



Scheme for Promotion of Academic and Research Collaboration



MADRAS 2026

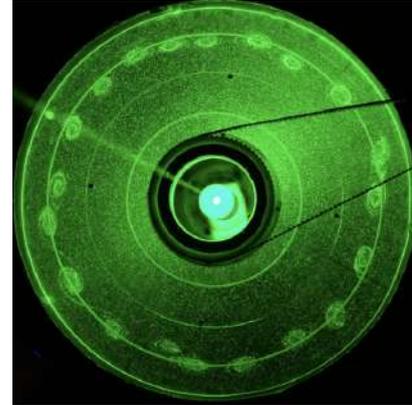
**Air-Sea-Land Interactions: Modelling
and Observations**

5 - 8 January, 2026

IIT Madras

Air-Sea-Land Interactions: Observations and Modelling (January 4 - 8, 2026)

Venue: IIT Madras, Zanzibar, Tanzania



Discussion meeting schedule (Jan. 04, 05, 06, 07, 08: 2026)

Day 0 Jan 4, 2026: Welcome Banquet (7 pm onwards) Venue: Maru Maru Hotel, Gizenga St, Zanzibar

Events	Day 1 Jan 5, 2026	Day 2 Jan 6, 2026	Day 3 Jan 7, 2026	Day 4 Jan 8, 2026
09.45 am - 10:30 am	Keynote Lecture 1 (Eric D' Asaro)	Keynote Lecture 2 (Craig Lee)	Keynote Lecture 3 (Rama Govindarajan)	Keynote Lecture 4 (Debasis Sengupta)
10:30 am - 11:00 am	Tea Break	Tea Break	Tea Break	Tea Break
11.00 am - 11.30 am	Lead talk (Akhilesh Mishra)	Lead talk (Justin Pringle)	Lead talk (S. Balachandar)	One talk
11.30 am - 12.30 pm	Discussion on GFL Coastal Research Initiative (Manikandan Mathur)	Discussion on Oceanography in the African region (Debasis Sengupta)	Discussion on fine-scale process studies - parameterization (Anubhab Roy)	Future Plans and Concluding Remarks
12.30 pm - 2:30 pm	Lunch	Lunch	Lunch	Lunch
2:30 pm - 4:30 pm	Four talks	Four talks	Four talks	
4.30 pm - 5:00 pm	Tea Break	Tea Break	Tea Break	
5:00 pm - 6:00 pm	Five Student/ECR Talks P1-P5	Five Student/ECR Talks P6-P10	Four Student/ECR Talks P11 -P14	

Themes & List of Speakers

Physical Oceanography	Air sea interactions and monsoons	State-of-the-art technologies in oceanography and atmospheric sciences	Fundamental GFD studies
Debasis Sengupta (GFL-IIT Madras & ICTS-TIFR, India)	Eric D'Asaro (Univ. of Washington, USA)	Bharath Govindarajan (IIT Madras, India)	Anubhab Roy (IIT Madras, India)
Arjun Jagannathan (IIT Madras, India)	Akhilesh Mishra (MoES, India)	M.S. Girishkumar (INCOIS, India)	Kannabiran Seshasayanan (IIT Madras, India)
Manikandan Mathur (IIT Madras, India)	Woosok Moon (Pukyong National University, South Korea)	Craig Lee (Univ. of Washington, USA)	Rama Govindarajan (ICTS Bengaluru, India)
Justin Pringle (University of KwaZulu Natal, South Africa)	Chandan Sarangi (IIT Madras, India)	Wan-Sik Won (Korea Aerospace University, South Korea)	A. Sameen (IIT Madras, India)
Ritabrata Thakur (IIT Delhi, India)	Shiekha John (MoES, India)	Devaprakash Muniraj (IIT Madras, India)	Eric Climent (Toulouse INP-ENSEEIH)
			S. 'Bala' Balachandar (Univ. of Florida)

Day 1: Monday, Jan 5, 2026

Venue: IIT Madras Zanzibar auditorium

9:15 - 9:45	Introduction and Inauguration by Director, IIT Madras, Zanzibar
9:45 - 10:30	Keynote lecture 1 - Challenges for the GFL Coastal Initiative Eric D' Asaro (Univ. Washington, USA) Chair: Arjun Jagannathan
10:30 - 11:00	Tea break
11:00 - 11:30	Talk - Mission Mausam Shiekha John (MoES) Chair: Arjun Jagannathan
11:30 - 12:30	Discussion on GFL Coastal Research Initiative (Led by Manikandan Mathur)
12:30 - 14:30	Lunch
14:30 - 16:30	Session 1 - Physical Oceanography (Four Talks) Chair: Manikandan Mathur
16:30 - 17:00	Tea break
17:00 - 18:00	Early Career Researcher talks (Five)

Day 2: Tuesday, Jan 6, 2026

Venue: IIT Madras Zanzibar auditorium

9:45 - 10:30	Keynote lecture 2 - Glider Observations of the Coastal Oceans Craig Lee (Univ. Washington, USA) Chair: A. Sameen
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10:30 - 11:00	Tea break
11:00 - 11:30	Talk - On the dynamics of mixing patches in the Agulhas Current Justin Pringle (University of KwaZulu Natal, South Africa)
11:30 -12:30	Discussion on Oceanography in the African Region (Led by Debasis Sengupta)
12:30 - 14:30	Lunch
14:30 - 16:30	Session 2 - State of the art Technologies in Oceanography and Atmospheric Sciences, Air-Sea Interactions (Four Talks) Chair: Chandan Sarangi
16:30 - 17:00	Tea break
17:00 - 18:00	Early Career Researcher talks (Five)

Day 3: Wednesday, Jan 7, 2026

Venue: IIT Madras Zanzibar auditorium

9:45 - 10:30	Keynote lecture 3 - Clustering in marine snow and in cloud droplets Rama Govindarajan (ICTS Bengaluru, India) Chair: A. Sameen
10:30 - 11:00	Tea break
11:00 - 11:30	Talk - Investigation of the Structure and Dynamics of particle-laden turbidity currents S. Balachandar University of Florida, USA
11::30 -12:30	Discussion on fine-scale process studies, parametrization (Led by Anubhab Roy)
12:30 - 14:30	Lunch
14:30 - 16:30	Session 3 - Air-Sea Interactions, Fundamental GFD Studies (Four Talks) Chair: Bharath Govindarajan
16:30 - 17:00	Tea break + Poster Session
17:00 - 18:00	Early Career Researcher talks (Four)

Day 4: Thursday, Jan 8, 2026

Venue: IIT Madras Zanzibar auditorium

9:45 - 10:30	Keynote lecture 4 - Exploring deep circulation in the Bay of Bengal Debasis Sengupta (ICTS Bengaluru and GFL Center, IIT Madras) Chair: M. Ramakrishna
10:30 - 11:00	Tea break
11:00 - 11:30	Talk - TBD
11:30 - 12:30	Future Plans and Concluding Remarks
12:30 - 14:30	Lunch



IIT Madras CoE Geophysical Flows Lab

Thanks

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Day 1: January 5, 2026

Session 1: Physical Oceanography

Time: 10:30-12:00

(Chair: Arjun Jagannathan)

14:30-15:00	Internal Tides Enhance Forward Energy Cascades in the Northern Bay of Bengal Arjun Jagannathan, IIT Madras, India
15:00 - 15:30	Spectral analysis of internal wave field using high resolution model and observational data Ritabrata Thakur, IIT Delhi, India
15:30 - 16:00	Mixed layer salinity budget in the northern Bay of Bengal using the data from a mooring array in 2015 Girishkumar M.S., INCOIS, India
16.00 - 16.30	Cruising and Jumping, the dynamic behavior of copepods measured by tomographic PTV Eric Climent, CNRS-Abel IRL 2035,France

Day 2: January 6, 2026

Session 2: State of the Art Technologies in Oceanography and Atmospheric Sciences, Air-Sea Interactions

Time: 14:30-16:30

(Chair: Chandan Sarangi)

14:30-15:00	Drone-based Survey of the Atmospheric Boundary Layer Bharath Govindarajan, IIT Madras, India
15:00 - 15:30	Measurement of Aviation Turbulence Using Portable Sensors Mounted on Aircraft Wan-Sik Won, Korea Aerospace University, South Korea
15:30 - 16:00	Distributed Sensing and UAS autonomy for Atmospheric and Oceanographic Applications Devaprakash Muniraj, IIT Madras, India
16:00 -16:30	Can aerosols affect sea surface temperature changes over the Bay of Bengal Chandan Sarangi, IIT Madras, India

Day 3: January 7, 2026

Session 3: Air-Sea Interactions, Fundamental GFD Studies

Time: 14:30-17:00

(Chair: Bharath Govindarajan)

14:30 - 15:00	NCMRWF Regional Coupled Modelling System for Monsoons and Extreme Events Forecasting Akhilesh Mishra, MoES, India
15:00 - 15:30	Midlatitude Interactions Expand the Hadley Circulation Woosok Moon, Pukyong National University, South Korea
15:30 - 16:00	Scale-space energy transport in anisotropic inhomogeneous buoyancy-driven turbulent flows A. Sameen, IIT Madras, India
16:00 - 16:30	Alpha models of turbulence Kannabiran Seshasayanan, IIT Madras, India

List of Student/ECR Talks

Day	No.	Name	Title
1	P1	Abhiram D S (IIT Madras, India)	Small-scale instabilities in a plane inertial wave
	P2	Soohyun Ahn (Pukyong National University, South Korea)	Multiscale Diagnostic Analysis of the Intraseasonal Variability of the North Pacific High
	P3	Dilip V (IISER Pune)	The Role of Diurnal Land-Atmosphere Interactions in Driving Heat Stress During South Asian Heatwaves
	P4	Sajidh CK (IIT Madras, India)	Regional and Seasonal Variability of Cyclone-induced Near-inertial Wave in the Bay of Bengal: Insights from a High-Resolution Regional Model
	P5	Seola Park (Pukyong National University, South Korea)	Analyzing Positive Feedback in River Discharge Stability Assessment via Stochastic Modeling
2	P6	Mijeong Jeon (Pukyong National University, South Korea)	Exploring urban heat islands with a simple thermodynamic model
	P7	Geun Yeong Kim (Pukyong National University, South Korea)	A Reassessment of the Arctic Sea Ice Albedo Feedback via Stochastic Analysis and Modeling
	P8	Sai Saandeeep Sampatirao (IIT Madras, India)	Simultaneous generation and scattering of internal waves by bottom topography
	P9	Mariya Benny (IIT Madras, India)	Radiative effects of Aerosol loading over the Bay of Bengal using an Ocean-Atmosphere coupled model
	P10	Arnab Choudhury (IIT Madras, India)	Collision of charged ice crystals and their role in cloud electrification
3	P11	Swarnali Dhar (IIT Madras, India)	Internal waves generated by upper ocean turbulence
	P12	Ji-Won Seo (Korea Aerospace University, South Korea)	Low-Visibility Estimation Using Light-Scattering Particulate Matter Sensors and Camera Imagery
	P13	Yoonjeong Choi (Korea Aerospace University, South Korea)	Case Study of Aviation Turbulence Measurements for Low-Level Flights
	P14	Praveen Kumar (IIT Madras, India)	Scale-space fluxes in sea-surface satellite data