

Justin Gomez, Nathanael Holmes, Austin Hansen, Vikram Adhikarla, Margarita Gutova, Russell C. Rockne, Heyrim Cho. **Mathematical modeling of therapeutic neural stem cell migration in mouse brain with and without brain tumors.** *Mathematical Biosciences and Engineering*, 2022, 19(3): 2592-2615. doi: [10.3934/mbe.2022119](https://doi.org/10.3934/mbe.2022119)

Radha Daya, Changlu Xu, Nhu-Y. Thi Nguyen, and Huinan Hannah Liu **Angiogenic Hyaluronic Acid Hydrogels with Curcumin-Coated Magnetic Nanoparticles for Tissue Repair** *ACS Applied Materials & Interfaces* Article ASAP. <https://doi.org/10.1021/acsami.1c19889>

Farzin, A., Hassan, S., Moreira, L. S., Gurian, M., Crispim, J. F., Manhas, V., Carlier, A., Bae, H., Geris, L., Noshadi, I., Shin, S. R., Leijten, J., **Self-Oxygenation of Tissues Orchestrates Full-Thickness Vascularization of Living Implants.** *Adv. Funct. Mater.* 2021, 31, 2 2100850. <https://doi.org/10.1002/adfm.202100850>

Tai, Y., Ico, G., Low, K., Liu, J., Jariwala, T., Garcia-Viramontes, D., Lee, K. H., Myung, N. V., Park, B. H., Nam, J., **Formation of 3D Self-Organized Neuron-Glial Interface Derived from Neural Stem Cells via Mechano-Electrical Stimulation.** *Adv. Healthcare Mater.* 2021, 10, 2100806. <https://doi.org/10.1002/adhm.202100806>

Have an announcement for the next newsletter? Email Rachel Behar (rbeha001@ucr.edu), the Academic Coordinator of the UCR Stem Cell Core.

UCR Training Course in Pluripotent Stem Cell Culture – January 2022

In January, eleven CIRM-Bridges students from California State University, San Bernardino completed a pluripotent cell culture course in the Stem Cell Core Facility.

The course contained remote lectures, webinars with StemCell Technologies and ThermoFisher, hands-on demonstrations with various instrumentation, and pluripotent stem cell culture training.

The eleven students are currently interning in stem cell labs in Southern California. We wish them great success in their internships!



Interested in learning more about stem cells?

CMDB 207 - Stem Cell Biology and Medicine will be offered in the Spring Quarter!



This course is open to graduate students from all Inland Empire Stem Cell Consortium campuses and advanced undergraduates.