

**Programming with Chemical Reaction Networks:  
Mathematical Foundations  
June 9 – June 13, 2104**

**Sunday**

- 4:00pm check-in begins (Front Desk - Professional Development Centre - open 24 hours)
- 5:30pm buffet dinner, Sally Borden Building
- 8:00pm informal gathering in 2nd floor lounge, Corbett Hall  
beverages and a small assortment of snacks are available on a cash honor system

**Monday**

- 7:00am breakfast
- 8:45am introduction and welcome by BIRS station manager, TCPL
- 9:00am introductions of workshop participants, explanation of plan for workshop
- 9:15am **Tutorial:** David Soloveichik, UCSF, *The computational power of CRNs*
- 10:45am coffee break
- 11:00am introduction to open problems
- 12:00pm lunch
- 1:00pm guided tour of the Banff Centre; meet in the 2nd floor lounge, Corbett Hall
- 2:00pm group photo; meet in foyer of TCPL (photograph will be taken outdoors so a jacket might be required)
- 2:05pm **Keynote:** Erik Winfree, Caltech, *Beyond chemical reaction networks*
- 2:50pm coffee break
- 3:00pm **Tutorial:** Lulu Qian, Caltech, *Implementing complex CRNs with modular DNA components*
- 4:30pm more problems, formation of small groups for problem solving
- 5:30pm break
- 6:30pm dinner

**Tuesday**

- 7:00am breakfast
- 9:00am **Tutorial:** David Anderson, University of Wisconsin, Madison, *Chemical reaction network theory for both deterministic and stochastic models*
- 10:30am coffee break
- 10:45am small group problem solving
- 12:00pm lunch
- 1:00pm **Keynote:** Andy Ellington, University of Texas, Austin, *Practical but limited applications of DNA computation*
- 1:45pm small group problem solving
- 3:30pm break
- 5:30pm verbal progress reports
- 6:30pm dinner

## Wednesday

- 7:00am breakfast
- 9:00am **Keynote:** Luca Cardelli, Microsoft Research and University of Oxford, *Morphisms of reaction networks*
- 9:45am small group problem solving (coffee available until 11:00am)
- 12:00pm lunch
- 1:00pm on your own (hike, etc.)
- 6:30pm dinner

## Thursday

- 7:00am breakfast
- 9:00am **Keynote:** Seung Woo Shin, UC-Berkeley, *Verifying CRN implementations*
- 9:45am coffee break
- 10:15am small group problem solving
- 12:00pm lunch
- 1:00pm **Keynote:** David Doty, Caltech, *Rate-independent computation in real-valued CRNs*
- 1:45pm verbal progress reports
- 3:15pm break
- 6:30pm dinner

## Friday

- 7:00am breakfast
- 9:00am prepare final written reports
- 10:30am coffee break
- 11:00am summary, next steps
- 12:00pm lunch (**checkout by 12:00pm**)

\*\* 5-day workshop participants are welcome to use BIRS facilities (BIRS Coffee Lounge, TCPL and Reading Room) until 3 pm on Friday, although participants are still required to checkout of the guest rooms by 12 noon. \*\*