



6th IAGA School

**linked to IUGG in Berlin 2023
at the Geomagnetic Observatory Niemegk
of German Research Center for Geosciences, GFZ,
Germany
July 06th – 12th, 2023**

Schedule Overview

The dates for the IAGA School are July 6th (arrival day) to July 12th (departure day), the lectures will be from July 7-11. 2023

Date	Timetable	Topic	Lectures
Thursday 6 th July	arrival day		
Friday 7 th July	9:00-11:00 lecture <i>Break: 11:00-11:30</i> 11:30-12:30 lecture <i>Lunch: 12:30-13:30</i> 13:30-15:00 lecture <i>Break: 15:00-15:30</i>	Core field/observations: <ul style="list-style-type: none">• Earth's Magnetic Field• Observing the Earth's magnetic field: ground observatory network• Measurements from satellites• Variations of the Earth's magnetic field: Lunar, secular, daily, annual, 11 years, irregular, reversals• Models of the Earth's magnetic field	Kusumita Arora (India)

Lectures and lecturers

Name of Lecturer: **Kusumita Arora (India)**

kusumita.arora@gmail.com

CSIR – National Geophysical Research Institute (NGRI)



Topic: Core field/observations:

- Earth's Magnetic Field
- Observing the Earth's magnetic field: ground observatory network
- Measurements from satellites
- Variations of the Earth's magnetic field: Lunar, secular, daily, annual, 11 years, irregular, reversals
- Models of the Earth's magnetic field

Name of Lecturer/Tutor: **Ashley Smith (UK)**

Ashley.Smith@ed.ac.uk

University of Edinburgh



Topic: Tutor through the whole IAGA School time, focusing on Python tools and data dissemination via Jupyter notebooks.

Name of Lecturer: **Johannes Wicht (Germany)**

wicht@mps.mpg.de

Max Planck Institute for Solar System Research



Topic: Numerical core field simulation

- Fundamentals of the dynamo problem
- Recent advances in Dynamo Simulations
- Practical dynamo simulations

Name of Lecturer: **Gillian Turner (New Zealand)**

gillian.turner@vuw.ac.nz

Academic (Postgraduate)

Wellington Faculty of Science



Topic: Palaeomagnetism: deciphering records of the prehistoric field

- First Principles: Rocks, sediments and archaeological materials as magnetic recorders
- Practical Details: Sampling, measuring, checking for reliability
- Palaeomagnetic: Data interpretation and statistics
- The Prehistoric field: the evidence for field variability, excursions, polarity reversals,
- the Time Averaged Field: the geocentric axial dipole hypothesis, palaeomagnetic poles, continental reconstruction

Name of Lecturer: **Jay R. Johnson (USA)**

iri@andrews.edu

Andrews University / Department of Engineering



Topic: Magnetosphere

Magnetospheric Morphology

- Magnetospheric Boundaries
- Magnetospheric Current Systems
- Plasma Populations

Magnetospheric Dynamics

- Plasma Entry and Transport Processes
- Storms and Substorms
- Magnetosphere/Ionosphere Coupling
- Auroral Acceleration

Name of Lecturer: **Erwan Thebault (France)**

thebault.erwan@gmail.com

University of Nantes Laboratoire de Planétologie et de Géodynamique



Topic: Lithospheric field:

- Introduction and history
- Measurements and data processing
- Mapping and relationship to subsurface structures

- Applications in compared planetology.

Name of Lecturer: **Steven Constable (USA)**

sconstable@ucsd.edu

Institute of Geophysics and Planetary Physics

Scripps Institution of Oceanography



Topic: Electromagnetic Induction Methods

- Introduction
- Earth's electromagnetic environment
- Some theory
- Instruments
- Magnetotelluric (MT) methods
- Geomagnetic depth sounding (GDS)
- Controlled-source methods
- Forward modeling
- Inverse modeling
- Global conductivity structure