



Emergent Mechanisms in Biology of  
Robustness, Integration & Organization

*Emergence: A biweekly newsletter of discovery, education, and outreach from the EMBRIO Institute*

Issue 20: June 21, 2023

## DIRECTORS' NOTE

Today is the summer solstice, when we will receive more daylight time in a single twenty-four period than any other in the calendar year – May you all soak up a bit of sunshine!

This month is celebrated as Pride Month in the U.S. Lesbian, Gay, Bisexual, Transgender and Queer (LGBTQ) Pride Month is currently celebrated each year in the month of June to honor the 1969 *Stonewall Uprising* in Manhattan. Read more about Pride Month and Annual LGBTQ+ Pride Traditions at the [Library of Congress website](#) and check out celebrations and events in your city. Based on at least [one recent study](#) it is important to recognize that LGBTQ professionals in STEM are much more likely to encounter harassment, social exclusion, and devaluation in the professional workplace compared with their non-LGBTQ peers. In this, and all regards, EMBRIO strives to meet our [Commitment to Diversity and Inclusive Belonging](#), and we welcome your input and feedback.

We are excited for the EMBRIO summer workshop hosted by the Zartman Lab at Notre Dame on July 10-12!! Thank you to all who have registered to participate. Brent will be in touch with all registrants with details on travel, lodging, and the final agenda.

Our Annual All-Hands Retreat will be hosted again this year at Purdue, July 13-14. Thanks to all who have filled the [RSVP poll](#) so that we can better plan the Retreat, and get your input and ideas for future training. If you haven't yet completed the RSVP, please do so this week. At this year's retreat, we will honor graduate students in two categories of *Best Paper*, and *Best Scientific Figure*. Please see the attached document for details! **Deadline to submit is, tomorrow, June 22<sup>nd</sup>**. We also need Biology Thrust Leads to weigh in on their integrated presentations – reminders are in the Retreat section below.

Don't forget to check out the training opportunity later this summer with the Glazier Lab & Biocomplexity Institute at IU are offering a two week online live course in basic and advanced CompuCell3D July 31 - August 13. Details to participate are below.

Again, thanks to all who completed the updated demographics survey that NSF asks us to collect and report. If you haven't yet completed anonymous survey, it takes about one minute. You can access it here: [EMBRIO Demographics Survey 2023](#).

As we all prepare for presentations and posters at conferences, and manuscripts for publication **please remember to acknowledge our NSF award**: "This work is based upon efforts supported by EMBRIO Institute, contract #2120200, a National Science Foundation (NSF) Biology Integration Institute." Find recommended poster and PowerPoint templates, along with EMBRIO and NSF logos on our Box account in the "Poster and Presentation Templates & Logos" folder. [Direct Link](#).

We want to hear about your news and announcements. Send them to Brent (laddb@purdue.edu) by July 14<sup>th</sup> for inclusion in the next issue of *Emergence*.

David, Chris, Stephanie, Anjali, and Brent

### Notable Quote

*"Each of us must take into account the raw material which heredity dealt us at birth and the opportunities we have had along the way, and then work out for ourselves a sensible evaluation of our personalities and accomplishments."* ~ Dr. Alan L. Hart (1890 – 1962). Trailblazing transgender doctor that saved countless lives, pioneered use of chest x-rays to detect tuberculosis, and inductee in the [Chicago Legacy Project](#).

## QUICK LINKS

Please complete the EMBRIO Retreat RSVP and Future Training poll: [online survey](#)

[Compucell3D School and Hackathon July 31 – August 13](#)

[Schedule Your One-on-One Interview with Soumi](#)

[Weekly Update Meeting Recordings](#)

## EMBRIO SUMMER WORKSHOP – Notre Dame, July 10-12.

EMBRIO Institute's 2<sup>nd</sup> Annual Summer Training Workshop July 10-12. [Workshop Schedule of Sessions](#). Hosted by Dr. Jeremiah Zartman at the University of Notre Dame with a theme of *Image Acquisition, Processing, and Analysis*, tutorials and hands-on sessions are specifically aimed at benefiting trainees from both computational and experimental domains. Late [Registration](#) closes today. Registrants will receive details on travel and lodging in the next few days.

## EMBRIO ALL-HANDS ANNUAL RETREAT– Purdue, July 13-14.

EMBRIO Institute's Annual Retreat will be hosted in the Weldon School of Biomedical Engineering. If you have not yet done so, please do complete the 2-minute [RSVP poll](#) regarding your attendance at the Retreat so that we can best plan the event (the survey also asks about additional training for Fall semester):

Calling your attention to a few items to prepare for in advance:

A) Sessions will be dedicated to each of the four thrust areas, with each Thrust Lead giving a 25-30 minute talk with time following each for discussion. Biological Thrust Project Leads are asked to coordinate with CORE and other investigators with whom you are collaborating and have them co-present with you (e.g. 2-4 slides describing the CORE integration and results to date). This approach of having integrated talks will be of important benefit to many members in understanding the direct context and connections of the integrated research efforts. As we did last year, students and postdocs are encouraged to be involved in the presentations. **Biology Thrust Project Leads – please let me know by this Friday, June 23<sup>rd</sup> who will all be presenting for your Thrust project.**

- B) There may be CORE investigators and other EMBRIO members who might still be in early stages of developing their approaches and are not yet solidified in the biology thrust collaborations. For these situations, CORE investigators (and others newly joined) please contact me ([laddb@purdue.edu](mailto:laddb@purdue.edu)) by this Friday, June 23rd regarding which Thrust area that you (and/or your trainee) can present a lightning talk (5 - 10 min).
- C) We ask all EMBRIO graduate students to present a poster on July 13<sup>th</sup> during an afternoon dedicated poster session (postdocs are welcome to present posters as well). Posters can be from a recent conference but must acknowledge the NSF award #2120200. Students, please work with your respective departments to print your poster in advance in a 36" x 48" formatted size to bring with you on the 13<sup>th</sup>. **Submit by email a citation that includes authors (last names, first initials.), year, title, and a PDF abstract (one page or less) to me ([laddb@purdue.edu](mailto:laddb@purdue.edu)) by July 3.** Access the [EMBRIO Institute poster template](#).
- D) There will be an opportunity for REU SURF affiliated students to present either a poster or a lightning talk, aligned with what format they've chosen to present at the SURF Symposium later in July.
- E) **Best Paper and Best Scientific Figure.** At this year's retreat, we will honor graduate students in these two categories. Please see the attached document for details! **Deadline to submit is June 22<sup>nd</sup>.**

## EMBRIO ABIDES (Access, Belonging, Inclusion, Diversity, Equity, Support)

Dr. Anjali Iyer-Pascuzzi, EMBRIO ABIDES Director and Associate Professor at Purdue, leads activities for Institute members. Stay tuned for ABIDES activities for this summer and Fall semester.

## JOURNAL CLUBS

### CALCIUM IMAGING TECHNIQUES Meets Monday's 11am ET [via Zoom \(use this link through June 26<sup>th</sup>\)](#)

Due to the need within our EMBRIO community to process and analyze Ca<sup>2+</sup> Images, Director Umulis has proposed to discuss papers regarding methods and tools for analyzing calcium imaging as part of a new journal club. **The goal, beyond integrating these techniques, is to write a review paper.**

Norma Perez ([nperezro@purdue.edu](mailto:nperezro@purdue.edu)), EMBRIO Postdoc with the Buganza-Tepole and Umulis Labs has been leading the effort with this journal club, please contact her about participating in the club.

**The club is currently discussing the following papers:**

[https://docs.google.com/document/d/1uESi45Zv\\_kGL369NW8sPW60GByOAXme7-vr1XKBM18U/edit?usp=sharing](https://docs.google.com/document/d/1uESi45Zv_kGL369NW8sPW60GByOAXme7-vr1XKBM18U/edit?usp=sharing)

### ONGOING CLUB: Multimodal Functions of Calcium in Tuning and Regulating Cytoskeleton Networks

Please contact Dr. Linlin Li ([li2212@purdue.edu](mailto:li2212@purdue.edu)) for information. The club is currently entering the writing stage for organizing and publishing a review paper on the topic. It isn't too late to join. Here is the link to the current working documents:

[https://docs.google.com/document/d/1Cpg77yjtioWiluRmiDMCcAiAd4jNNX\\_J7s64RQk8xOU/edit?usp=sharing](https://docs.google.com/document/d/1Cpg77yjtioWiluRmiDMCcAiAd4jNNX_J7s64RQk8xOU/edit?usp=sharing)

## UPCOMING DEADLINES, IMPORTANT DATES, & INFO

**July 10-12, 2023.** EMBRIO Trainees Summer Workshop, Notre Dame University. Details above.

**July 13-14, 2023.** EMBRIO All-Hands Annual Meeting, Purdue University..

**July 31 - August 13, 2023. 2023 Multicell Virtual-Tissue Modeling Online Summer School and Hackathon**  
Learn to model your biological system of interest with one-on-one help. Week 1 will cover CC3D basics. Week 2 will cover advanced topics in CC3D, followed by a 2-day model-building hackathon. Physicists, biologists, computer scientists, and modelers team up to build research-grade models of biological systems. All experience levels are welcome. For more information, email [compucell3d.iu@gmail.com](mailto:compucell3d.iu@gmail.com) or visit [www.compucell3d.org/Workshop23](http://www.compucell3d.org/Workshop23). Register at: [www.tinyurl.com/CC3D2023](http://www.tinyurl.com/CC3D2023).

### INSTITUTE EVALUATION: SIGN UP FOR YOUR ONE-ON-ONE INTERVIEW (hint: it's mandatory)

**If you are a member of the EMBRIO institute currently doing a research project, we would like to invite you for participating in this study.** Participation in the evaluation process is **MANDATORY** for all the members of the institute.

As a part of the evaluation process, you will take part in an online session (via Zoom), which includes an interview and a brief survey, and the entire process should be completed in less than an hour. Interviews will be conducted annually for the total duration of your participation in the institute and the session would not exceed an hour and would be completed in a day.

**Please fill in all the times you may be available for our interviews using the link below with either your name or email address.** This information is requested so that we may contact you to set up an online session, but we will use a randomly generated 4-digit code in place of your name to identify all your information for the data collection and analysis.

<https://www.when2meet.com/?18327719-shNWM>

Your participation will not affect any aspect of your association with the EMBRIO institute. If you have any doubts regarding the evaluation process, please reach out to Soumi at [mukher42@purdue.edu](mailto:mukher42@purdue.edu)."

## Hot Off the Press: New EMBRIO Journal and Conference Papers

*Let us know about new papers you want to highlight for the EMBRIO community!*

### REMINDER: EMBRIO Acknowledgement for Scholarly Papers.

For EMBRIO related research publications, NSF requires acknowledgement of EMBRIO NSF funding for our Institute to claim the work in our reporting back to NSF. Please include the following acknowledgement in your journal and conference papers and posters: **"This work is based upon efforts supported by EMBRIO Institute, contract #2120200, a National Science Foundation (NSF) Biology Integration Institute."**

## Conference Presentations:

*Let us know about your conference presentations.*

## Awards

## Open Positions

## New Lab Members?

Did you recently have new students or staff members join your EMBRIO projects? We want to add them to the listserv, Box account, demographics survey, and Personnel List for ensuring their inclusion in communications and participation. If they are not already on our Personnel spreadsheet ( <https://app.box.com/s/frd9275xc069gmgfbe3y1osoz1j7ssk7> ), or they have graduated, let Brent know their names and email contacts ([laddb@purdue.edu](mailto:laddb@purdue.edu) )

Submit your items for the next newsletter by **July 14<sup>th</sup>** to Brent ([laddb@purdue.edu](mailto:laddb@purdue.edu))