



SSM 2025

SOL-SKYMAG 2025



June 30 – July 1, 2025

San Sebastian (Gipuzkoa), Spain

PROGRAM

Sol-SkyMag 2025

The 9th International Conference on "Nanomagnetism and Spintronics" (Sol-SkyMag 2025) will be held on **June 30 - July 1, 2025**.

The Sol-SkyMag is an abbreviation from Solitons and Skyrmion Magnetism, but the scope of the conference is essentially wider. The Sol-SkyMag conference serves to assess the status, recent progress, and development in the field of nanomagnetism and spintronics. The conference provides an international forum to discuss recent progress and trends in the field and to identify potential future collaborations. We aim at bringing together the community of leading researchers working the area of nanomagnetism, spin dynamics, spin-transport, etc., and their applications.

The program of the Sol-SkyMag 2025 includes about of 13 invited talks presented by leading experts in the field, regular oral talks, and poster presentations.

Welcome to Sol-SkyMag 2025!

Sol-SkyMag 2025 Chairmen,

Kostyantyn Gusliyenko

Julian Maria Gonzalez Estevez

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PROGRAM AT GLANCE 2025

<u>30.06.2025</u> Monday	<u>01.07.2025</u> Tuesday	<u>02.07.2025</u>
Registration 9.30 – 10.20	Late registration 9.00 – 9.30	Post-conference seminar on spin dynamics 10.00 – 11.30
Coffee break 10.00 – 10.30		Materials Physics Division, UPV/EHU
	Invited talks 9.30 – 11.00	
Opening 10.30	Coffee break 11.00 – 11.30	
Invited talk 10.30 – 11.00	Invited and oral talks 11.30 – 13.00	
Invited and oral talks 11.30 – 13.00	Lunch 13.00 – 15.00	
Lunch 13.00 – 14.45	Invited and oral talks 15.00 – 16.30	
Invited & oral talks 14.45 – 18.00	Conference closing 16.30	
Poster Session 18.00 – 19.30 Welcome party 18.00 – 19.30	Good-bye refreshment 16.30 – 17.30	

Program of the Sol-SkyMag 2025 conference

June 30 – July 1, 2025, San Sebastian, Gipuzkoa, Spain

The Olarain University Residence (1st floor)

The Sol-SkyMag 2025 takes place in the Olarain University residence (1st floor)



The exact address of the Olarain Residence is:

**Calle Ondarreta, 24, 20018 Donostia / San Sebastian
Gipuzkoa province
Spain**

	<u>Monday, June 30, 2025</u>
9:30 – 10:20	Onsite registration, Olarain Residence
10:00 – 10:30	<u>Coffee break</u>
10:30 – 10:30	Conference opening: <i>Kostyantyn Gusliyenko</i>
10:30 – 13:00	Session 1. Magnetic skyrmions Chair: TBA
10:30 – 11:00	Invited talk: Marcus Garst , Inst. of Theoretical Solid State Physics & Inst. for Quantum Materials and Technology / Karlsruhe Inst. of Technology, Germany: “Topological dipoles of quantum skyrmions”
11:00 – 11:30	Invited talk: Hans Josef Hug , Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland: “Zero-field skyrmions in biased ferromagnetic and antiferromagnetically-coupled multilayers”
11:30 – 12:00	Invited talk: Dieter Suess , Technical University of Vienna, Austria: “First and Higher order Skyrmions and Antiskyrmions: from Imaging to Applications in 3D Magnetic Sensing”
12:00 – 12:15	Oral talk: Mateusz Zelent , Adam Mickiewicz University, Poland: “MULTISTABLE SKYRMIONS: ENHANCED STABILITY OF SKYRMIONS BY THE MAGNETOSTATIC FIELD OF FERROMAGNETIC RINGS”
12:15 – 12:30	Oral talk: Roberto Troncoso , University of Tarapacá, Chile: “Robustness of topological magnons in disordered arrays of skyrmions”
12:30 – 12:45	Oral talk: Daowei Wang , Charles University, Czech Republic: “SKYRMION MASS FROM INTERACTION WITH MAGNONS”
12:45 – 13:00	Oral talk: Subhasis Ghosh , Jawaharlal Nehru University, India: “Frustration or Dzyaloshinskii-Moriya interactions: What is responsible for skyrmions in Fe ₃ GeTe ₂ and Fe ₅ GeTe ₂ ?”
13:00 – 14:45	<u>Lunch break</u>
14:45 – 16:30	Session 2. Magnetic hopfions, vortices and domain walls Chair: <i>Kostyantyn Gusliyenko</i>
14:45 – 15:15	Invited talk: Peter Fischer , Lawrence Berkeley National Laboratory, USA: “Opportunities and challenges with 3D topological spin textures”

15:15 – 15:45	Invited talk: Oksana Chubykalo-Fesenko, Institute of Material Science, Spain: “Current-induced nucleation, propagation and pinning of Bloch-point domain walls in cylindrical magnetic nanowires”
15:45 – 16:15	Invited talk: Christopher Marrows, University of Leeds, United Kingdom: “TEMPERATURE GRADIENT-DRIVEN MOTION OF MAGNETIC DOMAINS IN A MAGNETIC METAL MULTILAYER BY ENTROPIC FORCES”
16:15 – 16:30	Oral talk: Alexander Edström, KTH Royal Inst. of Technology, Sweden: “MAGNETOELECTRICITY OF TOPOLOGICAL SOLITONS IN 2D MAGNETS”
16:30 – 18:00	Session 3. Nanomagnetism Chair: TBA
16:30 – 17:00	Invited talk: Denys Makarov, Helmholtz-Zentrum Dresden-Rossendorf, Germany: “Magnetic textures in magnetoelectric Cr ₂ O ₃ thin film antiferromagnets”
17:00 – 17:30	Invited talk: Paulo Cesar de Moraes, Catholic University of Brazil & University of Brazil, Brazil: “Magnetic nanorings for high-precision magnetic hyperthermia”
17:30 – 17:45	Oral talk: Souvar Sarkar, Bose National Centre for Basic Sciences, India: “Geometry mediated interconvertibility between spin-glass and superparamagnetic relaxation in spinel ferrite nanostructures”
17:45 – 18:00	Oral talk: Ankit Sharma, Attocube systems AG, Germany: “Cryogenic SPM Tools for Magnetic Imaging: MFM and NV Magnetometry”
18:00 – 19:30	Poster session (nanoscale magnetism, magnetization dynamics, skyrmions, vortices and domain walls, spintronics & spin orbit effects)
18:00 – 19:30	<u>Welcome party</u>

	<u>Tuesday, July 1, 2025</u>
9:00 – 9:30	Late registration
9:30 – 12:30	Session 4. Magnetization dynamics, spin waves and magnonics Chair:
9:30 – 10:00	Invited talk: Riccardo Hertel , Université de Strasbourg, CNRS / Institut de Physique et Chimie des Matériaux de Strasbourg, France: “Spin Wave Dynamics in Curved Magnetic Strips”
10:00 – 10:30	Invited talk: Olena Tartakivska , Adam Mickiewicz University, Poland: “Rotating Spin Waves”
10:30-11:00	Invited talk: Sang-Koog Kim , Seoul National University, South Korea: “Novel Coupling Phenomena in Non-Hermitian Photon-Magnon Hybrid Systems”
11:00 – 11:30	<u>Coffee / tea break</u>
11:30 – 12:00	Invited talk: Dirk Grundler , École Polytechnique Fédérale de Lausanne, Switzerland: “Reversing permalloy nanomagnets by propagating magnons in Yttrium Iron Garnet”
12:00 – 12:15	Oral talk: Ryan McKenzie , University of Manitoba, Canada: “CAVITY MAGNONICS WITH THE QUANTUM ISING MAGNET LIHOF”
12:15 – 12:30	Oral talk: Julia Kharlan , Adam Mickiewicz University, Poland: “Excitation of high frequency spin waves in low external field in hybrid ferromagnetic-metallic systems”
12:30 – 12:45	Oral talk: Rair Macêdo , University of Glasgow, United Kingdom: “Decoherence through precursor pulses in spin wave propagation”
12:45 – 13:00	Oral talk: Syamlal Sankaran Kunnath , Adam Mickiewicz Univ., Poland: “Investigation of spin-wave dynamics in connected and disconnected square artificial spin ices lattices in a perpendicularly magnetized matrix”
13:00 – 15:00	<u>Lunch break</u>
15:00 – 16:30	Session 5. Magnetotransport, spin transport and spin-orbit effects Chair: TBA
15:00 – 15:30	Invited talk: Paolo Perna , IMDEA Nanoscience, Madrid, Spain: “Giant and anisotropic enhancement of spin-charge conversion in graphene-based quantum system”

15:30 – 16:00	Invited talk: Farkhad Aliev , Autonomous University of Madrid, Spain: “Unravelling different contributions to spin orbit coupling in superconductor/ferromagnet hybrids”
16:00 – 16:15	Oral talk: Iuliia Vetrova , Slovak Academy of Sciences, Slovakia: “Ferrotoroidal ordering in artificial magnetic systems by spontaneous symmetry breaking”
16:15 – 16:30	Oral talk: Mirali Jafari , Adam Mickiewicz University, Poland: “Proximity induced spin-orbital and exchange effects on twisted-graphene/CrX ₃ [X=Cl, Br, and I] van-der-Waals heterostructures”
16:30 – 17:30	<u>Conference closing / Good-bye refreshment</u>

POSTER PRESENTATIONS

Poster Session (18:00 – 19:30, June 30, 2025): all topics

#	NAME AND SURNAME	TITLE
1	MAWGAN SMITH	USING POLARISATION AS A ROUTE TO TUNABLE COUPLING IN CAVITY MAGNONICS
2	IZABELLA WOJCIECHOWSKA	VALLEY AND SPIN DEPENDENT TRANSPORT PHENOMENA IN TWISTED GRAPHENE DEPOSITED ON MAGNETIC CrI ₃
3	Andrey Timopheev	LOCALIZED SPIN EXCITATION MODE AT THE FACES OF THICK FERROMAGNETIC CYLINDRICAL NANODOTS
4	Felipe Tejo Lazo	DYNAMIC RESPONSE OF GYROTROPIC HOPFIONS IN CONFINED SYSTEMS: EXPLORING STABILITY AND MOTION
5	TATSUKI MUTO	THEORY OF COLLECTIVE SPIN EXCITATIONS IN THE CENTROSYMMETRIC TOPOLOGICAL MAGNET GDRU ₂ GE ₂
6	TEODOR APETREI	INVESTIGATING MN ₄ N THIN FILMS WITH PERPENDICULAR MAGNETIC ANISOTROPY FOR CHIRAL SPINTRONICS APPLICATIONS
7	SERGEI KRYLOV	DEFINING THE MAGNETIC CONFIGURATION OF THE ARTIFICIAL SPIN SYSTEM BY FIB FABRICATION
8	FRANTIŠEK MÁČA	STABILITY AND MAGNETIC ORDERING NEAR THE ANTIPHASE BOUNDARY IN Ni ₂ MnGa
9	ADEL ABBOUT	UNIVERSAL THEORY OF MAGNON TRANSPORT IN NON-COLLINEAR MAGNETIC STRUCTURES

Tourist info:

Plan of the city: <https://www.sansebastianturismoa.eus/images/ssturismo/pdf/san-sebastian-tourist-map.pdf?v=20221018>

Guide of the city: <https://www.sansebastianturismoa.eus/images/documentos/san-sebastian-holiday-guide.pdf?v=11>

Dictionary:

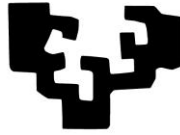
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