



The Bandol Summer School on Liquid Crystals,
 25 September - 1 October 2016
 —*Lecture schedule*

SUNDAY 25.09

19:00 - 20:00	Welcome reception (buffet dinner)		
20:00 - 20:30	Welcome lecture: The liquid crystalline state of matter Overview of the summer school schedule		Jan Lagerwall
20:30 - 22:00	Welcome reception (continued)		

MONDAY 26.09

9:00-9:45	Nematics and cholesterics: order, symmetry and elasticity.		Sven Lagerwall
10:00 - 10:45	Optical and dielectric properties, birefringence		Per Rudquist
11:00 - 11:45	Polarized light microscopy		Daniel Krüerke
13.00 - 14:15	Lunch at Golf Hotel		
14:30 - 16:00	Practical work: microscopy, birefringence and nematic textures	Groups 1-2	Jan Lagerwall
16:30 - 18:00		Groups 3-4	Per Rudquist
18:15 - 19:00	Chemistry 1: designing thermotropic mesogens		Daniel Krüerke
19:05 - 19:35	Questions / Discussion		

TUESDAY 27.09

9:00-9:45	Phase transitions: symmetry and order parameters.		Frank Giesselmann
10:00 - 10:45	Singularities in nematics and smectics: From hedgehogs to focal conics. The Volterra Process.		Sven Lagerwall
11:00 - 11:45	Identifying liquid crystal phases and phase transitions using polarizing microscopy textures		Daniel Krüerke
13.00 - 14:15	Lunch at Golf Hotel		

14:30 - 16:00	Practical work: smectic and cholesteric textures, phase transitions. Free-standing smectic films.	Groups 3-4	Daniel Krüerke
16:30 - 18:00		Groups 1-2	Per Rudquist
18:15 - 19:00	Computer simulation of liquid crystals 1		Stefan Jagiella
19:05 - 19:35	Questions / Discussion		

WEDNESDAY 28.09

9:00-9:45	X-ray structural studies 1: short and long range order		Frank Giesselmann
10:00 - 10:45	Field effects in nematics		Per Rudquist
11:00 - 11:45	Neumann's Principle and Hermann's Theorem. Ferroelectric and antiferroelectric liquid crystals.		Sven Lagerwall
13.00 - 14:15	Lunch at Golf Hotel		
14:30 - 16:00	Practical work: (1) computer modeling of mesogen structure and comparison with x-ray diffraction data; (2) Frederiks transition & field-induced helix unwinding	Groups 1/2	Per Rudquist Daniel Krüerke Stefan Jagiella,
16:30 - 18:00		Groups 3/4	Frank Giesselmann
18:15 - 19:00	Mixtures and phase diagrams		Jan Lagerwall
19:05 - 19:35	Questions / Discussion		

THURSDAY 29.09

9:00-9:45	X-ray structural studies 2: nematics and smectics		Frank Giesselmann
10:00 - 10:45	Chemistry 2: Amphiphiles and chromonics; design and function		Jan Lagerwall
11:00 - 11:45	Computer simulation of liquid crystals 2		Stefan Jagiella
12:00 - 12:45	Liquid crystals containing micro- and nanoparticles		Jan Lagerwall

Afternoon free

FRIDAY 30.09

9:00-9:45	The Poincaré Sphere and Mauguin's analysis of the twisted nematic.		Sven Lagerwall
10:00 - 10:45	Discotics: structure, design and applications		Frank Giesselmann
11:00 - 11:45	Lyotropic liquid crystals from amphiphiles		Jan Lagerwall

13.00 - 14:15	Lunch at Golf Hotel		
14:30 - 16:00	Practical work: lyotropic liquid crystals and surfactant+solvent+cosurfactant phase diagrams	Groups 3-4	Jan Lagerwall Frank Giesselmann
16:30 - 18:00		Groups 1-2	
18:15 - 19:00	Flexoelectricity, polar effects in chiral smectics (from chiral or non-chiral mesogens)		Per Rudquist
19:05 - 19:35	Questions / Discussion		

SATURDAY 01.10

9:00-9:45	Overview of LCDs on the market		Per Rudquist
10:00 - 10:45	Microdisplays		Daniel Krüerke
11:00 - 11:45	Blue phases, the Kerr effect, and displays based on the Kerr effect (e.g. the Blue Phase Display)		Sven Lagerwall
13.00 - 14:15	Lunch at Golf Hotel		
14:30 - 16:00	Students' choice		All teachers
16:30 - 18:00			
18:15 - 19:00	Liquid crystal polymers and elastomers		Jan Lagerwall
19:00 - 19:35	Questions / Discussion		
20:30 - 21:30	Farewell buffet		
21:30 - 22:00	Farewell lecture: Liquid crystals and life		Daniel Krüerke
22:00 - 23:00	Farewell buffet (continued)		