**Volvox 2023 Meeting Program**

All talks in PUP 204

**Sunday, June 11 Public Policy Building (PUP)**

Noon-6 pm: Registration (PUP atrium; housing check-in at Chesapeake dorm)

6-7:30 pm: Mixer (PUP 203)

7:30-9:30 pm: Dinner (PUP atrium)

**Monday, June 12**

7:30-9 am: Breakfast for on-site visitors (True Grits)

9:00-9:10 Opening remarks

**9:10-10:25 Session 1: Omics Analyses**

9:10-9:15 Introduction (Bradly Olson, session chair)

**9:15-9:40 Bradley Olson, Kansas State University**

“Multi-omics analysis of the transition to multicellularity reveals developmental reprogramming of gene expression resulting in novel protein complex formation”

**9:40-10:05 Dinah Davison, Kansas State University**

“The reorganization of protein interaction networks during the transition to multicellularity”

**10:05-10:20 James Umen, Donald Danforth Plant Science Center**

“Cell type transcriptome dynamics across the vegetative life cycle of *Volvox carteri*”

10:20-10:30 Break

**10:30-noon: Session 2: Cell Fate and Evolution**

10:30-10:35 Introduction (Aurora Nedelcu, session chair)

**10:35-11:00 Aurora Nedelcu, University of New Brunswick**

“Insights into the evolutionary and mechanistic basis for somatic cell differentiation in *Volvox carteri”*

**11:00-11:15 JD Seah, UMBC**

“RegA VARL domain evolution and the emergence of somatic cell differentiation in the volvocine algae”

**11:15-11:30 James Williams, UMBC**

“Cas9 mutagenesis of the *rlsA* gene in *Volvox carteri”*

**11:30-11:45 SoRi La, University of Arizona**

“Ancient redox mechanism co-opted for size dimorphism to mediate conflict during the evolution of multicellularity”

**11:45:12:10 Berenice Jiménez-Marín, Kansas State University**

“Functional analysis of regA homolog *rlsD* in *Volvox carteri”*

12:10-1:30 Lunch (PUP 203)

**1:30-2:00 Session 3: Volvox in the Classroom**

**1:30-1:45 Joshua Hoskinson, Arizona State University**

“Teaching the evolution of biological complexity using the volvocine algae model system”

**1:45-2:00 Dinah Davison, Kansas State University**

“The volvocine algae are a useful teaching tool in undergraduate biology classrooms”

**2:00-3:00 Keynote Address: Richard Michod, University of Arizona**

“Reorganization of fitness during the evolutionary transition to multicellular individuality”

3:00-6:00 Discussion (including virtual attendees) and Posters (PUP Atrium)

6:00-8:00 Dinner (PUP Atrium)

**Tuesday, June 13**

7:30-9 Breakfast for on-site visitors (True Grits)

**9-10:25 Session 4: Cell Division and Ontogeny**

**9:00-9:05 Introduction (Eva von der Heyde, session chair)**

**9:05-9:30 Stephen Miller, UMBC**

“Functional analysis of *Volvox carteri* *dp1”*

**9:30-9:55 Eva von der Heyde, University of Bielefeld**

“Evolution of cell division - how does *Volvox* fit into the picture?”

**9:55-10:20 Benjamin von der Heyde, University of Bielefeld**

“The role of cell type-specific pherophorins in the ECM of *Volvox carteri”*

10:20-10:40 Break

**10:40-noon Session 5: Mechanics of Development**

10:40-10:45 Introduction (Steph Höhn, session chair)

**10:45-11:10 Steph Höhn, University of Cambridge**

“ECM growth, biomechanics and cell positioning in *Volvox carteri”*

**11:10-11:35 Anand Srinivasan, University of Cambridge (virtual)**

“Growth-curvature feedback models for stable isotropic expansion”

**11:35-11:50 Jane Chui, University of Cambridge (virtual)**

“Intrinsic Curvatures of *Volvox carteri*“

**10:50-noon Marco Vona, University of Cambridge (virtual)**

“Residual Stresses in the Volvox ECM”

Noon-1:30 Lunch (PUP 203)

**1:30-3 Session 6: Organellar Topics and Motility**

**1:30-1:35 Introduction (Noriko Ueki, session chair)**

**1:35-1:45 Cherdsak Maneeruttanarungroj, King Mongkut’s Institute of Technology Ladkrabang**

“Algal Biotechnology: A Possibility From Lab Scale To Large Scale**”**

**1:45-1:55 Natwikar Laokua, King Mongkut’s Institute of Technology Ladkrabang**

“Ethanol induced biohydrogen production in *Chlorella* sp. KLSc61: optimization and proteome response during production”

**1:55-2:20 Shyanika Nissanka, Western University (virtual)**

“Genome-wide investigation of reverse transcriptase-like gene (*rtl*) in the mitochondrial genomes of Chlamydomonadales using transcriptome data”

**2:20-2:45 Kyriacos C Leptos, University of Cambridge (virtual)**

*Chlamydomonas* phototaxis results from a tuned adaptive flagellar response similar to *Gonium* and *Volvox”*

**2:45-2:55 Noriko Ueki, Hosei University**

“Transition of photoresponse styles in cilia as a function of Reynolds number in Volvocales”

2:55-3:15 Break

3:15-5 Community Meeting

5:30 Depart from Commons garage/loop for Banquet Dinner (Atlantic Restaurant, Catonsville)

**Wednesday, June 14**

7:30-8:30 Breakfast for on-site visitors (True Grits)

8:45-9:00 Departure from Commons garage/loop for National Aquarium

1:30-2 Depart National Aquarium and return to UMBC for departure