

2015 Boulder Summer School
Soft Matter In and Out of Equilibrium
July 6 – 31, 2015

Detailed schedule

All lectures are in **Duane Physics Room G130**
Public lecture in **Duane Physics Room G1B30**

Sunday, July 5th

6:30pm – 8:30pm Registration mixer with refreshments
WeatherTech Café in the C4C

Week 1, July 6 – 10

Elasticity, chirality and frustration in soft matter

Monday, July 6th

8:30 – 9:00	Leo Radzihovsky <i>Welcome and Introduction</i>
9:00 – 10:30	Tom Lubensky <i>Elastomers and isostatic lattices I</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Alex Levine <i>Filaments, membranes and surfaces I</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Efi Efrati <i>Chirality and frustration I</i>
15:30 – 16:30	participants' introductions

Tuesday, July 7th

9:00 – 10:30

Tom Lubensky

Elastomers and isostatic lattices II

10:30 – 11:00

Coffee Break

11:00 – 12:30

Efi Efrati

Chirality and frustration II

12:30 – 13:45

Lunch

14:00 – 15:30

Alex Levine

Filaments, membranes and surfaces II

19:00 – 20:00

David Nelson - Public lecture, Duane Physics G1B30

The Physics of Thermal Crumpling and Wrinkling

Wednesday, July 8th

9:00 – 10:30

Tom Lubensky

Elastomers and isostatic lattices III

10:30 – 11:00

Coffee Break

11:00 – 12:30

Efi Efrati

Chirality and frustration III

12:30 – 13:45

Lunch

14:00 – 15:30

Alex Levine

Filaments, membranes and surfaces III

Thursday, July 9th

9:00 – 10:30

Vincenzo Vitelli

tutorial: *Topological mechanics I*

10:30 – 11:00

Coffee Break

11:00 – 12:30

David Nelson

seminar: *Statistical mechanics of free-standing graphene ribbons*

12:30 – 13:45

Lunch

14:00 – 15:30

Student activity

19:00 – 22:00

Poster session I

11th Floor Commons Room

Friday, July 10th

9:00 – 10:30

William Irvine

Fluid hydrodynamics I

10:30 – 11:00

Coffee Break

11:00 – 12:30

Narayanan Menon

Mechanics of wrinkling, folding, & crumpling I

12:30 – 13:45

Lunch

14:00 – 15:30

Vincenzo Vitelli

tutorial: *topological mechanics II*

17:30 – 19:00

Weeks overview, discussion, Q&A

What have we learned?

19:00 – 21:30

Catered dinner (11th floor, Gamow Tower, Duane Physics)

Week 2, July 13 – 17
Generalized elasticity and heterogeneity in soft matter

Monday, July 13th

9:00 – 10:30	Eric Dufresne <i>Surface tension, droplets, & contact lines I</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Narayanan Menon <i>Mechanics of wrinkling, folding, & crumpling II</i>
12:30 – 13:45	Lunch
14:00 – 15:30	William Irvine <i>Fluid hydrodynamics II</i>
15:30 – 17:00	Student activity

Tuesday, July 14th

9:00 – 10:30	Leo Radzihovsky <i>Introduction to quenched disorder I</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Eric Dufresne <i>Surface tension, droplets, & contact lines II</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Oleg Lavrentovich <i>Liquid crystals I</i>
18:00 – 20:00	Dessert on Flagstaff Mountain <i>busses leave south of C4C at 6pm</i>

Wednesday, July 15th

9:00 – 10:30	Narayanan Menon <i>Mechanics of wrinkling, folding, & crumpling III</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Leo Radzihovsky <i>Introduction to quenched disorder II</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Oleg Lavrentovich <i>Liquid crystals II</i>
19:00 – 22:00	Poster session II <i>11th floor Commons Room</i>

Thursday, July 16th

9:00 – 10:30

Eric Dufresne

Surface tension, droplets, & contact lines III

10:30 – 11:00

Coffee Break

11:00 – 12:30

Leo Radzihovsky

Introduction to quenched disorder III

12:30 – 13:45

Lunch

14:00 – 15:30

Oleg Lavrentovich

Liquid crystals III

Friday, July 17th

9:00 – 10:30

Noel Clark

seminar: *Chiral liquid crystals, DNA, origin of life*

10:30 – 11:00

Coffee Break

11:00 – 12:30

Ivan Smalyukh

seminar: *Liquid crystals skyrmions, topological colloids*

12:30 – 13:45

Lunch

14:00 – 15:30

Student Activity

15:30 – 16:30

Weeks overview, discussion, Q&A

What have we learned?

Week 3, July 20 – 24
Nonequilibrium, heterogeneous soft matter

Monday, July 20th

9:00 – 10:30	Sid Nagel <i>glasses I</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	William Irvine seminar: <i>Life of vortex knots: conservation of helicity across scales</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Noel Clark seminar: <i>Athermal photo-fluidization of glasses</i>

Tuesday, July 21th

9:00 – 10:30	Sid Nagel <i>glasses II</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	William Irvine seminar: <i>Topological mechanics of gyroscopic metamaterials</i>
12:30 – 13:45	Lunch
14:00 – 15:30	student activity

Wednesday, July 22th

9:00 – 10:30	Pierre Le Doussal <i>Driven disordered systems I</i>
10:30 – 11:00	Coffee Break
11:00 – 12:30	Sid Nagel <i>glasses III</i>
12:30 – 13:45	Lunch
14:00 – 15:30	Leo Radzihovsky seminar: <i>“Critical” soft matter: liquid crystals, membranes, & elastomers</i>
19:00 – 22:00	Poster session III <i>11th Floor Commons Room</i>

Thursday, July 23th

9:00 – 10:30

Pierre Le Doussal

Driven disordered systems II

10:30 – 11:00

Coffee Break

11:00 – 12:30

Mark Bowick

seminar: *Flat faces from floppy vesicles*

12:30 – 13:45

Lunch

14:00 – 15:30

Student activity

Friday, July 24th

9:00 – 10:30

Pierre Le Doussal

Driven disordered systems III

10:30 – 11:00

Coffee Break

11:00 – 12:30

Cristina Marchetti

Microscopics to hydrodynamics of active matter I

12:30 – 13:45

Lunch

14:00 – 15:30

Lisa Manning

seminar: *Computational glassy dynamics in cell*

15:30 – 16:30

Weeks overview, discussion, Q&A

What have we learned?

19:00 – 21:30

Catered dinner (11th floor, Gamow Tower, Duane Physics)

Week 4, July 27 – 31

Active matter

Monday, July 27th

9:00 – 10:30

John Toner

Hydrodynamics of active matter I

10:30 – 11:00

Coffee Break

11:00 – 12:30

Cristina Marchetti

Microscopics to hydrodynamics of active matter II

12:30 – 14:00

Lunch

14:00 – 15:30

Zvonimir Dogic

Active liquid crystals I

Tuesday, July 28th

9:00 – 10:30

Jean-François Joanny

Cytoskeletons, cells, tissue I

10:30 – 11:00

Coffee Break

11:00 – 12:30

John Toner

Hydrodynamics of active matter II

12:30 – 13:45

Lunch

14:00 – 15:30

Cristina Marchetti

Microscopics to hydrodynamics of active matter III

Wednesday, July 29th

9:00 – 10:30

Jean- François Joanny

Cytoskeletons, cells, tissue II

10:30 – 11:00

Coffee Break

11:00 – 12:30

John Toner

Hydrodynamics of active III

12:30 – 13:45

Lunch

14:00 – 15:30

Jennifer Ross

seminar: *Microtubules organization*

Thursday, July 30th

9:00 – 10:30

Jean- François Joanny

Cytoskeletons, cells, tissue III

10:30 – 11:00

Coffee Break

11:00 – 12:30

Zvonimir Dogic

Active liquid crystals II

12:30 – 13:45

Lunch

14:00 – 15:30

Mark Bowick

seminar: *Shape-shifting droplet networks*

Friday, July 31st

9:00 – 10:30

Zvonimir Dogic

Active liquid crystals III

10:30 – 11:00

Coffee Break

11:00 – 12:30

What did we learn this month?

Overview, discussion & feedback

12:30 – 14:00

Lunch