International Astronomical Union
Union Astronomique Internationale

POST MEETING REPORT FORM

1. **Meeting Identification Number:** Symposium 400

2. **Meeting Title**: Solar and Stellar Multi-Scale Activity

3. **Coordinating Divisions:** Division E "Sun and Heliosphere", Division G "Stars and Stellar Physics"

4. **Organizing Committees**
   - **Scientific Organizing Committee (SOC):**
     Chair: Santiago Vargas-Domínguez (Universidad Nacional de Colombia).
     Co-Chairs: Patrick Antolin (UK), Juan Camilo Buitrago (USA), Jose Iván Campos (Czech Rep.), Juan Carlos Martínez (USA).
     Members: Eliana Amazo Gómez, Anne-Marie Broomhall, Hebe Cremades, Cecilia Garraffo, Moira Jardine, Lucia Kleint, Sophie Musset, Kosuke Namekata, Alexander I. Shapiro, Tom Van Doorsselaere.
   - **Local Organizing Committee (LOC):**
     Chair: Benjamín Calvo Mozo (Universidad Nacional de Colombia).
     Members: Adriana Araujo, Germán Chaparro, Jessica Ducon, Maria Gracia Batista, Angela Perez, René Restrepo, Andrés Torres, Islena Bonilla.

5. **Dedication of meeting (if any):** None

6. **Location (city, country):** Medellin, Colombia

7. **Dates of meeting:** 21–25 July 2025

8. **Number of participants:** 157

Gender Representation
Gender balance was a key focus for the SOC. While the general participant pool still reflects historical trends in the field, the organizing committees (SOC/LOC) achieved near-parity.

SOC: 47% Female / 53% Male
LOC: 56% Female / 44% Male
General Participants: 38% Female / 62% Male

List of Participants:

Name	Affiliation	Country
Abril Sahade	NASA/GSFC	United States
Ace Stratton	Space Sciences Laboratory	United States
Adam Kowalski	University of Colorado, National Solar Observatory	United States
Adriana Valio	Universidade Presbiteriana Mackenzie	Brazil
Alexander Kosovichev	New Jersey Institute of Technology	United States
Alina Donea	Monash University	Australia
Amaia Razquin	University of Graz	Austria
Andrea Costa	Instituto de Astronomía Teórica y Experimental (IATE))	Argentina
Andrea Lopez	OAN	Colombia
Andrés Felipe Contreras Manzano	Universidad EAFIT	Colombia
Andres Felipe Guerrero	Universidad Nacional de Colombia	Colombia
Andrés Muñoz Jaramillo	Southwest Research Institute (SwRI)	United States
Andrés Torres	Instituto Tecnológico Metropolitano	Colombia
Angel Daniel Martinez Cifuentes	Monash University	Australia
Ángela Pérez Henao	Red Astronomía de Colombia	Colombia
Beatriz Duque Estrada	Mackenzie Presbyterian University	Brazil
Benjamín Calvo Mozo	Universidad Nacional de Colombia	Colombia
Bojing Zhu	Yunnan Observatories and Centre for Astronomical Mega-Science of CAS	China
Braian Stiven Gómez Marín	Universidad EAFIT	Colombia
Camilo Rodríguez Londoño	Universidad EAFIT	Colombia
Carla G. Oviedo	IAFE	Argentina
Carlos González	University of Texas at Austin	United States
Carlos Martinez	Universidad Nacional de Colombia	Colombia
Carlos Osorio	Universidad Nacional Autónoma de Honduras (UNAH)	Honduras
Cecilia Mac Cormack	NASA/GSFC - CUA	United States
Cintia Martinez	Observatorio Astronómico de Córdoba	Argentina
Cosima Breu	University of Graz	Austria
Dainis Dravins	Lund Observatory	Sweden
Daniel Correa Botero	Universidad EAFIT	Colombia
Daniel Felipe Ipia Achury	Universidad Nacional de Colombia	Colombia
Daniel Rodríguez	Universidad Nacional de Colombia	Colombia
Daria Sorokina	KU Leuven	Belgium
David L. Paipa-Leon	PSL - Observatorie de Paris - LIRA	France
Diego Lloveras	Grupo de Estudios en Heliofísica de Mendoza, Universidad de Mendoza, CONICET, Argentina	Argentina

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Name	Affiliation	Country
Eamon Scullion	Northumbria University	United Kingdom
Eliana Amazo-Gómez	Leibniz Institute for Astrophysics	Germany
Elizabeth Gonzalez	Penn State University	United States
Emiliano Jofré	Observatorio Astronómico de Córdoba / CONICET	Argentina
Ernesto Zurbriggen	IATE-CONICET	Argentina
Eva Panetier	University Paris-Cité AIM/CEA	France
Fabian Menezes	Centro de Rádio Astronomia e Astrofísica Mackenzie, Universidade Presbiteriana Mackenzie	Brazil
Fabiana Ferrente	INAF - OACT	Italy
Facundo Pérez Paolino	Caltech	United States
Fernando M. López	Universidad de Mendoza - CONICET	Argentina
Francisco Jose Fuenmayor Suarez	Universidad de Los Andes	Venezuela
Franco Manini	Universidad de Mendoza - CONICET	Argentina
Gabriela Carvalho-Silva	Universidade de São Paulo	Brazil
Gaitee Hussain	European Space Agency	The Netherlands
German Chaparro	Universidad de Antioquía	Colombia
Gianna Cauzzi	National Solar Observatory	USA
Gustavo Guerrero	Universidade Federal de Minas Gerais	Brazil
Harry Birch	Northumbria University	United Kingdom
Hebe Cremades	CONICET & GEHMe, UM	Argentina
Heinz Frelijj Rubilar	Universidad Andres Bello	Chile
Hemanthi Miriyala	Northumbria University	India
Ian Baeza	Universidad Andrés Bello (UNAB)	Chile
Islena Bonilla	Universidad Nacional de Colombia	Colombia
J. I. Campos Rozo	Astronomical Institute of the Czech Academy of Sciences	Czech Republic
J.E. Agudelo Ortiz	Universidad Nacional de Colombia	Colombia
James McLaughlin	Northumbria University	United Kingdom
Javier Antonio Torres Congote	Universidad EAFIT	Colombia
Javier Sanchez Gonzalez	Observatorio Astronómico Nacional - Universidad Nacional de Colombia	Colombia
Jeffersson Agudelo Rueda	Northumbria University	United Kingdom
Jenny M. Rodríguez-Gómez	The Catholic University of America located at NASA Goddard Space Flight Center.	United States
Jesús Hernández	Instituto de Astronomía, UNAM	México
Jonhatan-H Bernal-Salinas	Observatorio Astronómico Nacional de Colombia - Universidad Nacional de Colombia	Colombia
José Juan González Avilés	Escuela Nacional de Estudios Superiores (ENES), Universidad Nacional Autónoma de México	México

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Name	Affiliation	Country
JT Stefan	New Jersey Institute of Technology	United States
Juan Carlos Palacios	Florida Institute of Technology	United States
Juan Pablo Herrera Moreno	Universidad Nacional De Colombia	Colombia
Juan José Cadavid Muñoz	Universidad EAFIT	Colombia
Julia Arpiani	Universidade Presbiteriana Mackenzie	Brazil
Julián D. Alvarado-Gómez	Leibniz Institute for Astrophysics Potsdam (AIP)	Germany
Julio Flórez	Universidad Nacional de Colombia	Colombia
Karol Stefany Cañas Yela	Maestra de AstroMAE	Colombia
Kevin Reardon	National Solar Observatory	United States
Konstantin Herbst	Centre for Planetary Habitability (PHAB) — University of Oslo	Norway
Konstantinos Karampelas	KU Leuven	Belgium
Kosuke Namekata	NASA/GSFC	United States
Krisztián Vida	Konkoly Observatory (HUN-REN CSFK)	Hungary
Laura Palacino	Universidad Nacional de Colombia	Colombia
Laura Ramírez Galeano	University of Geneva	Switzerland
Leonardo Di Lorenzo	CONICET	Argentina
Lester Fox-Machado	Instituto de Astronomía - UNAM	México
Lily Ling Zhao	University of Chicago	United States
Luka Banović	KU Leuven	Belgium
Lucia Kleint	University of Bern	Switzerland
Lucie Degott	IAS (Univ. Paris-Saclay)	France
Luke McMullan	Northumbria University	United Kingdom
M. Valeria Sieyra	CEA Paris-Saclay	France
Malory Agudelo	Planetario de Medellín	Colombia
Manuela Gallego	Universidad EAFIT	Colombia
Maria Alejandra Botero Botero	Universidad EAFIT	Colombia
Mariana Castellanos Ramirez	Universidad Pedagógica y Tecnológica de Colombia	Colombia
Mariana Cécere	IATE (CONICET/UNC) - OAC (UNC)	Argentina
Marta García-Rivas	Astronomical Institute of the CAS	Czech Republic
Mauricio Arango	Planetario de Medellín	Colombia
Max McMurdo	KU Leuven	Belgium
Melany Daza Valencia	Universidad EAFIT	Colombia
Merav Opher	Boston University	United States
Meredith Wieber	UC Berkeley, Space Sciences Laboratory	United States
Miguel Alzate Betancur	Universidad EAFIT	Colombia
Mihir Desai	Southwest Research Institute (SwRI)	United States
Milena Barrios	Universidad Nacional de Colombia	Colombia
Milo Buitrago-Casas	SSL - UC Berkeley	United States

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Name	Affiliation	Country
Mitzi Adams	NASA Marshall Space Center	United States
Nariaki Nitta	Lockheed Martin Advanced Technology Center	United States
Nicolás Guarín Zapata	Universidad EAFIT	Colombia
Nicolás Molina	Observatorio Astronómico Nacional (GoSA), Institución Educativa Nuestra Señora de la Candelaria	Colombia
Nil Armillon	Universidad Nacional de Ingeniería	Perú
Óscar Calvo	Universidad Nacional de Colombia, Observatorio Astronómico Nacional de Colombia	Colombia
Patrick Antolin	Northumbria University	United Kingdom
Paula A. Castro	Universidad del valle	Colombia
Paula Gonzalez	Universidad Nacional de Colombia	Colombia
Paulo Vitor Souza dos Santos	Universidade Federal do Rio de Janeiro	Brazil
Priscila Colombo	IAFE (Instituto de Astronomia y Física del Espacio)	Argentina
Rachael Roettenbacher	University of Michigan	United States
Rebecca Meadowcroft	The University of Warwick	United Kingdom
René Restrepo	Universidad EAFIT	Colombia
Romina Petrucci	Observatorio Astronómico - Universidad Nacional de Córdoba	Argentina
Romy Poppe	KU Leuven	Belgium
Ryan Smith	Northumbria University	United Kingdom
Saida Díaz-Castillo	Institute for Solar Physics (KIS)	Germany
Salvo Guglielmino	INAF - Catania Astrophysical Observatory	Italy
Sami Solanki	Max Planck Institute for Solar System Research	Germany
Samuel Hor	Northumbria University	United Kingdom
Samuel Noreña	Universidad de Los Andes	Colombia
Santiago Vargas Domínguez	Universidad Nacional de Colombia, Observatorio Astronómico Nacional	Colombia
Sebastián Hincapié Tarquino	Observatorio Astronómico Nacional - Universidad Nacional de Colombia	Colombia
Shiv Turkay	Northumbria University	United Kingdom
Shun Inoue	Kyoto University	Japan
Sofya Belov	University of South Bohemia in České Budějovice, Faculty of Science, Department of Physics	Czech Republic
Sophie Stucki	IEEC / ICE-CSIC / UAB	Spain
Stephane Regnier	Northumbria University	United Kingdom
Stephen Bannister	Northumbria University	United Kingdom

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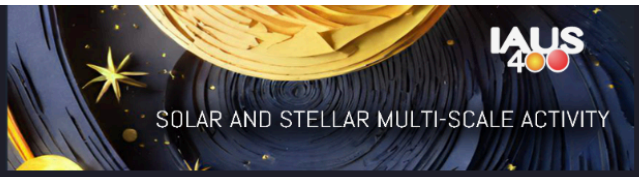
Name	Affiliation	Country
Susana Carmona Marín	Universidad EAFIT	Colombia
Sven Wedemeyer	University of Oslo	Norway
Tamar Ervin	UC Berkeley — Space Sciences Lab	USA
Tanay Veer Singh Bhatia	Max Planck Institute for Solar System Research	Germany
Tom Van Doorsselaere	KU Leuven	Belgium
Trevor Bowen	UC Berkeley	United States
Valentina Torres	Universidad Nacional de Colombia	Colombia
Valery Nakariakov	University of Warwick	UK
Valeriy Vasilyev	Max Planck Institute for Solar System Research	Germany
Veronika Jerčić	Heliophysics Science Division, NASA Goddard Space Flight Center, Greenbelt, MD 20771, USA	United States
Victor See	University of Birmingham	UK
William Alberto Jaramillo Vargas	AstroMAE	Colombia
Wojciech Miloch	University of Oslo	Norway
Xianming Han	Butler University	United States
Yash Saneshwar	Northumbria University	United Kingdom
Yoshiro Yi Cardona	Universidad EAFIT	Colombia
Yu Zhong	University of Warwick	United Kingdom
Yuehong Chen	Nanjing University	China
Yvelice-Soraya Castillo-Rosales	National Autonomous University of Honduras	Honduras
Zhanhao ZHAO	Nanjing University	China
Zheng Sun	Peking University	China
Ziqi	KU Leuven	Belgium

9. **Total Amount of IAU Grant funds received (in euros):** 20000

10. **Number of IAU Grant recipients:** 24

11. **List of represented countries:** 26

12. **Details of the Academic Agenda**:



Book of Abstract here

Time	SUNDAY (20 July)	MONDAY (21 July)	TUESDAY (22 July)	WEDNESDAY (23 July)	THURSDAY (24 July)	FRIDAY (25 July)	SATURDAY (26 July)
07:30 - 08:30		Registration					
08:30 - 08:45		Welcome					
		SESSION 1: T1	**SESSION 5: T1**	**SESSION 9: T2 (DYNASUN)**	**SESSION 11: T3**	**SESSION 15: T3**	
08:45 - 09:10		Invited 1 (Adam Kowalski)	Invited 3 (Gaitee Hussain)	Invited 5 (Valery Nakariakov)	Invited 7 (Gustavo Guerrero)	Invited 9 (Julian Alvarado)	
09:10 - 09:25		T1.T1	T1.T5	T2.T13	T3.T9	T3.T19	
09:25 - 09:40		T1.T2	T1.T6	T2.T14	T3.T10	T3.T20	
09:40 - 09:55		T1.T3	T1.T7	T2.T15	T3.T11	T3.T21	
09:55 - 10:10		T1.T4	T1.T8	T2.T16	T3.T12	T3.T22	
10:10 - 10:40		POSTERS EXHIBITION 1 + COFFEE BREAK		POSTERS EXHIBITION 2+ COFFEE BREAK		POSTERS EXHIBITION 2 COFFEE BREAK	
		SESSION 2: T3	**SESSION 6: T5**	**SESSION 10: T4**	**SESSION 12: T2**	**SESSION 16: T3**	
10:40 - 11:05		Invited 2 (Mariana Cécere)	Invited 4 (Alina Donea)	Invited 6 (Andrés Muñoz)	Invited 8 (Cosima Breu)	Invited 10 (Merav Opher)	
11:05 - 11:20		T3.T1	T5.T1	T4.T1	T2.T17	Discussion Panel & Closing	
11:20 - 11:35		T3.T2	T5.T2	T4.T2	T2.T18		
11:35 - 11:50		T3.T3	T5.T3	T4.T3	T2.T19		
11:50 - 12:05		T3.T4	T5.T4	T4.T4	T2.T20		
12:05 - 12:20				T4.T5			
12:20 - 12:35		LUNCH		GROUP PHOTO	LUNCH		
12:35 - 12:50							
12:50 - 14:00				LUNCH			
		SESSION 3: T2	**SESSION 7: T2**		**SESSION 13: T3**		
14:00 - 14:15		T2.T1	T2.T7		T3.T13		ACADEMIC NETWORKING (EXPERIENCE DAY TRIP) *
14:15 - 14:30		T2.T2	T2.T8		T3.T14		
14:30 - 14:45	Registration	T2.T3	T2.T9		T3.T15		
14:45 - 15:00		T2.T4	T2.T10		T3.T16		
15:00 - 15:15		T2.T5	T2.T11		T3.T17		
15:15 - 15: 30		T2.T6	T2.T12		T3.T18		
15:30 - 16:00		POSTERS EXHIBITION 1 + COFFEE BREAK		DYNASUN WORKSHOP / CITY TOUR*	POSTERS EXHIBITION 2 COFFEE BREAK		
		SESSION 4: T1,T2,T3	**SESSION 8: T3**		**SESSION 14: T2**		
16:00 - 16:15		Flash Talks (7 x 9 min)	T3.T5		T2.T21		
16:15 - 16:30			T3.T6		T2.T22		
16:30 -16:45			T3.T7		T2.T23		
16:45 - 17:00			T3.T8		T2.T24		
17:00 - 17:15							
17:15 - 17:30			DYNASUN MEETING				
17:30 - 17:45							
17:45 - 19:00							
19:00 - 21:00		WELCOME RECEPTION*		NIGHT BUS TOUR*	CONFERENCE DINNER *		

TOPICS	
T1	Advancements in Solar and Stellar Observatories and Instrumentation
T2	Solar and Stellar Energy Release Processes and Multi-Layer Transport
T3	Solar-Stellar Magnetic Variability and its Impact on the Planetary Environment
T4	Machine Learning and Novel Methods in Solar and Stellar Research
T5	Insights from Helio and Asteroseismology

SESSIONS
INVITED TALK
CONTRIBUTED TALK
FLASH TALK
PANEL
DYNASUN
POSTERS EXHIBITION
SOCIAL EVENTS

* Included in the full registration fee: You will be able to choose from three tour options in the city of Medellín.

* Not included in the registration fee

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16:45 - 17:00			T3.T8		T2.T24		
17:00 - 17:15							
17:15 - 17:30			DYNASUN MEETING				
17:30 - 17:45							
17:45 - 19:00							
19:00 - 21:00		WELCOME RECEPTION*		NIGHT BUS TOUR*	CONFERENCE DINNER *		

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Program by day: https://drive.google.com/file/d/1zj7w5iVtAfeiMD_2czPfE9M_o1pYqDFr/view

Executive Summary of the Meeting:

The International Astronomical Union Symposium 400 (IAUS400), *Solar and Stellar Multi-Scale Activity*, held in Medellín, Colombia, from 21 to 25 July 2025, was a major international meeting dedicated to advancing our understanding of magnetic activity and multi-scale processes in the Sun and other stars. The symposium brought together 157 participants from 26 countries, reflecting the truly global character of contemporary solar and stellar physics.

IAUS400 convened senior researchers, early-career scientists, and students in an environment that fostered scientific exchange and interdisciplinary collaboration. Hosted by Universidad EAFIT, the meeting addressed key topics including solar and stellar instrumentation, energy release processes, magnetic variability, helio- and asteroseismology, and the increasing use of artificial intelligence and machine learning in astrophysical research.

A central objective of the symposium was to strengthen connections between the solar and stellar communities by encouraging comparative approaches and dialogue across observational, theoretical, and computational perspectives. Over five days, participants contributed through invited and contributed talks, flash presentations, poster sessions, and interactive discussions, highlighting the vitality of a field that continues to deepen our understanding of stellar magnetism, energy transport, and their implications for planetary environments and habitability.

The symposium also emphasized the importance of international collaboration, particularly through initiatives such as the DynaSun Horizon Europe project, which links institutions across Europe and the Americas in coordinated research on coronal dynamics, oscillatory phenomena, and magnetic coupling in solar and stellar atmospheres.

Beyond its scientific scope, IAUS400 fostered meaningful human and cultural connections. Outreach activities, public stargazing events, and cultural visits in Medellín reinforced the role of science as a bridge between communities and a catalyst for curiosity and shared understanding.

Overall, IAUS400 successfully combined scientific excellence, international diversity, and public engagement, reinforcing its role as a landmark event in the global solar and stellar physics community.

Comprehensive Scientific Highlights

The IAUS400 focused on the fundamental physical processes that drive magnetic activity in the Sun and other stars across multiple scales. The symposium was organized around five core scientific themes:

- The Solar-Stellar Connection: A major highlight was the discussion on using the Sun as a primary laboratory to interpret stellar signals. With the advent of high-cadence observations from missions like Solar Orbiter and ADITYA-L1, researchers presented new models on how solar "campfires" (small-scale reconnection events) might explain the coronal heating observed in distant solar-like stars.
- High-Resolution Instrumentation: The community reviewed groundbreaking data from the Daniel K. Inouye Solar Telescope (DKIST). These instruments are revealing the fine structure of the solar atmosphere at scales previously unreachable, allowing for a more precise comparison with the energetic superflares detected on M-dwarfs by TESS and Kepler.
- Artificial Intelligence in Heliophysics: One of the most discussed topics was the integration of Machine Learning (ML) for space weather prediction. Participants shared novel neural network architectures capable of predicting solar flare intensity with significantly higher accuracy by analyzing multi-wavelength photospheric data.
- Internal Dynamics: Sessions on helio- and asteroseismology highlighted the similarities in the internal rotation profiles of the Sun and other main-sequence stars, providing clues into how stellar dynamos evolve over gigayear timescales.
- Synergy and Future Directions: The event successfully fostered a "bridge-building" atmosphere, concluding that future progress in understanding habitability around other stars depends heavily on our continued, detailed observation of our own Sun.

Summary of Outreach Activities
In addition to the scientific sessions, IAUS400 held a "Public Outreach Day" at Parque Explora and the Universidad EAFIT campus. Activities included:

- Portable Planetarium: Over 200 local students attended immersive shows about the solar system.
- Solar Observations: Safe telescope viewings of sunspots and prominences.
- Public Keynote: A lecture titled "Our Active Sun," which translated the week's complex findings for a general audience.

13. **Anticipated number of separate papers in the proceedings:** 31

14. **Report submitted by:** Santiago Vargas-Domínguez

15. **Date and place:** January 7, 2025, Bogota, Colombia

16. **Signature of SOC Chairperson:**