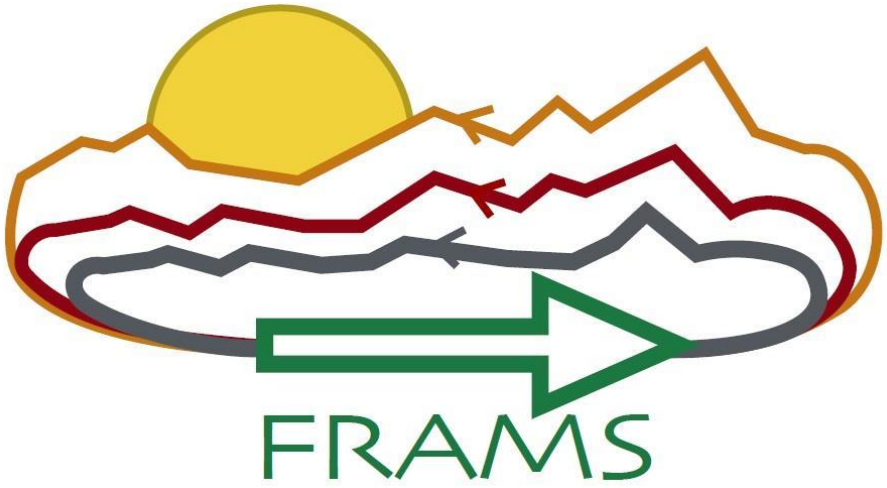
10th Front Range Advanced Magnetics Symposium (FRAMS)

August 17, 2024

University of Colorado Colorado Springs



UCCS University of Colorado Colorado Springs

NIST

University of Colorado Boulder

University of Wyoming

Colorado State University

University of Denver

Colorado School of Mines
Earth • Energy • Environment

Virginia Tech

Organizers

- Dmytro Bozhko
- Ezio Iacocca
- Kristen Petersen

Sponsors

Program

08:00 AM – 09:00 AM	Breakfast (**All events will be in Berger Hall**)
09:00 AM – 09:10 AM	Opening remarks
	Morning Session 1, Chair: Yulia Maximenko (CSU)
09:10 AM – 9:30 AM	**Minhyea Lee** (CU Boulder) Heat conduction in magnetic insulators via hybridization of acoustic phonons and spin-flip excitations
09:30 AM – 9:50 AM	**Mark Ferris** (NIST) Utilizing the Smartphone Magnetometer with Magnetic Hydrogel Bilayers for Accessible, Quantitative Analysis of Fluids
9:50 AM – 10:10 AM	**Kristen Buchanan** (CSU) Spin waves at low symmetry field directions
10:10 AM – 10:20 AM	**Sponsor talk**
10:20 AM – 11:00 AM	Coffee Break
	Morning Session 2, Chair: Ezio Iacocca (UCCS)
11:00 AM – 11:20 AM	**Stephen Russek** (NIST) Validating MRI Measurements with Bloch Simulators
11:20 AM – 11:40 AM	**Hua Chen** (CSU) First-principles theory of higher-order spin magnetic multipole moments in antiferromagnets
11:40 AM – 12:00 PM	**Robert Camley** (UCCS) Why is characterizing a collection of nanoparticles so difficult?
12:00 PM – 12:10 PM	**Sponsor talk**
12:10 PM – 12:30 PM	Group Photo (walk to clock tower)
12:30 PM – 2:00 PM	Lunch, **Berger Hall**
	Afternoon Session 1, Chair: Dmytro Bozhko (UCCS)
2:00 PM – 2:50 PM	**Plenary talk: Burkard Hillebrands** (RPTU Kaiserslautern) Magnon accumulation phenomena
2:50 PM – 3:10 PM	**Justin Shaw** (NIST) Element-specific, high-bandwidth ferromagnetic resonance spectroscopy detected with extreme ultraviolet (EUV) light
3:10 PM – 3:30 PM	**Pavel Kabos** (NIST) SMM imaging of patterned Permalloy shapes
3:30 PM – 5:00 PM	Poster Session

	Afternoon Session 2, Chair: Kristen Buchanan (CSU)
5:00 PM – 5:20 PM	**Ron Goldfarb** (NIST) Effective Demagnetizing Factors for Composites of Interacting Nanoparticles
5:20 PM – 5:40 PM	**TeYu Chien** (University of Wyoming) Possible coexistence of magnetism and paramagnetic singularity in lightly Fe-doped WTe_2
5:40 PM – 6:00 PM	**Yulia Maximenko** (CSU) Z-dependent spin splitting of bands in monolayer WTe_2 and its effect on topological edge states
6:00 PM – 6:10 PM	**Sponsor talk**
06:10 PM – 06:30 PM	Award Session and Closing Remarks
6:30 PM – 9:00 PM	Dinner, **Clyde's gastropub**

Poster Session

Name	Poster #	Poster Title
Md Hasive Ahmad (CSU)	1	Approach to Large Scale Exfoliation of 2D Materials for Quantum Electronics
Omolara Bakare (VT)	2	Orbital/Spin Dynamics in Ferromagnetic Metals
Jefferson Carter (UW)	3	Magnetic properties measurements conducted on the low-temperature skyrmion candidate $Eu_{1-x}Gd_xAl_4$
Lia Compton (CSU)	4	Spin Characterization in a 1D YIG Magnonic Crystal
Anish Dhungana (CSM)	5	Impact of in-situ stress on electron-phonon coupling in silicon mosfet at low temperatures.
John Drain (UW)	6	Controllable Superconducting to Semiconducting Phase Transition in Topological Superconductor 2M-WS2
Ryan Dunagin (UCCS)	7	Advanced 2D Wavevector-Resolved Brillouin Light Scattering Setup
Jarred Grant (UW)	8	Scanning tunneling microscopy and spectroscopy of cleaved $EuAl_4$(001) surface
Ryan Greening (DU)	9	A method to suppress polar Kerr signal in a longitudinal magneto-optic-Kerr-effect measurement
Yu Hao (UCCS)	10	Temperature-dependent NMR linewidth simulations at low and high fields
Mingyu Hu	11	Micromagnetic modeling of antiferromagnets
Martina Kiechle (NIST)	12	Spin-wave decay in CoFe thin films at large k-vectors
Lauren Kim (UW)	13	An Investigation of Unexpected Order on the Surface of a High Entropy Alloy
Bradley Lloyd (CSM)	14	Spin Transport in Chiral Perovskites at Cryogenic Temperatures
Kaitlin McAllister (UCCS)	15	Experimental Observation of Magnetic Rogue Waves
Jason Nobles (NIST)	16	Magnetic Field Effects on Superconducting Sensors
Aishat Ojuolape (CSU)	17	Fractional Quantum Anomalous Hall (FQAH) States in twisted bilayer tMoTe2.
Broc Pashia (CSU)	18	Response of Topological Edge States to Electrically Tunable Band Structure in Monolayer WTe_2
Cosmin Radu (Lakeshore)	19	Thermal First Order Reversal Curves (T-FORC) measurements and properties of $(NiMnSi)_{0.66}(Fe2Ge)_{0.34}$ alloy
Sam Saiter (CSM)	20	Fabrication, Transport, and Spin Resonance of Silicon Clathrates for Quantum Information Science Applications
Kathrin Spendier (XPRIZE Foundation)	21	XPRIZE Competition
Joshua Stoll (UCCS)	22	T2 MRI contrast agents in diffusion restricted environments
Varun Vanga	23	Nanomagnet shape dependence on the ferromagnetic resonance of artificial spin ices
Olivia Zanoni (UCCS)	24	Growth and Characterization of Epitaxial $KMnF_3$ Antiferromagnetic Thin Films

Logistics

Parking is FREE at UCCS during weekends.

Directions:

Driving:

- Take Interstate 25's exit 146 (Garden of the Gods Rd) East. This road becomes Austin Bluffs Parkway.
- The university's main campus is on top of the hill at 1420 Austin Bluffs Parkway.
- Coming from Austin Bluffs Pkwy, enter through Regent Cir. This is typically the entrance suggested by maps (Google, Apple, etc.) when requesting directions for UCCS.
- All parking lots (yellow areas) will be available.
- The University center is accessible either via the stairs between KFL and CENT or the UCCS Pedestrian Spine. The spine is wheelchair accessible.
- The Berger Hall is immediately visible from the east and west entrances.

WiFi Access:

Connect to UCCS Guest. This is an unsecured and open network for guest access only. You will need to accept the Campus Acceptable Usage Policy to use this network. Eduroam is also available.

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