

COFFIES 4th Annual Meeting
Tuesday - Friday, January 20-23, 2026
Conference Room, PAB 102/103, Stanford University

*** Registration open each morning at 8:00 am

Tuesday

9:00	Reflection on a COFFIES Collaborative Agreement	
	9:00 Introduction	TDI
	9:30 Dialog	TDI
10:45 Break		
	11:15 Co-creation Activity	CET
12:30 Lunch		
1:30	Advancing Interdisciplinary Communications in COFFIES	
	1:30 Introduction	TDI
	2:00 Dialog	TDI
15:15 Break		
	15:45 Co-creation Activity	CET
	17:00 Closing Plenary	All
17:15 Adjourn		

Wednesday

8:30	Meeting Goals		Todd Hoeksema
8:45	COFFIES Milestones		Dave Lauben
9:00	Tachocline	Reports	Nic Brummell & Gustavo Guerrero
	9:00	<i>Tachocline Theme Progress Overview</i>	Nic Brummell
	9:15	<i>Tachocline Helioseismology Updates</i>	Sylvain Korzennik
	9:35	<i>Tachocline Theory and Simulations Update</i>	Loren Matilsky
	9:55	<i>Tachocline Instabilities Update</i>	Mausumi Dikpati
	10:15	<i>Tachocline Brief Updates, Questions, Future etc</i>	Bhishek Manek, Brad Hindman, Nic Brummell
10:30 Break			
11:00	FT&E	Reports	Bill Abbott & Aimee Norton
	11:00	<i>FT&E PINN-Based Active Regions Distribution Simulator</i>	Mausumi Dikpati
	11:20	<i>FT&E Clustering Pattern of Solar Active Regions & Connection with Solar Magneto-inertial Modes</i>	
	11:40	<i>FT&E Moderate Nesting & Cross-Equatorial Asymmetry of Active Regions</i>	Junwei Zhao
	12:00	<i>Beyond 60 Degrees: High-Quality HMI Polar Magnetograms for the Solar Community</i>	Aimee Norton
			Sushant Mahajan
12:30 Lunch			
13:30	Metcalf Scholar Lectures		
	13:30	<i>Effects of density stratification on Rossby waves in deep atmospheres</i>	Catherine Blume
	13:50	<i>Understanding the variabilities of solar-type stars using dynamo modeling</i>	Vidya Vashishth
14:15	Beans Session	Hybrid Lightning Talks	Slava Sadykov
	14:15	<i>Beans / Early Career activity updates</i>	Beans SC
	14:24	<i>Generative AI-based Prediction and Reconstruction of Time-evolving Solar Surface Magnetic Fields</i>	
	14:35	<i>Ca ii K Polar Network Index of the Sun: A Proxy for Historical Polar Magnetic Field</i>	Hyun-Jin Jeong
	14:46	<i>Diagnostics of Propagating High-Frequency Acoustic Waves and the Phase Difference Turnover Problem</i>	Dibya Kirti Mishra
	14:57	<i>Solar Oscillations in Strong Magnetic Field Regions</i>	Jessica Hamilton
	15:08	<i>Validation of Doppler Shift Estimation Methods and Helioseismic Techniques for Inversions of Solar Sub-Surface Flows using 3D RMHD Simulations</i>	Arman Manookian
	15:19	<i>Tilt Angle of Large Ephemeral Regions Studied Through AutoTAB</i>	Isaac Asante
			Rambahadur Gupta
15:30 Break			
16:00	NSSL	Reports	Nick Featherstone & Rudi Komm
	16:00	<i>Overview</i>	Nick Featherstone & Rudi Komm
	16:10	<i>Evidence for Magnetic Modulation of the Sun's Narrow Near-Surface Shear Layer</i>	Cristina Rabello Soares
	16:30	<i>Effects of the near-surface shear layer and differential rotation on the inertial and Rossby modes</i>	
	16:50	<i>Assessing Thermal Wind Balance in NSSL</i>	Sasha Kosovichev
	17:10	<i>Origin of solar differential rotation in the absence of turbulent convection</i>	Kinfe Teweldebirhan
			Luca Menicucci
17:30 Adjourn			
18:00	Beans Activity	Game Night & Pizza!	Cypress Hall C Conference Room

Thursday

8:30	NASA Update	A Word from our Sponsors	Therese Morretto Jorgensen, Katya Verner, Janet Kozyra
9:00	Dynamo	Reports -- Krishnendu Mandal, Chair	Alexander Kosovichev & Gustavo Guerrero
	9:00	<i>Dynamo Team Progress and Roadblocks</i>	Alexander Kosovichev
	9:30	<i>Matching Solar Differential Rotation with Dynamo Models</i>	Valentin Aslanyan
	9:45	<i>3D Dynamo Modeling</i>	Russell Hankey
	10:00	<i>Modeling the Global Sun Dynamics</i>	Aidan Paoli
	10:15	<i>Radiative and MHD Effects of Extreme Events</i>	Samuel Granovsky
10:30 Break			

COFFIES 4th Annual Meeting

11:00	Model Integration		Irina Kitiashvili & Viacheslav Sadykov
	11:00	<i>Modeling Integration Team Progress Report & Plans</i>	Irina Kitiashvili
	11:36	<i>Machine Learning Models for Predicting Magnetic Flux and Continuum Intensity during the Emergence of Solar Active Regions</i>	Spiridon Kasapis
	11:54	<i>Radiative Transfer Modeling and Machine Learning for COFFIES at GSU: Progress and Next Steps</i>	Viacheslav Sadykov
	12:12	<i>Cluster-Weighted Training of Deep Surrogate Models for Subgrid Turbulent Transport</i>	Rimsha Syeda
12:30	Lunch		
13:30	Surface Links	Reports	Todd Hoeksema & Bill Abbett
	13:30	<i>Meridional Flow</i>	Lisa Upton
	13:45	<i>Surface Flux Transport</i>	Marc deRosa
	14:00	<i>Helicity</i>	Yang Liu
14:15	CET		Shea Hess Webber & Oana Vesa
14:40	Broadening Impacts		Bryan Mendez
15:05	Undergraduate Education		Dan Zevin & Phoebe Mahlin
15:30	Break		
16:00	Helioseismology		Rudi Komm & Ruizhu Chen
	16:00	<i>Overview</i>	Ruizhu Chen & Rudi Komm
	16:10	<i>Helioseismic Inferences on the Coupled Dynamics of Large-Scale Flows and Magnetic Fields in the NSSL</i>	Rajaguru
	16:30	<i>Dynamics of Subsurface Flows in Solar Active Regions during the 2024 May Storm</i>	Lekshmi Biji
	16:50	<i>Helioseismology of Inertial Waves</i>	Krishnendu Mandel
	17:10	<i>Updates on Studying GONG-HMI Phase Anomalies and Constructing a Deeper Time-distance Pipeline</i>	Ruizhu Chen & Junwei Zhao
17:30	Adjourn		
19:00	Conf. Dinner	Buca di Beppo	643 Emerson, Palo Alto

Friday

8:30	Year 4 Update and Plans		Todd Hoeksema & Dave Lauben
9:00	Model Integration	Goals & Collaborations	Viacheslav Sadykov & Irina Kitiashvili
	9:00	<i>Artificial Intelligence as infrastructure that advances COFFIES science</i>	Andres Munoz
	9:18	<i>Discussion</i>	Viacheslav Sadykov
9:30	Dynamo	Goals & Collaborations -- Krishnendu Mandal, Chair	Alexander Kosovichev & Gustavo Guerrero
	9:30	<i>Solar-Cycle Changes in the Sun's Thermodynamic Structure</i>	Kyle Villamayor
	9:45	<i>Evolution of Global and Local Magnetic Helicity</i>	Hannah Suresh
	10:00	<i>Solar-Cycle Variations of Solar Convection Spectrum</i>	John Stefan
	10:15	<i>Origin of Solar Dynamo in Tachocline</i>	Krishnendu Mandal
10:30	Break		
11:00	Inertial Modes		Oana Vesa
	11:00	<i>Inertial Mode Eigenfunction Calculation</i>	Kyle Augustson
	11:20	<i>Nonlinear simulations of solar inertial modes: effects of shear and magnetic fields</i>	Conrado Finotti
	11:40	<i>Structural Tilting and Depth-Dependent Behavior of Equatorial Rossby Waves</i>	Oana Vesa
12:00	Discussion Topics	Identify Topics for afternoon discussions	Todd Hoeksema, Baristas, All
12:30	Lunch	GROUP PHOTO	
13:30	Connections Threa	Bhishek Manek, Chair	Bill Abbet, Aimee Norton, Nic Brummell, Nick Featherstone
	13:30	Discussion Seed	
	14:00	Discussion Session	
15:00	Break		
15:20	Planning Discussion		TBD
	15:20	Discussion Seed	
	15:50	COFFIES End Products	
17:00	Wrap up		Todd & Dave
17:30	Adjourn		