2026 Boulder Summer School for Condensed Matter and Materials Physics

Geometry and Topology in Soft Matter Physics

July 6-July 31, 2026

Detailed Schedule *All lectures are in Duane Physics Room G130*

Public lecture: Duane G1B30; posters: G130 common space; catered dinner: JILA 10th floor

Week 1, July 6-10, 2026
Elasticity and Geometry

Sunday, July 5th

	Welcome Registration Mixer with light refreshments
18:30 – 20:30	*Common space next to Duane Physics G130*

Monday, July 6th

8:30 – 9:00	**Welcome**
9:00 – 10:30	**M. Moshe**
	Geometric mechanics of solids I
10:30 – 11:00	Coffee Break
11:00 – 12:30	**R. James**
	Elasticity theory I
12:30 – 13:45	Lunch
14:00 – 15:30	**C. Rycroft**
	Computational methods for elastic sheets I
15:30 – 17:00	**Participant Introductions**
18:30 – 18:55	**Poster Blurbs I**
	Duane Physics G130
19:00 – 22:00	**Poster Session I**
	Common space next to Duane Physics G130

Tuesday, July 7th

9:00 – 10:30	**M. Moshe**
	Geometric mechanics of solids II
10:30 – 11:00	Coffee Break
11:00 – 12:30	**R. James**
	Elasticity theory II
12:30 – 13:45	Lunch
14:00 – 15:30	**C. Rycroft**
	Computational methods for elastic sheets II
18:00 – 20:30	**Social**
	Dessert on Flagstaff Mountain

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Wednesday, July 8th

9:00 – 10:30	**M. Moshe**
	Geometric mechanics of solids III
10:30 – 11:00	Coffee Break
11:00 – 12:30	**R. Kamien**
	Topology in materials I
12:30 – 13:45	Lunch
14:00 – 15:30	**Tutorial / Q&A**
15:45 – 17:00	**Problem solving**

Thursday, July 9th

9:00 – 10:30	**R. Kamien**
	Topology in materials II
10:30 – 11:00	Coffee Break
11:00 – 12:30	**R. James**
	Elasticity theory III
12:30 – 13:45	Lunch
14:00 – 15:30	**M. Moshe**
	Geometric mechanics of solids IV

Friday, July 10th

9:00 – 10:30	**R. Kamien**
	Topology in materials III
10:30 – 11:00	Coffee Break
11:00 – 12:30	**C. Rycroft**
	Computational methods for elastic sheets III
12:30 – 13:45	Lunch
14:00 – 15:30	**Problems & What have we learned?**
19:00 – 21:30	**Catered Dinner**
	10th floor of JILA tower

Week 2, July 13-17, 2026
Complex Fluids

Monday, July 13th

9:00 – 10:30	**M. Shelley**
	Fluid and continuum mechanics I
10:30 – 11:00	Coffee Break
11:00 – 12:30	**S. Spagnolie**
	Hydrodynamics of complex fluids I
12:30 – 13:45	Lunch
14:00 – 15:30	**P. Vlahovska**
	Membranes, vesicles, and fluid–structure interactions I
18:30 – 18:55	**Poster Blurbs II**
	Duane Physics G130
19:00 – 22:00	**Poster Session II**
	Common space next to Duane Physics G130

Tuesday, July 14th

9:00 – 10:30	**M. Shelley**
	Fluid and continuum mechanics II
10:30 – 11:00	Coffee Break
11:00 – 12:30	**S. Spagnolie**
	Hydrodynamics of complex fluids II
12:30 – 13:45	Lunch
14:00 – 15:30	**P. Vlahovska**
	Membranes, vesicles, and fluid–structure interactions II

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Wednesday, July 15th

9:00 – 10:30	**M. Shelley**
	Fluid and continuum mechanics III
10:30 – 11:00	Coffee Break
11:00 – 12:30	**C. Marchetti**
	Active fluids I
12:30 – 13:45	Lunch
14:00 – 15:30	**Tutorial / Q&A**
15:45 – 17:00	**Problem solving**

Thursday, July 16th

9:00 – 10:30	**C. Marchetti**
	Active fluids II
10:30 – 11:00	Coffee Break
11:00 – 12:30	**P. Vlahovska**
	Membranes, vesicles, and fluid–structure interactions III
12:30 – 13:45	Lunch
14:00 – 15:30	**M. Shelley**
	Fluid and continuum mechanics IV

Friday, July 17th

9:00 – 10:30	**C. Marchetti**
	Active fluids III
10:30 – 11:00	Coffee Break
11:00 – 12:30	**S. Spagnolie**
	Hydrodynamics of complex fluids III
12:30 – 13:45	Lunch
14:00 – 15:30	**Problems & What have we learned?**

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Week 3, July 20-24, 2026
Heterogeneous Materials

Monday, July 20th

9:00 – 10:30	**G. Grason** *Geometric frustration in soft matter I*
10:30 – 11:00	Coffee Break
11:00 – 12:30	**X. Mao** *Waves and topological mechanics I*
12:30 – 13:45	Lunch
14:00 – 15:30	**J. Panetta** *Computational homogenization and inverse design I*
18:30 – 18:55	**Poster Blurbs III** *Duane Physics G130*
19:00 – 22:00	**Poster Session III** *Common space next to Duane Physics G130*

Tuesday, July 21st

9:00 – 10:30	**G. Grason** *Geometric frustration in soft matter II*
10:30 – 11:00	Coffee Break
11:00 – 12:30	**X. Mao** *Waves and topological mechanics II*
12:30 – 13:45	Lunch
14:00 – 15:30	**J. Panetta** *Computational homogenization and inverse design II*
19:00 – 20:00	**Public Lecture: G. Grason** *Geometrically programmed nanostructure assembly* *Duane Physics G1B30*

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Wednesday, July 22nd

9:00 – 10:30	**G. Grason**
	Geometric frustration in soft matter III
10:30 – 11:00	Coffee Break
11:00 – 12:30	**E. Katifori**
	Physical networks I
12:30 – 13:45	Lunch
14:00 – 15:30	**Tutorial / Q&A**
15:45 – 17:00	**Problem solving**

Thursday, July 23rd

9:00 – 10:30	**X. Mao**
	Waves and topological mechanics III
10:30 – 11:00	Coffee Break
11:00 – 12:30	**E. Katifori**
	Physical networks II
12:30 – 13:45	Lunch
14:00 – 15:30	**G. Grason**
	Geometric frustration in soft matter IV

Friday, July 24th

9:00 – 10:30	**J. Panetta**
	Computational homogenization and inverse design III
10:30 – 11:00	Coffee Break
11:00 – 12:30	**E. Katifori**
	Physical networks III
12:30 – 13:45	Lunch
14:00 – 15:30	**Problems & What have we learned?**

Week 4, July 27-31, 2026
Physical Networks

Monday, July 27th

9:00 – 10:30	**I. Streinu**
	Rigidity theory I
10:30 – 11:00	Coffee Break
11:00 – 12:30	**J. Schwarz**
	Mechanics and learning in networks I
12:30 – 13:45	Lunch
14:00 – 15:30	**C. Modes**
	Dynamics of networks I

Tuesday, July 28th

9:00 – 10:30	**I. Streinu**
	Rigidity theory II
10:30 – 11:00	Coffee Break
11:00 – 12:30	**J. Schwarz**
	Mechanics and learning in networks II
12:30 – 13:45	Lunch
14:00 – 15:30	**C. Modes**
	Dynamics of networks II

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Wednesday, July 29th

9:00 – 10:30	**I. Streinu**
	Rigidity theory III
10:30 – 11:00	Coffee Break
11:00 – 12:30	**I. Tobasco**
	Homogenization of mechanical metamaterials I
12:30 – 13:45	Lunch
14:00 – 15:30	**Problem solving**

Thursday, July 30th

9:00 – 10:30	**I. Tobasco**
	Homogenization of mechanical metamaterials II
10:30 – 11:00	Coffee Break
11:00 – 12:30	**J. Schwarz**
	Mechanics and learning in networks III
12:30 – 13:45	Lunch
14:00 – 15:30	**C. Modes**
	Dynamics of networks III

Friday, July 31st

9:00 – 10:30	**I. Tobasco**
	Homogenization of mechanical metamaterials III
10:30 – 11:00	Coffee Break
11:00 – 12:30	**C. Modes**
	Dynamics of networks IV
12:30 – 13:45	Lunch
14:00 – 15:30	**Problems & What have we learned?**