18th International Conference on Ferroelectric Liquid Crystals

# Polarity and Chirality in Soft Matter

September 6-10, 2021

Ljubljana, Slovenia

# Programme Book

	Ljubljana	Sunday 5 <sup>th</sup>	Monday 6 <sup>th</sup>	Tuesday 7 <sup>th</sup>	Wednesday 8 <sup>th</sup>	Thursday 9 <sup>th</sup>	Friday 10 <sup>th</sup>
	08:00		Registration				
	08:50		Opening				
	09:00	16:00 TOKYO	Opening Ceremony				
	09:10	03:00 KENT	ceremony	J. Lagerwall	E. Górecka	F. Araoka	S. Kantorovich
	09:20 09:30	01:00 BOULDER					
	09:40		R. Mandle	I. Nys			
	09:50			N. Dadaliak	D. K. Yoon	G. Ungar	A. Eremin
	10:00		M. Huang	N. Podoliak		_	
	10:10			Poster Pitches	J. Fukuda	X. Zeng	M. Küster
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EU/ASIA	10:30 10:40		Coffee Break	Coffee Break	Poster Pitches	Poster Pitches	Coffee Break
<b>₹</b>	10:50		Collee bleak	Collee Bleak	Coffee Break	Coffee Break	Collee Bleak
$\Box$	11:00				conce break	conce break	
	11:10		S. Aya	O. Lavrentovich	S. Čopar		V. Chigrinov
	11:20				3. Сораг	S. Dhara	
	11:30		N. Sebastián	M. Stebryte	G. Poy		M. Osipov
	11:40 11:50					M. H. Godinho	
	12:00		P. Salamon	W. Tomczyk	L. Lucchetti		O. Prishchepa
	12:10					P. Rudquist	Closing
	12:20		Poster Pitches	Poster Pitches	Poster Pitches	Poster Pitches	Ceremony
	12:30					1 Oster 1 itelies	
	12:40		Lunch	Lunch	Lunch		Lunch
	12:50 13:00					Lunch	
	14:00	21:00 TOKYO					
$\frac{1}{2}$	14:10	08:00 KENT	C. Tschierske	A. Jákli			
AS	14:20	06:00 BOULDER				Online Poster	
	14:30		M. Lehmann	Ž. Gregorin		Session	
Щ.	14:40					In Gather.Town	
$\overline{A}$	14:50 15:00		A. Concellón	Poster Pitches			
$\overline{\mathcal{Q}}$	15:10			1 Oster 1 itelies			
8	15:20		Poster Pitches				
=	15:30			Coffee Break			
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	15:50 16:00	23:00 TOKYO					
	16:00 16:10	10:00 KENT	I. Smalyukh	J. Maclennan		A. Ferrarini	
	16:20	08:00 BOULDER					
	16:30		G. Smith	N. Clark		D. Revignas	
	16:40		G. Silliul	IV. Clark		D. Nevigilas	
Æ	16:50		Poster Pitches			J. Selinger	
A	<b>17:00</b> 17:10	Onsite					
3	17:20	Welcome				D. Jukić	
出	17:30	Reception +		Online Poster			
AMERICA/EU	17:40	Registration (Jožef Stefan	Onsite Poster	Session			
4	17:50	Institute)	Session	In Gather.Town			
	18:00 19:00						
						Conference	
	19:30					Dinner	
		+			A**		

### 18th International Conference on Ferroelectric Liquid Crystals

## Polarity and Chirality in Soft Matter

September 6 - 10, 2021

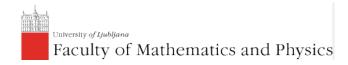
Ljubljana, Slovenia and online http://flc2021.ijs.si/

### Programme book

Editors: Mojca Vilfan, Nerea Sebastián

Ljubljana, September 2021









#### Welcome!

A very warm welcome to all the participants, those attending in person and those attending online. It is a great honour and privilege to host the 18th International Conference on Ferroelectric Liquid Crystals in Ljubljana, Slovenia, organised by J. Stefan Institute and Faculty of Mathematics and Physics, University of Ljubljana.

This year's conference is the 18th in the series of conferences, previously hosted by Arcachon (France, 1987), Goteborg (Sweden, 1989), Boulder (USA, 1991), Tokyo (Japan, 1993), Cambridge (UK, 1995), Brest (France, 1997), Darmstadt (Germany, 1999), Washington (USA, 2001), Dublin (Ireland, 2003), Stare Jablonki (Poland, 2005), Sapporo (Japan, 2007), Zaragoza (Spain, 2009), Niagara Falls (Canada, 2011), Magdeburg (Germany, 2013), Prague (Czechia, 2015), Hong Kong (2017), and Boulder (USA, 2019).

The focus of this year's conference is polarity and chirality in soft matter, following the trends of recent discoveries of new liquid crystalline phases. Combining experimental, theoretical and applied studies, the aim of the conference is to review and share the latest discoveries on the field of polar and chiral mesophases, including polar nematics, ferromagnetic soft matter and twist-bend phases.

Recent Covid-19 pandemics has drastically changed the world as we knew it and took for granted. Limited access to the laboratories, hampered communication, and obstructed travelling had a significant impact on both professional careers and our personal lives. Organising this conference has thus been more challenging than ever.

We nevertheless hope that our hard work will result in establishing an inviting and pleasant environment for all the participants, those in Ljubljana as well as the ones attending from their offices around the world. Several online platforms were set up to ensure that everyone can actively participate, follow the presentations and meet either in person or virtually.

We thank you all for contributing to the scientific programme and for your understanding in these strange times. We hope you will enjoy the conference and – stay safe.

Alenka Mertelj, Nerea Sebastián, Mojca Vilfan FLC 2021 Organising Committee

#### **Committees**

#### **Local Organising Committee:**

Alenka Mertelj (Chair)

Nerea Sebastián (Vice-chair)

Mojca Vilfan (Scientific Advisor)

Luka Cmok

Mojca Čepič

Martin Čopič

Irena Drevenšek Olenik

Žiga Gregorin

Ema Hanžel

Patricija Hribar Boštjančič

Nataša Vaupotič

#### **International Scientific Committee:**

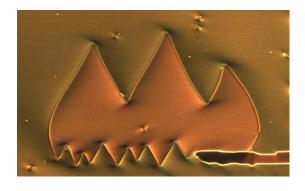
- F. Araoka, RIKEN Center for Emergent Matter Science (Japan)
- V. G. Chigrinov, The Hong Kong University of Science and Technology (Hong Kong)
- S. Dhara, University of Hyderabad (India)
- I. Dozov, Paris-Sud University (France)
- A. Eremin, Otto-von-Guericke University Magdeburg (Germany)
- A. Ferrarini, University of Padua (Italy)
- F. Giesselmann, University of Stuttgart (Germany)
- J. W. Goodby, University of York (UK)
- E. Górecka, University of Warsaw (Poland)
- T. Hegmann, Kent State University (USA)
- C. Imrie, University of Aberdeen (UK)
- A. Jákli, Kent State University (USA)
- J. Lagerwall, University of Luxembourg (Luxembourg)
- R. P. Lemieux, University of Waterloo (Canada)
- M. Nagaraj, University of Leeds (UK)
- V. Novotná, The Czech Academy of Sciences (Czech Republic)
- M. B. Ros, University of Zaragoza (Spain)
- M. M. Telo da Gama, University of Lisbon (Portugal)
- C. Tschierske, Martin Luther University Halle-Wittenberg (Germany)
- D. Walba, University of Colorado Boulder (USA)
- D. K. Yoon, Korean Advance Institute of Science and Technology (South Korea)
- X. Zhang, Nankai University (China)

### **Conference topics**

Synthesis and design of polar and chiral liquid crystals
Structures of polar and chiral mesophases
Physical properties of polar and chiral liquid crystals
Simulation, modelling and theory
Polar nematic liquid crystals
Ferroelectric and ferromagnetic soft matter
Colloidal polar systems
Twist-bend phases
Liquid crystals and biology
Applications of polar and chiral liquid crystals

### **Conference Logo Origin**

The FLC2021 logo is based on an image of ferroelectric domains in the ferroelectric nematic liquid crystal RM734 under polarising microscope. Since the first observations, the domain walls reminded us of long jagged mountain chains, just like the Julian Alps that define the landscape of Slovenia. As the mountain ranges are called *sierra* in Spanish, also used in the Western US, we started calling them "sierra-walls".



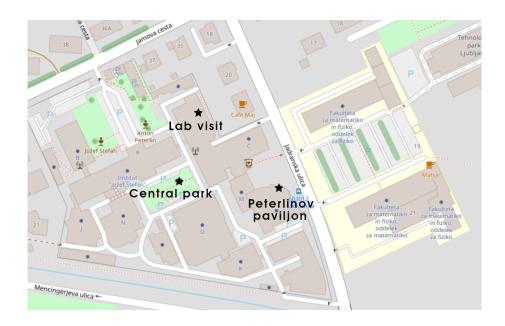
When searching for FLC2021 logo, there was no doubt that sierra-walls would be used, combining both the conference leitmotif and the inviting natural treasures of Slovenia. We decided for a mountain-shaped ferroelectric domain observed in a thin IPS cell, image width 1 mm. The image resembles Triglav (Three-heads), which is Slovenia's highest mountain (2864 m) and one of its most prominent symbols, as well as one of the numerous Alpine lakes. The colours were added to represent the lush greenery on one side and deep blue of fairy-tale lakes and the Mediterranean Sea on the other.

### Locations

J. Stefan Institute is located in the south-western part of Ljubljana, about 2 km from the Triple Bridge in the city centre. The conference dinner will take place in the Ljubljana Castle, on the Castle hill.



A detailed map of the J. Stefan Institute and Faculty of Mathematics and Physics shows the auditorium (Peterlinov paviljon) and the park in which the Welcome Reception will take place. Passage through the IJS side entrance will be marked.



#### General information

#### Venue

The conference will take place at Peterlinov paviljon (Jadranska 26, Ljubljana), located conveniently between J. Stefan Institute and Faculty of Mathematics and Physics in Ljubljana, Slovenia. The Welcome Reception will take place at the J. Stefan Institute *Central Park*, whereas all the lectures and on-site poster session will take place in the Peterlinov paviljon auditorium, where also coffee-break refreshments and lunches will be served.



For online participant, the main *venues* will be Zoom for lectures, Gather.town for poster sessions and private discussions, and Moodle as a repository of presentation recordings.

#### Registration desk

Registration desk is located at the entrance of Peterlinov paviljon and will be open on Sunday during the Welcome Reception and from Monday to Wednesday from 8:00 to 10:00 as well as during the breaks.

Both online and on-site participants are asked to register also to the Moodle repository and Gather.town for poster sessions.

#### **Conference attendance**

Only registered participants wearing their name tags (given upon registration) will be allowed to enter the auditorium. All the on-site participants will be asked to provide a Covid-19 green pass, a proof of either being fully vaccinated, tested negative within the preceding 48 hours, or a certificate of recent recovery.

All the on-site participants will be asked to wear protective FFP2 masks all the time during the conference. The masks will be provided to the participants upon registration.

Online participation is limited to registered participants and please, do not share passwords and access links with others. Non-registered users will be removed from Zoom sessions, Gather.town and Moodle repository.

Certificates of attendance will be issued to all registered participants.

#### Wi-fi

Eduroam wi-fi is available at Peterlinov paviljon and J. Stefan Institute. Additionally, conference wireless will be available to all the participants.

#### Contact

Local organising committee can be reached via email: flc2021@ijs.si and phone number +386 1 477 3388.

#### Zoom

FLC2021 conference sessions will be held in the conference auditorium (Peterlinov paviljon) and streamed live on Zoom. Presentations of online participants will be projected in the same auditorium for on-site participants. If consent was given, the presentations will be recorded and made available for 24 hours on the FLC2021 Moodle platform.

#### **Zoom requirements**

Zoom is a multiplatform (iOS, Windows, Android, Linux) cloud-based video conferencing service. We recommend to have installed the latest version of Zoom.

#### **Entering the FLC2021 Zoom**

Link to the FLC2021 Zoom session has been sent to the registered participants via email. When connecting to the session, please make sure that the screen name is the same as the name used for the conference registration.

Following the link, you will be redirected to the waiting room. Once your name has been verified against the participant list, you will be allowed to enter the session.

If you have any problems with the access, please contact the organisers (flc2021@ijs.si).

#### Instructions for online presenters and participants

Throughout the conference, there will be one breakout room available for testing your Zoom setup (see below). During your lecture, please have your camera on and share your presentation via the "Share screen" button in the Zoom bar.



Please connect to Zoom 10 minutes before your session starts. We strongly recommend testing your presentation through Zoom with your colleagues a few days in advance and check that everything is working as expected.

Please <u>remain muted</u> during other presentations to avoid disturbances for the rest of participants.



#### Instructions for on-site presenters and participants

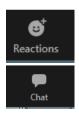
On-site lectures will be held in the conference auditorium and streamed via Zoom to online participants by using the auditorium computer. There will be conference technical staff that will help you out during your presentation.

The presenters are asked to upload their presentations to the auditorium computer (see Instructions for participants below). In the exceptional case that you will use your own computer, please make sure that you are connected to the Zoom session before the beginning of your session. Have your camera, microphone and speakers switched off not to interfere with the rest of the system. Make sure to bring the corresponding adapter to HDMI, which is used to connect to the auditorium projector.

#### Instructions for successful discussion

Two Chairs will direct each session. An on-site Chair in the auditorium and an online Chair (one of the organisers). The online Chair will be in charge of letting the on-site chair know if there are any questions in Zoom. The on-site Chair will then moderate the discussion alternating between on-site and online questions.

To post a question online, either raise your hand (click in the bottom bar, Reactions, and raise your hand) or write your question in the session Chat. In the first case, when your turn arrives, you will be able to direct your question directly either to the on-site or to the online presenter. In the latter case, your question will be read out by the Chair.



#### **Breakout rooms**

Throughout the duration of the conference, the Zoom session will consist of the main lecture session and 5 breakout rooms. In the first one, named "Testing room for presenters", online presenters are invited to check their camera, microphone and shared screen prior to their lecture.

There will be additional 4 breakout rooms numbered from 1 to 4. We encourage participants to use this breakout rooms for follow-up discussions. To change between the main lecture session and the breakout rooms, just click on the Breakout Rooms icon and select the desired room.



#### Gather.town

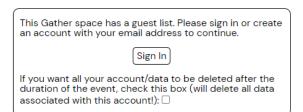
FLC2021 online posters sessions will be held in the virtual conference site Gather. Town. This platform is conceived to emulate a "normal" conference site, in which by moving around your avatar you can interact with people nearby and visit different poster stands, one at a time. In these short Instructions, we will cover how to access the FLC2021 virtual conference site and some basics of Gather. Town.

#### **Gather.town requirements**

- Gather.town requires a desktop/laptop with working microphone and camera.
- Unfortunately, Gather.town's functionality on tablets and phones is rather limited.
- We recommend using <u>Chrome or Firefox web browser</u>. Gather town is WebRTC-enabled and there is no need to install any client.
- The use of <u>headphones</u> is encouraged to avoid microphone feedback, especially for the on-site participants attending the online poster session.

#### How to access FLC2021 virtual venue

Link to FLC2021 virtual space has been sent to the registered participants via email. Following the link, you will be redirected to Gather.town and the following message will appear:



Click on "Sign in" and enter the email address you used when registering for the FLC2021. Only those registered participants who are already on the guest list will be allowed to access the FLC2021 virtual conference space.

After signing in, you will receive in your email account a one-time magic link/code which you will need to enter the space for the first time. After that, as far as you do not sign out but simply close the Gather.town tab in your browser, you will remain logged in. In this case, you can easily re-enter the space at any time by simply clicking on the provided link.





In case of problems, please contact the organisers (flc2021@ijs.si).

#### **Profile configuration**

Before entering the virtual FLC2021 poster session, you will need to set up your profile. The full name you used for registration will be automatically generated from the guest list. There you can pick your avatar and configure your audio and video devices sources. This can be later amended in the Settings tab (see next sections).

While you are in the virtual site, your camera image will appear on the bottom right corner of your browser. On top, the microphone and camera symbols can be used at any time to mute your audio or video. Both symbols will appear white when On and red when they are Off.

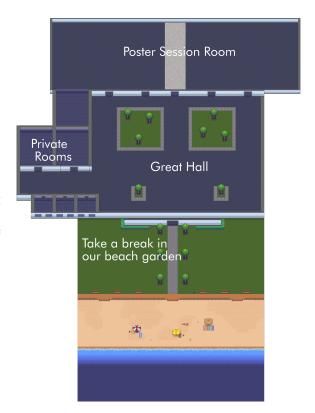


#### **FLC2021 Virtual Conference Site**

The virtual conference site will be open 24h from the 30th of August to the 15th of September, however, the poster session room will be closed until the beginning of the conference. We encourage participants to use it as a testing space before the conference, as a meeting space for extended discussion during or after the conference, and as a relaxing space to meet. We haven't seen each other in a long time!

Please take a look at the map of the virtual conference site. Upon entering, your avatar will spawn in our specially arranged Beach. Please feel free to use this space to learn how to move and interact. Following the arrows you will enter into the conference great hall. On the right, you can find our Help Desk.

At the end of the Great Hall you can find the Poster Session Room, while in the left there are several private meeting rooms of different sizes. Feel free to use them if you don't want to be disturbed (too much).



#### Gather.town basics

- To move around just use the arrow keys of your keyboard or double-click your chosen destination and your avatar will move there by itself.
- While your avatar is wandering through the space, your will enter into contact with those nearby. You will be able to hear and see them, and they will see and hear you. This simulates natural interactions where you also only interact with persons in your vicinity and join different conversations as you move.
- Throughout the virtual space there are different interactive objects (e.g. the poster stands, whiteboards, help documents, sudoku) which will "illuminate" and show the notification "Press x to interact with object." Feel free to explore!

#### Some useful shortcuts

Ctrl/command P - User/video preferences

Ctrl/command U - Turn on/off quiet mode (In normal mode you can interact with people as far as 5 tiles away. In quiet mode you will only be able to interact with those 1 tile away from you.)

- g Enter ghost mode and walk through other participants.
- e Teleport to the nearest open area when you are trapped (only available if you actually are trapped).
- x Interact with an object or select a subset of objects in Erase Mode.
- z Happy dance.

#### In case of technical difficulties

Have you tried turning it off and on again? Refreshing the page works in most of the cases. It really does.

If you still have difficulties with video/sound, check out your browser permission to access camera and microphone. Again, we recommend using Firefox or Chrome.

#### Video modes

Video windows of those in your vicinity will appear on the top of your screen. You can maximize one participant by clicking on their image. If many participants are within your hearing range (or you are all together in a big private space, see below) videos will be shown in a carousel and you can use the left and right arrows to scroll through them. It is also possible to enter Grid View by clicking a symbol with two diagonal arrows. To go back to Carousel mode, click the inverse symbol.

#### **Private spaces**

You can find private spaces and private rooms all around the conference site. They can be recognised by the shadowed background (for example around tables, sofas, poster stands or separate private rooms). Those participants inside a private space will be able to talk to each other and see each other despite the distance between the avatars. When you enter one of the private spaces you will get a notification stating "You have entered a private space". Once in, only those in the private space will be able to communicate via video/audio and will not be heard or seen by those outside.

#### Interface icons

The bottom bar has five icons:



- Clicking on your avatar (far left) will allow you to customise its appearance.
- Clicking on your name will give you access to the User/Video preferences, Quiet Mode, Respawn (brings you back to the garden) and Sign out.
- The map symbol will show you the layout of the space and your position in it.
- The screen symbol will allow you to start sharing your screen with those nearby.
- By pressing the emoji symbol you will be able to react and respond to conversations.
   This button will open up a menu where you can pick your desired reaction, which will appear on top of your avatar. All reactions (except the raised hand) are temporal and will disappear after a while. In the case of the raised hand, you will have to manually turn it off, by pressing the emoji again.



The menu on the left has five symbols (from top to bottom).

- Settings opens the settings menu (change or test your audio/video devices).
- The build symbol (the hammer) is for organisers only. Only we are allowed to build. Sorry!
- The calendar, which we're not using. See the conference timetable instead.
- Chat enables you to send messages to everyone, to those nearby or to a specific participant (pick their name). In the chat there can also be conference-wide announcements by the host.
- The bottom symbol displays the list of currently active participants.

#### Moodle

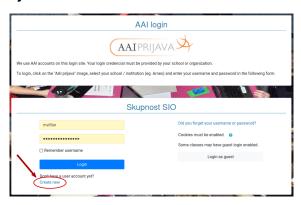
Moodle environment will be used as conference repository, where recorded presentations and poster pitches will be available to the registered participants. Moodle has also been used for poster presenters to upload their posters and pitches before the beginning of the conference.

Please note that not all presenters gave their consent to record their presentations and have them available online. Also allow us enough time after each session to convert, prepare and upload the presentations.

#### How to access FLC2021 Moodle repository

Link to FLC2021 Moodle has been sent to the registered participants via email. Following the link, you will be redirected to the Moodle website. Click "Log in" in the top right corner.

First time users, you will need to register. This can be done by clicking "Create new" account at the bottom of the page. You will be asked to agree to quite a few terms and conditions and then to fill in the form. Please use your name, surname



and email as when registering for the conference. Any accounts not fulfilling these conditions will be removed from the FLC2021 Moodle. After submitting the form, you will get a confirmation email and follow the link in the email.

Once registered, you will be redirected to the main page. If you cannot see the conference, please search for "FLC 2021" (with space) or follow the link initially given.

Next you need to enroll to the conference. Use the enrolment key that was sent to you via email and click "Enrol me".



Presentations will be uploaded and available for 24 hours only. There will also be a Forum to discuss the presentations, although we encourage the participants to use more personal approaches available (live questions, breakout rooms in Zoom, private rooms in Gather.town...)

If you have any problems with the access, please contact the organisers (flc2021@ijs.si).

### Instructions for participants

Please note that on-site participation is regulated by strict Covid prevention rules. Only registered participants will be allowed to enter the conference auditorium and every participant will be checked if they fulfill the Recovered-Vaccinated-Tested rule.

The conference sessions will be held in the conference auditorium (Peterlinov paviljon) and streamed live on Zoom. Presentations of online participants will be projected in the same auditorium for on-site participants. If consent was given, the presentations will be recorded and made available for 24 hours on the FLC2021 Moodle platform.

To increase the impact of poster presentations, we have allocated in the programme several Poster Pitch sessions, during which prerecorded 3-minute poster pitches will be shown of all the poster contributions. If consent was given, the poster pitches will be available for 24 hours on the FLC2021 Moodle platform.

#### Plenary, Invited and Oral presenters

The length of lectures is 40 minutes for Plenary, 30 minutes for Invited and 20 minutes for Oral, including discussion. Strict timekeeping will be essential for the smooth running of the conference and we kindly ask for your cooperation. Lectures must be in English.

On-site lectures will be held in the conference auditorium and streamed via Zoom to online participants. To avoid technical problems, we kindly ask all the participants to upload their presentations to the auditorium computer (Windows with Office) and use the given computer for presentation. If you use videos, please embed them into the pptx file (no links). Accepted presentation formats are: \*.pptx, \*.pdf and \*.odp. Files should be uploaded in the conference computer and tested before your session starts. The uploaded presentations will be deleted from the auditorium computer the same day.

Online participants will join the conference via Zoom. The lectures will be projected in the auditorium. Audio/video devices and internet connection will be tested beforehand individually.

Recorded lecture videos and poster pitches will be available on Moodle.

#### **Poster presenters**

All the authors presenting posters were asked to submit a 3-minute video presenting their work. The poster pitches will be presented in special Poster Pitch sessions.

The online poster sessions will be held on Gather. Town platform, where each poster will be displayed on a poster stand with the poster number, as assigned in the Programme. During the online poster session, we ask poster presenters to be available for discussions in the vicinity of their poster.

On-site poster presenters will have the opportunity to present their printed posters (A0 portrait format) in an on-site poster session on Monday afternoon in the conference auditorium (Peterlinov paviljon). All posters should be put on display on Monday before lunch and taken down no later than Tuesday at the end of the lunch break. Scotch tape will be provided for attaching the posters to the boards.

# Monday, September 6

8:00	Registration
8:50	Opening ceremony
Chair	Alenka Mertelj
9:20	PL1: Richard Mandle An unexpected discovery of a new nematic phase
10:00	<b>O1: Mingjun Huang</b> How far can we push the length limit of rod mesogens for ferroelectric nematic liquid crystals?
10:20	Poster pitches: P1-P3
10:30	Coffee break
Chair	Alberta Ferrarini
11:00	I1: Satoshi Aya Topology and electro-optic properties of ferroelectric nematic materials
11:30	O2: Nerea Sebastián Investigations of the nematic to ferroelectric nematic transition
11:50	O3: Peter Salamon Droplets and inverse droplets of a polar nematic material in electric fields
12:10	Poster pitches: P4-P7
12:30	Lunch
Chair	Hajnalka Nadasi
14:00	I2: Carsten Tschierske Chirality synchronization in fluids by network formation
14:30	<b>O4: Matthias Lehmann</b> Design of polar subphthalocyanine star mesogens for photoconductive materials – alignment, photophysical and electronic properties
14:50	O5: Alberto Concellón Electric-field-induced chirality in columnar liquid crystals
15:10	Poster pitches: P8-P12
15:30	Coffee break
Chair	Alexey Eremin
16:00	I3: Ivan Smalyukh Pseudo-polar orientational order in monoclinic nematics
16:30	O6: Gregory Smith  Existence of the B-Form DNA helix in nanoDNA liquid crystals and its variation due to aggregate assembly
16:50	Poster pitches: P13-P16
17:20	On-site poster session
19:00	End of day 1

## Tuesday, September 7

Chair	Kristiaan Neyts
9:00	I4: Jan Lagerwall Enabling technological revolutions with the endless potential of Cholesteric Spherical Reflectors (CSRs)
9:30	O7: Inge Nys Surface induced metastable chiral liquid crystal structures with hysteresis switching
9:50	O8: Natalia Podoliak Smectic A layers undulations manifested through the stripe textures in achiral liquid crystals
10:10	Poster pitches: P17-19
10:30	Coffee break
Chair	Slobodan Žumer
11:00	<b>I5: Oleg Lavrentovich</b> Optics and material properties of oblique helicoidal cholesterics
11:30	O9: Migle Stebryte Forward diffraction by chiral liquid crystal gratings with inclined helical axis
11:50	O10: Wojciech Tomczyk Flexopolarization and its role in the formation of twist-bend nematic phase: bridging theory and experiment
12:10	Poster pitches: P20-P22
12:30	Lunch
Chair	Peter Salamon
14:00	<b>I6: Antal Jákli</b> Multiple ferroelectric nematic phases of a highly polar liquid crystal compound
14:30	O11: Žiga Gregorin Dynamics of domain formation in a ferromagnetic liquid
14:50	Poster pitches: P23-P28
15:20	Coffee break
Chair	Martin Čopič
16:00	O12: Joseph Maclennan Experimental studies of the structure and phase behaviour of two ferroelectric nematic liquid crystals
16:20	PL2: Noel Clark Antiferroelectric Smectic Ordering as a Prelude to the Ferroelectric Nematic: Introducing the Smectic Z Phase
17:20	Online poster session (Gather.town)
19:00	End of day 2

## Wednesday, September 8

Chair	Nataša Vaupotič
9:00	PL3: Ewa Górecka Photonic band gap in achiral liquid crystals – a twist on a twist
9:40	I7: Dong Ki Yoon Light-driven fabrication of helical nanostructures for optical applications
10:10	O13: Jun-ichi Fukuda Simulation study of twin boundaries in cholesteric blue phase
10:30	Poster pitches: P29-P31
10:40	Coffee break
Chair	Miha Ravnik
11:10	O14: Simon Čopar Chiral topological states in flowing achiral nematics
11:30	O15: Guilhem Poy Optical solitons and chirality-enhanced nonlinear optical response in frustrated cholesterics
11:50	O16: Liana Lucchetti Pitch tuning induced by optical torque in heliconical cholesteric liquid crystals
12:10	Poster pitches: P32-P36
12:30	Lunch
14:00	End of day 3

# Thursday, September 9

Chair	Matthias Lehmann
9:00	PL4: Fumito Araoka Mixtures of polar columnar liquid crystals – Does the domain size effect improve the switching speed?
9:40	<b>I8: Goran Ungar</b> Liquid crystal phase of counter-rotating staircases – A case of antiferrochirality
10:10	O17: Xiangbing Zeng Molecular origin of spontaneous macroscopic chirality in bicontinuous cubic and non- cubic phases
10:30	Poster pitches: P37-P39
10:40	Coffee break
Chair	Jan Lagerwall
11:10	I9: Surajit Dhara Smectic-like rheology and pseudolayer compression elastic constant of a twist-bend nematic liquid crystal
11:40	O18: Maria Helena Godinho Cellulose-based composites for colour-changing structural powders and inks
12:00	O19: Per Rudquist Confinement, twist elasticity and intrinsic chirality in micellar lyotropic nematic liquid crystals: A delicate balancing act
12:20	Poster pitches: P40-P45
12:40	Lunch
14:00	Online poster session (Gather.town)
15:30	Coffee break
Chair	Mojca Čepič
16:00	I10: Alberta Ferrarini Molecular features and polar nematic order
16:30	O20: Davide Revignas  How shape polarity and concavity of mesogens affect Frank elastic constants
16:50	O21: Jonathan Selinger Director deformations, geometric frustration, and modulated phases in liquid crystals
17:10	O22: Dina Jukić Chiral polar bent-shape system: Why do gaps appear between certain relaxation modes?
19:30	Conference dinner

## Friday, September 10

Chair	Oleg Lavrentovich
9:00	PL5: Sofia Kantorovich The effects of particle shape on the self-assembly
9:40	I11: Alexey Eremin Magnetic tilting in nematic liquid crystals driven by self-assembly
10:10	O23: Melvin Küster Ferromagnetic nematics in rotating and oscillating magnetic fields
10:30	Coffee break
Chair	Simon Čopar
11:00	I12: Vladimir Chigrinov Photoaligned ferroelectric liquid crystals: new electrooptical modes
11:30	O24: Mikhail Osipov Competition between ferroelectric ordering and elastic instability in polar nematic LCs. Why the ferromagnetic state may be stable while the ferroelectric one is not.
11:50	O25: Oxana Prishchepa Periodic structures of linear defects in cholesteric layer with conical-planar anchoring under electric field
12:10	Closing Ceremony
12:30	Lunch
14:00	End of the conference

### **Posters**

- P1 (A69): **Kazuyuki Hiraoka:** Emergence of flexoelectric polarization in liquid-crystalline elastomers cross-linked under asymmetric deformation
- P2 (A65): Pierre Nacke: New example of a ferroelectric nematic phase material
- P3 (A70): Federico Caimi: Surface alignment of ferroelectric nematic liquid crystals
- P4 (A33): Marcell Máthé: Electrowetting phenomena in a polar nematic liquid crystal
- P5 (A99): Josu Martinez-Perdiguero: Dielectric and polar properties of ferroelectric nematic phase
- P6 (A52): **Marouen Chemingui**: Optimization of liquid crystal anchoring induced by polymeric ribbons with surface relief gratings
- P7 (A101): **Andrej Petelin:** Cross-differential dynamic microscopy: A tool for studying wavevector-dependent dynamics in soft matter
- P8 (A78): **Jakub Karcz**: The improved synthetic method towards highly polar cyano and nitro terminated diesters
- P9 (A88): Barbora Jansová: Design and synthesis of photosensitive bent-core liquid crystals
- P10 (A89): **Michal Šmahel**: Preparation of photosensitive axially chiral dopants for efficient amplification of chirality in liquid crystalline matrices
- P11 (A60): **Magdalena Urbańska**: Investigation of the tilt angle and spontaneous polarisation of antiferroelectric liquid crystals with a chiral centre based on (S)-(+)-3-octanol
- P12 (A8): Mohamed Alaasar: Mirror symmetry breaking in achiral polycatenars with thioalkyl tails
- P13 (A86): **Peter Tipping**: Indirect measurement of the electrocaloric effect close to the ferroelectric phase transition in ferroelectric liquid crystals
- P14 (A38): Giovanni Nava: Effects of heliconical cholesteric LCs on light polarization
- P15 (A57): **Daniel Budaszewski**: Spectral properties of photonic crystal fibres infiltrated with titanium dioxide nanoparticles-doped ferroelectric liquid crystals
- P16 (A100):**Melani Potrč**: Liquid crystalline phases od DNA-Quadruplexes from  $d(G_4C_2)$  and  $d(G_4C_2)_2$  sequences
- P17 (A34): Marcell Máthé: Defects induced by anchoring transitions of nematic fluids at solid and gas interfaces
- P18 (A14): **Vitaly Sutormin**: Polarization rotation by cholesteric layers with tangential-conical boundary conditions
- P19 (A17): **Yu Wang**: Simple and time-saving transfer matrix method for analysis of light propagation in helically twisted liquid crystals
- P20 (A93): Olena ladlovska: Diffraction of light at oblique helicoidal cholesteric
- P21 (A82): **Olga Strzeżysz**: Supramolecular chiral Ntb phase in symmetric dimers  $\alpha,\omega$ -bis(4'-cyano-3'-fluorobiphenyl-4-yl)alkanese
- P22 (A56): Vitaly P. Panov: Twist-bend nematic phase: possible applications of periodic structures
- P23 (A83): **Tommaso Bellini**: Ferroelectric nematics in microchannels: switching and propagation of order
- P24 (A95): **Mojca Vilfan**: Observations of bidirectional flow in ferromagnetic ferrofluids generated by uniaxial magnetic field
- P25 (A84): Sergey Pasechnik: Capillary flows of nematics and ferroelectric liquid crystals
- P26 (A64): Peter Salamon: Electric field and light induced patterns in hybrid aligned cholesterics
- P27 (A32): **Xi Chen**: Polar in-plane surface orientation of a ferroelectric nematic liquid crystal: Polar monodomains and twisted state electro-optics

- P28 (A87): **Michely Rosseto**: The fourth fundamental mode of nematic director deformation: Delta mode
- P29 (A98): Nataša Vaupotič: Modeling of the resonant X-ray response of a chiral cubic phase
- P30 (A77): Hyewon Park: Engineering optical rotation in chiral photonic film for configurable color filter
- P31 (A85): **Yun-Seok Choi**: Design strategy of optical rotation for chiral liquid crystal-based optical application
- P32 (A92): Matevž Marinčič: Numerical modelling of blue phase III
- P33 (A76): Urban Mur: Numerical modeling of optical modes in topological soft matter
- P34 (A73): Cheng Long: Analog of the Frank-Read source in nematic liquid crystals
- P35 (A71): Sławomir Pieprzyk: A numerical approach to liquid crystal texture analysis
- P36 (A61): Dina Jukić: Chirality and polarity of relaxation modes in the ferroelectric SmC\* phase
- P37 (A94): Nika Kralj: Active coarsening dynamics
- P38 (A74): **Dorota Dardas**: Electrooptical effect of laser photobleaching on viscoelastic properties in chiral liquid crystals
- P39 (A75): **Tetiana Yevchenko**: Determining the Kerr constant in blue phases
- P40 (A9): **Irena Drevenšek Olenik**: Optical second harmonic generation in ferromagnetic liquid crystals
- P41 (A72): Peter Medle Rupnik: Hydrodynamic coupling in ferromagnetic cholesteric liquid crystals
- P42 (A51): Vladimira Novotna: Nitrophenyl end-capped bent-core liquid crystals
- P43 (A26): **Paweł Perkowski**: Dielectric properties of synclinic and anticlinic smectic in enantiomeric and racemic version
- P44 (A62): **Patricija Hribar Boštjančič**: Tuning nematic ordering of barium-hexaferrite nanoplatelets in 1-butanol
- P45 (A55): **Dharmendra Pratap Singh**: Reinvestigation of superlattice structures in an extra-ordinary phase sequence of a ferroelectric liquid crystal using adiabatic scanning calorimetry
- P46 (A47): Matthew Glaser: Ferroelectric nematics as associating polymers
- P47 (A79): Margaret Rosenberg: Ferromagnetic nematic phases of charged magnetic nanoplatelets
- P48 (A81): Martin Kaiser: Separation of active-dipolar cubes at an obstacle in Poiseuille flow
- P49 (A80): **Deniz Mostarac**: Characterization of nano-polymers synthesized through directional assembly of DNA nano-chambers