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International Conference on Complex Orders in Condensed Matter: aperiodic order, local order, electronic order, hidden order

27 September - 2 October 2026
Evian-Les-Bains (France)



GENERAL INFORMATIONS

- Conference room :** The conference will take place at the seminar room located in the main building (same as the reception) on the ground floor
- Poster :** All posters are displayed on the Chablais room (ground floor) Monday 28 and Tuesday 29
- Restauration :** Breakfast, lunch and dinner are all served in the Restaurant located on the first floor of the main building
Breakfast served from 7h to 9h
Lunch served at 13h
Dinner served at 20h
- Welcome cocktail :** It will be served on the Sunday 27 September at 19h00 in the Bar (second floor, near reception)
- Excursion :** Wednesday 30 September 14h30
Evian visit including "Buvette Cachat"
- & Cheese tasting :** It will be served at 19h at the bar and terrace, followed by diner at 20h
- Conference dinner :** Thursday 1 October
A cocktail with jazz band concert will be served from 19h to 20h at the bar and terrace
The dinner at 20h15 will consist of a cheese fondue
Alternative meal will be provided
- WIFI :** WIFI connection is only available in the common building of the vacation center (reception, bar and conference room).
Connect to vvf clientèle. Go to your web browser and register with your first name and name. The connection is then valid for the all stay.

The ICCOCM 2026 conference is the second in a series that began in [Evian](#) in 2023. The conference aims to foster collaborations in the study of complex orders in condensed matter, with a particular focus on aperiodic order, local order, electronic order, magnetic order, and “hidden” order, as well as their influence on physical and chemical properties. At the atomic scale, complexity is characterised by two main parameters: periodic or aperiodic long-range order, and disorder and local order. Structural complexity and its influence on physical and chemical properties is encountered in a broad range of systems and requires an interdisciplinary approach. The conference will review recent advances in this field, with a particular focus on the study of incommensurately modulated phases, quasicrystals and approximants, strongly correlated electron systems, disordered and amorphous systems, high-entropy alloys and magnetically frustrated systems. Particular attention is given to highlighting the interdisciplinary approach and the common concepts, experimental methods, and theoretical frameworks used across these different fields.

This conference is being organised jointly by Tokyo University of Science, Université Grenoble Alpes, CNRS and ILL. It has received support from the CREST and the Japan Science and Technology Agency. It follows the [IRN Aperiodic conferences](#) organized in Octobre 2021 in Carry le Rouet, France. It is a successor to previous meetings held in [Nagoya](#) (2015), [Annecy](#) (2017), [Sendai](#) (2019), and [Evian](#) (2023) bringing together aperiodic and correlated electron communities.

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Mrs. F. Fonseca, UGA, CNRS, SIMaP, Grenoble, France

Program

Sunday 27 September 2026

16h30	Registration
19h00	Welcome Party

Monday 28 September 2026

8 h 30	Welcome and Introduction		
Session 1 chair: Ryuji Tamura			
8 h 50	Shinya Hosokawa - Soft X-ray Fluorescence Holography for Atomic Structure Characterizations around Light Elements	Invited	30 min.
9 h 20	Natalia Dubrovinskaia - The Beauty of Complexity and the Simplicity of Compressed Solid Matter Revealed by High-Pressure Crystallography	Contributed	20 min.
9 h 40	Florent Pawula - Turbostratic Stacking Faults : A Structural Lever for Modulating Quantum Phases in Misfit Chalcogenides	Contributed	20 min.
10 h 00	Nobuhisa Fujita - Axial rattling and soft phonon modes in a novel Al-Pd-W compound with WAl ₁₂ icosahedra	Contributed	20 min.
10 h 20	Tadashi Furuhashi - Chemical and structural complexities caused by elemental interaction in structural metallic materials	Contributed	20 min.
10 h 40	Break		
Session 2 chair: Anuradha Jagannathan			
11 h 15	Sylvain Petit - Magnetic frustration and complex orders	Invited	30 min.
11 h 45	Kaoru Kimura - Self-compensation and Bonding Conversion in Semiconducting Quasicrystalline Approximants, Related Crystals and Amorphous	Contributed	20 min.
12 h 05	Olivier Pagès - Percolation scheme for the very basic understanding of the optical phonon mode behavior of disordered semiconductor alloys	Contributed	20 min.
12 h 25	Emily Meekel - Disorder as a Design Principle in Framework Materials	Invited	30 min.
12 h 55	End of session 2		
13 h 00	Lunch		
Session 3 chair: Keichi Edagawa			
14 h 20	Olivier Perez - Tungsten phosphate bronzes as a model system for structural and electronic complexity	Invited	30 min.
14 h 50	Laura Cañadillas-Delgado - Insights into modulated nuclear and magnetic structures in metal-organic coordination polymers	Contributed	20 min.
15 h 10	Stefan Förster - Two-dimensional oxide quasicrystals : A model system linking periodic and aperiodic structures	Invited	30 min.
15 h 40	<u>Flash presentation of posters session 1 (odd numbers) - 1 min/poster</u>		20 min.
16 h 00	Poster Session 1 (odd numbers), including coffee break		
18 h 30	End of Poster session		

Tuesday 29 September 2026

Session 4 chair: Thierry Klein			
8 h 30	Farid Labib - Lattice Parameter as a Universal Design Principle for Magnetic Ground States in Tsai-type Icosahedral Intermetallic Compounds	Invited	30 min.
9 h 00	Sander van Smaalen - Chiral charge density waves in EuAl ₄ and related compounds	Contributed	20 min.
9 h 20	Maria Diaz-Lopez - Reimagining Interface Processing in Solid-State Batteries via Electrochemical Flash Sintering : Spatial Insights and Millisecond Structural Dynamics from Total Scattering	Contributed	20 min.
9 h 40	Kazuhiko Deguchi - Quantum magnetism of icosahedral Yb quasicrystals and approximants	Contributed	20 min.
10 h 00	Andrea Fantin - Probing chemical short-range order in high-entropy alloys : from large-scale facilities to the laboratory scale	Invited	30 min.
10 h 30	Coffee Break		
Session 5 chair : Kaoru Kimura			
11 h 10	Karen Frieze - Wadsley-related vanadium oxides under extreme conditions : incommensurate V _{0.92} O ₂ with a peculiar modulated structure and unexpected properties	Invited	30 min.
11 h 40	Yann Alexanian - Collective magnetic state induced by charge disorder in the non-Kramers rare-earth pyrochlore Tb ₂ ScNbO ₇	Contributed	20 min.
12 h 00	Anuradha Jagannathan - Electronic properties of the metallic mean family of one-dimensional quasicrystals	Contributed	20 min.
12 h 20	Iwao Matsuda - Periodic or quasi-periodic atomic chains in the surface copper boride	Invited	30 min.
12 h 50	End of session 5		
13 h 00	Lunch		
Session 6 chair: Nayuta Takemori			
14 h 20	Junmo Jeon - Quantum hyperuniformity and quantum weight	Invited	30 min.
14 h 50	Yuqing Yin - High-Pressure Synthesis and Crystal Structures of H ₃ Cl ₇ Phases	Contributed	20 min.
15 h 10	Marco Scavini - From genesis to application : In situ and in operando structural studies on rare-earth doped ceria phases.	Invited	30 min.
15 h 40	Flash presentation of posters session 2 (even numbers) - 1 min/poster		20 min.
16 h 00	Poster Session 2 (even numbers), including coffee break		
18 h 30	End of Poster session		

Wednesday 30 September 2026

Session 7 chair: Emilie Gaudry			
8 h 30	Mikito Koshino - Quasiperiodicity and Emergent Topology in Moiré Materials	Invited	30 min.
9 h 00	Nicolas Rougemaille - Fragmented phases in artificial frustrated magnets	Contributed	20 min.
9 h 20	Diana Quintero Castro - Comparing intrinsic and extrinsic contributions to phonon anharmonicity in the thermoelectric systems Mg ₂ Si and GeBi ₂ Te ₄	Contributed	20 min.
9 h 40	Cristhian David Hinostroza - Correlated disorder in a Garnet-type superionic conductor	Contributed	20 min.
10 h 00	Kaori Tanaka - Gapless superconductivity in two-dimensional quasicrystals and its real-space topology	Contributed	20 min.
10 h 20	Break		
Session 8 chair: Marek Mihalkovick			
11 h 00	Yuki Tokumoto - Superconductivity in Ta–Te-based van der Waals layered quasicrystal	Invited	30 min.
11 h 30	Pierre Bouvier - Polar instability at high-pressure in KNbO ₃	Contributed	20 min.
11 h 50	Noemi Gallucci - From chaos to order : programming nanocrystal superlattices for tailored optical function	Contributed	20 min.
12 h 10	Akira Sekiyama - High-energy photoemission study of strongly correlated rare-earth-based quasicrystal approximants	Contributed	20 min.
12 h 30	Olivier Delaire - Dynamic and static disorders in complex materials, probed with scattering experiments and simulations	Invited	30 min.
13 h 00	Lunch		
14 h 30	Guided tour of Evian including the ‘Buvette Cachat’		
18 h 30	Cheese tasting		

Thursday 1 October 2026

Session 9 chair: Ron Lifshitz			
8 h 30	Peru d'Ornellas - Fractons in the fractional Hall effect	Invited	30 min.
9 h 00	Nayuta Takemori - Analysis of band gaps and hyperuniformity in two-dimensional photonic quasicrystal approximants	Contributed	20 min.
9 h 20	Lilian Prodan - Disorder-controlled magnetism in polar antiferromagnets	Contributed	20 min.
9 h 40	Shinji Watanabe - Theoretical studies of magnetism in icosahedral quasicrystals and 1/1 approximants	Contributed	20 min.
10 h 00	Eteri Svanidze - Imperfections as a measure of exotic superconductivity?	Invited	30 min.
10 h 30	Break		
Session 10 chair: Thomas Doert			
11 h 10	Yasushi Ishii – Phasons in quasicrystals	Invited	30 min.
11 h 40	Yevheniia Kholina - Responsive disorder in framework materials	Contributed	20 min.
12 h 00	Xingyu Su - Element-Specific Ultrafast Probing of Electronic and Magnetic Orders with Time-Resolved Soft-X-Ray Spectroscopy	Contributed	20 min.
12 h 20	Laurent Guerin - Complex orders in molecular crystals probed by 3D-ΔPDF and superspace crystallography	Contributed	20 min.
12 h 40	<u>Group Photo</u>		
13 h 00	Lunch		
Session 11 chair: Leonid Dubrovinski			
14 h 30	Matthieu Le Tacon - Signatures of Electron-Phonon Coupling in the Unconventional CDW of Kagome Superconductor CsV ₃ Sb ₅	Invited	30 min.
15 h 00	Helen Walker - Exploring the disorder driving barocalorics using inelastic neutron spectroscopy	Contributed	20 min.
15 h 20	Ireneusz Buganski - Quasicrystals in ZnMg(Dy, Er, Ho, Tm)Li system	Contributed	20 min.
15 h 40	Jonas Wolber - n=1 Aurivillius and other 2-dimensional magnets	Contributed	20 min.
16 h 00	Break		
Session 12 chair: Koji Kimura			
16 h 40	Masato Matsuura - Study of Lattice and Phason Dynamics in i-AlPdMn Quasicrystal and its Approximants	Invited	30 min
17 h 10	Yui Ishii - Can a glass-like aperiodic structure coexist with a periodic crystal structure?	Contributed	20 min.
17 h 30	David Serban - Imaging Topologically Protected Strings in Dysprosium Indate using Bragg Coherent X-ray Diffraction	Contributed	20 min.

Friday 2 October 2026

Session 13 chair: Laetitia Laversenne			
8 h 30	Yoshihiro Okamura - Optical detection of nonlinear magnetoelectric coupling in multiferroic altermagnet	Invited	30 min.
9 h 00	Makito Aoyama - Pseudogap properties of quasicrystal-related materials in the quaternary Al-Pd-TM-Fe (TM=Cr, Mo, W) systems	Contributed	20 min.
9 h 20	Jonathan Bulled - Hierarchical structure of disordered metal-organic frameworks and growth-directed symmetry breaking	Contributed	20 min.
9 h 40	Thomas Doert - Hydroxyperovskites – Correlated Proton Disorder and Spin Dynamics	Contributed	20 min.
10 h 00	Break		
Session 14 chair: Laszlo Pusztai			
10 h 30	Laureline Porcar - Shape Memory alloys for multicaloric properties	Invited	30 min.
11 h 00	José-Enrique Rodríguez Fernandez - Influence of phase and structural ordering on the electrochemical performance of multiphase Na-layered oxides as positive electrodes	Contributed	20 min.
11 h 20	Andrii Syrota - Amorphisation by Structural Disorder and Its Effects on Topological Phases	Contributed	20 min.
11 h 40	Koji Kimura - Anharmonic Phonons in Rutile TiO ₂ Investigated by Inelastic X-ray and Neutron Scattering	Contributed	20 min.
12 h 00	<u>Concluding remarks</u> : Sander van Smaalen		
12 h 30	End of the conference		
13 h 00	Lunch		

LIST OF POSTERS - ICCOCM 2026

#	Name	Surname	Contribution Title
1	Ireneusz	Buganski	The electronic structure of ZnMg(Hf, Zr, Ti) periodic approximant phases
2	Timoth��	Courtial	Attempt to nano-engineer flat bands to enhance superconductivity
3	Matteo	d'Astuto	Paramagnon softening with doping in oxychloride cuprate superconductors
4	Leonid	Dubrovinsky	Peierls Physics and Crystal Chemistry of High Pressure Polymorphs of Na ₄ X ₅ (X = I, Br, Cl) Compounds
5	Naoki	Fujioka	First-principles study of 4 at.% Pd-doped Al ₁₃ Fe ₄
6	Erina	Fujita	Multi-descriptor analysis based on HYPOD-X, an open database of quasicrystals and approximants
7	Tomoyo	Fukuda	Wide e/a Control in Tsai-Type Approximants by Heterovalent Substitution
8	Gaston	Garbarino	New opportunities on the studies of condensed matter systems under extreme conditions at the ESRF-EBS
9	Emilie	Gaudry	First-Principles and Machine Learning Investigation of Adsorption and Hydrogen Dissociation on Graphene-Supported Single-Atom Catalysts
10	Satoshi	Kameoka	Creation of novel catalyst materials utilizing phason engineering
11	Thierry	Klein	Thermodynamic Evidence for Multiple Field-Induced Phases in a Slightly Distorted Kagome Antiferromagnet
12	Sian	Landi	Investigations on Xanthine Solid State
13	Laetitia	Laversenne	Study of Short-Range Order in TiVCr-Based Multiple Principal Element Alloys for Hydrogen Storage
14	Ron	Lifshitz	Detecting dislocations using Bragg-peak vortices
15	Marek	Mihalkovic	High-pressure synthesis of Al ₁₁ Fe ₄ and its DFT-assisted structure refinement
16	Goran	Nilsen	Collinear spin nematic phase in the breathing pyrochlore spinel LiGa _{0.95} In _{0.05} Cr ₄ O ₈
17	Andrea	Piovano	Crystal field and spin fluctuation in heavily doped nickelates
18	Laszlo	Pusztai	Understanding disordered structures: a paradigm shift due to Reverse Monte Carlo modeling
19	Sitaram	Ramakrishnan	Tracing the Horizon of Tetragonal–Monoclinic distortion in trilayer nickelate La ₄ Ni ₃ O ₁₀
20	Masanori	Sato	DFT analysis of pentacene adsorption on the surfaces of the Tsai-type Ag-In-Yb quasicrystal
21	Seki	Yusuke	Numerical Study of the NMR Coherence Peak in Quasicrystalline Superconductors
22	Yeong-Gi	So	Formation of Mn-based dodecagonal quasicrystals

23	Ayaka	Takahashi	Search for Superconductivity in Os-Based Decagonal Hypermaterials
24	Ryuji	Tamura	Magnetism of Tsai-type Icosahedral Quasicrystals
25	Hiroshi	Taniyama	Structure and magnetism of a new phase in the Ga–Pd–Tb system
26	Ren	Uchimoto	Fabrication and superconductivity of Ta–TM–Te van der Waals layered quasicrystals
27	Zhiyi	Wang	Atomistic Investigation of Martensitic Transformations in Cu-Based Shape Memory Alloys Using a Machine-Learned Interatomic Potential
28	Ya	Xu	Hydrogen Absorption Behavior of Hypermaterials Containing Hydrogen-Affinity Elements
29	Tsunetomo	Yamada	Non-Fermi-liquid behavior in a quasicrystal and its 2/1 cubic approximant
30	Yuki	Yamamoto	Correspondence between exact eigenstates on distinct electron site configurations with identical quasiperiodicity
31	Subaru	Yoshimoto	Relaxation of Magnetic Structure in the Regularly Ordered Frustrated Magnet DyRu ₂ Si ₂