

# 22<sup>ème</sup> Colloque Louis Néel

## 17-20 juin 2025, Vogüé



### Program

	Tuesday	Wednesday	Thursday	Friday
Morning		Oral Session 1	Oral Session 4	Oral Session 5
		8:20-10:30 am	8:30-10:50 am	8:30-10:30 am
		Coffee break	Coffee break	Coffee break
		Oral Session 2	Poster Session 2	Oral Session 6
		11:00 am-1:00 pm	10:50 am-1:00 pm	11:00 am-1:00 pm
		Lunch	Lunch	Packed lunch
Afternoon	Welcome and PEPR Spin  3:30-7:00 pm  <i>Key handover from 5 pm</i>	Oral Session 3	Walking Rally, free time	
		2:30-4:50 pm		
		Coffee break	2:30-6:00 pm	
		Poster Session 1	Invited Talk	
		4:50-7:00 pm	6:00-7:00 pm	
Evening	Cocktail 7:45 pm	Cocktail 7:00 pm	Cocktail 7:00 pm	
	Dinner 8:30 pm	Dinner 8:00 pm	Gala Dinner 8:00 pm	

## Oral Session 1: Optics and Ultrafast Dynamics — Wednesday 8:20–10:30 am

- Opening of the 22<sup>nd</sup> Louis Néel Conference — 8:20 am
- Single-shot all-optical magnetization switching in ferrimagnetic Co-RE alloys single layers — 8h30 am  
*Boonthum Kunyangyuen*
- All-optical helicity-dependent switching in magneto-plasmonic nanostructures — 8h50 am  
*Yann Le Guen*
- Ultrafast dynamics of magnetic structure in ferrimagnetic CoTb thin films — 9h10 am  
*Mohamed El Moundji Hemili*
- Magneto-optical distinction of magnetization dynamics from spin currents and its role in switching mechanism in ferromagnetic spin valve — 9h30 am  
*Harjinder Singh*
- Magnetization switching for circular polarized LEDs — 9h50 am  
*Rodrigo Torrão Victor*
- Exciting and probing high-frequency spin waves in BiYIG/Co heterostructure using laser pulses — 10h10 am  
*Dimple Sneha Pamarthi*

## Oral Session 2: Nanomagnetism and Dynamics — Wednesday 11:00 am–1:00 pm

- Complex dynamics of nano-oscillators with dual vortex free layers coupled via spin-torques — 11h00 am  
*Loukas Kokkinos*
- Excitation of vortex gyration through non-linear interaction with Floquet magnon modes — 11h20 am  
*Gauthier Philippe*
- Complexity Analysis of Chaotic Magnetization Dynamics — 11h40 am  
*Amel Kolli*
- Development of an ultrasensitive skyrmion-based magnetic field sensor — 12h00 pm  
*Lucia Malucelli*
- Antiferromagnetic order control in 2D CrSBr — 12h20 pm  
*Clément Pellet-Mary*
- Imaging magnetic vortices in a van der Waals magnet at room temperature with scanning NV magnetometry — 12h40 pm  
*Carolin Schrader*

## Oral Session 3: Spintronics and Materials — Wednesday 2:30–4:50 pm

- Composition-dependent charge-to-spin current conversion in topological insulators  $\text{Bi}_{1-x}\text{Sb}_x$  thin films — 2h30 pm  
*Danny Petty Gweha Nyoma*
- Spin-dependent transport properties of epitaxial  $\text{DyVO}_3$  and  $\text{GdVO}_3$  thin films on (110)-oriented  $\text{NdGaO}_3$  substrate — 2h50 pm  
*Mariam Martirosyan*
- Large Orbital Rashba Edelstein Effect induced Torques in Atomically Thin Co/Al Systems — 3h10 pm  
*Nicolas Sebe*
- Alternative harmonic detection approach for quantitative determination of spin and orbital torques — 3h30 pm  
*Yaohan Xu*
- Proximity Effects In Superconductor/Magnetic Epitaxial Heterostructures With Magnetic Noncollinearity — 3h50 pm  
*Hyacinthe Cabrel Tadaha*
- Orbital-to-spin conversion material exploration for improving SOT-MTJ performances — 4h10 pm  
*Marco Biagi*
- Low Temperature Out-of-Plane Nonlinear Hall Effect in Epitaxial GeTe — 4h30 pm  
*Théo Frottier*

## Orals Session 4: Neuro-inspired Systems — Thursday 8:30–10:50 am

- **Synaptic metaplasticity in a magnetoionic synapse — 8h30 am**  
*Himadri Nandan Mohanty*
- **Neuromorphic weighted sums with magnetic skyrmions — 8h50 am**  
*Tristan da Câmara Santa Clara Gomes*
- **Dynamic control of weight-update linearity in magneto-ionic synapses — 9h10 am**  
*Guillaume Bernard*
- **Exploiting spin textures in a magnetic tunnel junction for logic and neuromorphic computing applications — 9h30 am**  
*Ilaria Di Manici*
- **Towards a spintronic Ising Machine simulator — 9h50 am**  
*Chloé Chopin*
- **Experimental implementation of a programmable Ising Machine using vortex-based Spin-Torque Nano-Oscillators — 10h10 am**  
*Abderrazak Hakam*
- **Non-volatile binary radio-frequency synapses using vortex polarities — 10h30 am**  
*Mohamed Menshawy*

## Invited Talk — Thursday 6:00–7:00 pm

- **From Ampère's Molecular Currents to the Magnetism of Materials: Einstein's Role**  
*Alfonso San Miguel*

## Oral Session 5: Spin Waves & Imaging — Friday 8:30–10:30 am

- **Spatially Resolved Investigation of Spin Wave Frequency Multiplication — 8h30 am**  
*Roméo Beignon*
- **Imaging of domain-wall motion and spin-wave propagation in cylindrical nanowires with a 3D core-shell magnetization distribution — 8h50 am**  
*Lucia Gómez-Cruz*
- **Magneto-resistive detection of spin-waves — 9h10 am**  
*Quentin Rossi*
- **Unravelling spin-wave propagation regimes using NV magnetometry — 9h30 am**  
*Julien Berthomier*
- **Imaging spin waves by Electron Holography — 9h50 am**  
*Marine Resano*
- **Spectroscopy of the spin wave acoustic mode in synthetic antiferromagnets — 10h10 am**  
*Gael Yann Thiancourt*

## Oral Session 6: Magneto-phononic & Waves — Friday 11:00 am–1:00 pm

- **Giant magneto-elasticity & strong phonon-magnon coupling in FeRh — 11h00 am**  
*Djoudi Ourdani*
- **Phononic manipulation of magnetic domains in Co-doped YIG : from a labyrinth to stripes and bubbles — 11h20 am**  
*Héloïse Damas*
- **Coupling the orbital angular momentum of elastic waves with the gyromotion of a magnetic vortex — 11h40 am**  
*Giovanni Olivetti*
- **Structural and Magnetic Insights into Ti/Mn-Substituted Hexaferrite Thick Films for Applications beyond 20 GHz — 12h00 pm**  
*Maria Jose Vazquez Bernardez*

- **A study of non-reciprocal behaviors in multi-sphere loaded chiral cavity — 12h20 pm**  
*Maxime Ardisson*
- **Experimental observations of Suhl instabilities in a 500nm Bismuth Yttrium Iron Garnet disk — 12h40 pm**  
*Sali Salama*

## Information:

- Phone number of the Lou Capitelle holiday village: 04 75 37 71 32.
- Breakfast is served from 7:30 AM to 9:30 AM.
- The oral presentations will take place in the « Ardèche » room.
- Presentations must be copied onto the oral session computer before each session.
- Both French and English may be used, at choice, for presentations and questions.
- The poster sessions take place under the « Ardèche » room.
- Posters for session 1 must be taken down Thursday morning before 10:50 AM.
- The Gala dinner will be followed by a dance party in the « Ardèche » room.
- Rooms must be vacated by Friday at 10:00 AM.
- Shuttles to Valence TGV train station will depart Friday, June 20th at 1:30 PM.
- Outdoor pool: 9 AM–12 PM and 3 PM–7 PM. Swim shorts are prohibited.
- Spa pool: 10 AM–12 PM, 3 PM–7 PM and night hours on Wednesday (9 PM–11 PM).
- “Pisettes” and repeats are forbidden on the foosball table.

The organizing committee is pleased to welcome you to this new edition of the Louis Néel conference. We warmly thank the participants, speakers, as well as our partners and sponsors for their contribution to the success of this event.

## Organizing committee :

Florent Tournus, Alexandre Tamion, Damien Le Roy, Véronique Dupuis, Dominique Farjot, Joseph Moreau.

