



Prof. Mioara Manda

Researcher on geophysics

ABOUT ME

I am a geophysicist specializing in measuring, mapping, and understanding the diverse magnetic fields of Earth and near-Earth-like planets. Since 2022, I have been heading the Science Coordination Department within the Strategy Directorate at the Centre National d'Études Spatiales (CNES) in Paris, overseeing scientific programs and coordinating research initiatives.

CAREER

since 2022	HEAD "SCIENCE COORDINATION" DEPARTMENT, STRATEGY DIRECTORATE - CENTRE NATIONAL D'ETUDES SPATIALE, PARIS
2011 - 2021	SOLID EARTH PROGRAMME MANAGER, DIRECTORATE FOR INNOVATION, APPLICATIONS AND SCIENCE - CENTRE NATIONAL D'ETUDES SPATIALE, PARIS
2011 - 2011	DEPUTY-DIRECTOR, EUROPEAN CENTER FROM THE ARCTIC - UNIVERSITÉ DE VERSAILLES SAINT-QUENTIN-EN-YVELINES
2009 - 2011	PHYSICIST, UNIVERSITÉ PARIS DIDEROT - INSTITUT DE PHYSIQUE DU GLOBE DE PARIS
2005 - 2009	PROFESSOR - INSTITUTE OF GEOPHYSICS AND EXTRATERRESTRIAL PHYSICS, TECHNISCHE UNIVERSITÄT BRAUNSCHWEIG
2005 - 2009	HEAD OF SECTION 2.3 AT HELMHOLTZ CENTRE POTSDAM - GFZ GERMAN RESEARCH CENTRE FOR GEOSCIENCES
1994 - 2004	PHYSICIST, HEAD OF FRENCH NATIONAL MAGNETIC OBSERVATORY
1991 - 1993	VARIOUS FELLOWSHIPS AT INSTITUT DE PHYSIQUE DU GLOBE DE PARIS
1984 - 1994	RESEARCHER, GEOMAGNETISM DEPARTMENT, INSTITUTE OF GEOLOGY AND GEOPHYSICS, BUCHAREST
1982 - 1984	ENGINEER, GRAVIMETRY SECTION, GEOLOGICAL AND GEOPHYSICAL SURVEY, BUCHAREST

EDUCATION

2001	HDR, "HABILITATION À DIRIGER LES RECHERCHES", PHYSICS OF THE EARTH (UNIV. PARIS VII)
1996	PHD, INTERNAL GEOPHYSICS (INSTITUT DE PHYSIQUE DU GLOBE DE PARIS)
1993	PHD, GEOPHYSICS AND GEOPHYSICAL PROSPECTING (BUCHAREST UNIVERSITY)
1982	ENGINEERING IN GEOLOGY AND GEOPHYSICS (BUCHAREST UNIVERSITY)

AWARDS

- 2025 Member, Who's Who in France
- 2025 Member, Bureau des Longitudes – Académie des Sciences, Paris
- 2025 Asteroid 10202 is named Mioaramandea
- 2024 Union Fellow, American Geophysical Union (AGU)
- 2024 Honorary Fellow, The Geological Society of India
- 2024 Prix Dolomieu, Académie des Sciences Paris
- 2023 Officier de l'Ordre National du Mérite - Décret du 24/11/2022
- 2022 Emil-Wiechert Medal, Deutsche Geophysikalische Gesellschaft
- 2022 Fellow of the European Academy of Sciences
- 2021 Corresponding Member, Bureau des Longitudes - Académie des Sciences Paris
- 2020 Honorary Citizen of Comanesti, Romania
- 2019 ERC Synergy Grant "GRACEFUL"
- 2019 Membre of Russian Academy of Science
- 2018 Membre of Académie Royale de Belgique
- 2018 Petrus Peregrinus Medal, European Geosciences Union (EGU)
- 2017 Chevalier - Ordre National du Mérite - Décret du 14/11/2016
- 2015 Member of Academia Europaea
- 2014 International Award, American Geophysical Union (AGU)
- 2008 Titular Member of the Academy of Romanian Scientists
- 2000 Commemorative Medal, Slovak Academy of Sciences
- 2000 "Botezatu Prize", Romaniae Scientiarum Societas
- 1998 "Hepites Prize", Romanian Academy
- 1997 "Van Straelen Prize", French Geological Society

SCIENTIFIC INTERESTS

- Space observations: Solid Earth
- Space observations: Earth-Sun interactions
- Geo-potential fields observation, from modern observatories and satellites to historical archives
- Description of temporal and spatial changes of the geomagnetic field
- Adapting new mathematical tools to magnetic and gravity data analysis
- Studies on the Earth's Deep Interior
- Studies of the Mars, Moon and Mercury magnetic fields
- Studies of the geophysical changes in the Arctic region

EDITORIAL ACTIVITIES

ASSOCIATED OR TOPICAL EDITOR

- Surveys in geophysics (ongoing)
- Solid Earth (2010-2022)
- Physics of the Earth and Planetary Interior (special issue)
- Earth Planets Space (special issue)

REVIEWER FOR MANUSCRIPTS SUBMITTED TO

- PNAS
- Science
- Nature
- Geophysical Research Letters
- Journal of Geophysical Research
- Earth, Planets and Space
- Geophysical Journal International
- Physics of the Earth and Planetary Interiors
- Earth and Planetary Science Letters
- Etc

REFeree FOR PROJECTS SUBMITTED TO

- ANR - French National Science Foundation
- Institut Polaire Français - Paul Emile Victor
- European Research Council
- Norway Research Council
- UEFISCDI - Executive Agency for Higher Education, Research, Development and Innovation Funding, Romania
- FED-tWIN programme, Belgium
- FCT - Fundacao para a Ciencia e Tecnologia, Portugal
- Natural Sciences and Engineering Research Council of Canada
- Etc

CONSULTANCY: INTERNATIONAL AND NATIONAL

since 2023	PRESIDENT-ELECT, INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS (IUGG)
since 2023	FRENCH POC, COMMITTEE ON SPACE RESEARCH (COSPAR)
since 2018	MEMBER, SCIENTIFIC ADVISORY COUNCIL OF THE GFZ GERMAN RESEARCH CENTRE FOR GEOSCIENCES, POTSDAM, GERMANY
since 2011	MEMBER NATIONAL ADMINISTRATIVE OR SCIENTIFIC COUNCILS (IPEV, CNSO, OPGC, OSUC, ETC), FRANCE
since 2008	PRESIDENT, CGMW GEOPHYSICAL MAPS COMMISSION - CMGW, PARIS
2018 - 2023	Chair, President, Int. Assoc. of Geomagnetism and Aeronomy (IAGA)
2018 - 2022	Chair, Outreach Committee, European Geosciences Union (EGU)
2013 - 2021	Member "service extraordinaire", Bureau des Longitudes – Académie de Science, Paris
2016 - 2019	President, Science Committee, International Space Science Institute (ISSI), Berne
2009 - 2019	Secretary General, Int. Association of Geomagnetism and Aeronomy (IAGA)
2014 - 2018	Vice-President, Société Française de Photogrammétrie et de Télédétection
2013 - 2018	Member, Advisory Board CEED (UiO Oslo)
2014 - 2016	Member, Advisory Board MED-SUV project (FP7)
2012 - 2016	General Secretary, European Geosciences Union (EGU)
2010 - 2012	Chair, Education Award Committee, American Geophysical Union (AGU)
2008 - 2010	Member, Education Award Committee, AGU
2007 - 2011	President, Earth Magnetism and Rock Physics Division, European Geosciences Union (EGU)
2007 - 2009	Member, Executive Committee of Int. Assoc. of Geomagnetism and Aeronomy (IAGA)
2003 - 2009	President, "Solid Earth" group - TOSCA Commission (CNES)
2003 - 2007	Co-chair, Division V of Int. Assoc. of Geomagnetism and Aeronomy (IAGA)
1999 - 2003	Chair, Working Group V-8 of Int. Assoc. of Geomagnetism and Aeronomy (IAGA)
2002 - 2006	Chair, French National Committee of Geomagnetism and Aeronomy
2004 - 2006	Member, Scientific Council of Institut de Physique du Globe de Paris
1997 - 2000	Member, Administration Council of Institut de Physique du Globe de Paris

ACHIEVEMENTS TRACK RECORD

AUTHORED OF 285 PUBLICATIONS AND 475 ABSTRACTS FOR CONFERENCE MATERIALS (DEC 2024)

- 195 peer-reviewed publications
- 23 books and chapters in books
- 72 publications in Proceedings and Reports

SELECTED 10 PUBLICATIONS OVER THE LAST DECADE

1. Gagne Gouranton, C., I. Panet, M. Greff-Lefftz, **M. MANDEA**, S. Rosat, GRACE detection of transient mass redistributions during a mineral phase transition in the deep mantle. *Geophysical Research Letters*, 52, e2025GL116408, <https://doi.org/10.1029/2025GL116408>, 2025.
2. Lecomte, H., S. Rosat, **M. MANDEA**, M. Dumberry, Gravitational constraints on the Earth's inner core differential rotation, *Geophys. Res. Lett.*, 50, e2023GL104790, <https://doi.org/10.1029/2023GL104790>, 2023.
3. Cazenave, A., J. Pfeffer, **M. MANDEA**, and V. Dehant, ESD Ideas: A 6-year oscillation in the whole Earth system?, *Earth Syst. Dynam.*, 14, 733–735, <https://doi.org/10.5194/esd-14-733-2023>, 2023.
4. **MANDEA, M.**, *The Magnetic Declination. A History of the Compass*, ISBN: 978-3-031-09476-7, 116 p., Springer, 2022.
5. Dumberry M. and **MANDEA, M.**, Gravity variations and ground deformations resulting from core dynamics, *Surveys in Geophysics*, <https://doi.org/10.1007/s10712-021-09656-2>, 2021.
6. **MANDEA, M.** and A. Chambodut, Geomagnetic field processes and their implications for Space Weather, *Surveys in Geophysics*, GEOP-Special Issue on “Remote Sensing of Geohazards and Risks”, 41:1611–1627, <https://doi.org/10.1007/s10712-020-09598-1>, 2020.
7. Domingos, J., D. Jault, A. Pais, **M. MANDEA**, The South Atlantic Anomaly throughout the solar cycle, *Earth and Planetary Science Letters*, 473, 154-163, DOI: 10.1016/j.epsl.2017.06.004, 2018.
8. **MANDEA, M.**, C. Narteau, I. Panet, and J.-L. Le Mouél, Gravimetric and magnetic anomalies produced by dissolution-crystallization at the core-mantle boundary, *J. Geophys. Res. Solid Earth*, 120, doi:10.1002/2015JB012048, 2015.
9. Panet, I., G. Pajot-Métivier, M. Greff-Lefftz, L. Métivier, M. Diament, **M. MANDEA**, Mapping the mass distribution of Earth's mantle using satellite-derived gravity gradients, *Nature Geoscience*, doi:10.1038/ngeo2063, 2014.
10. **MANDEA, M.**, I. Panet, V. Lesur, O. de Viron, M. Diament, and J.-L. Le Mouél, Recent changes of the Earth's core derived from satellite observations of magnetic and gravity fields, *Proceedings of the National Academy of Sciences*, doi:10.1073/pnas.1207346109, 2012.

ACHIEVED PROJECTS (2005 - 2025)

- GRACEFUL (ERC): GRavimetry, mAgnetism, rotation and CorE FLOW - Synergy Grant Number 855677 from the European Research Council
- 3D Earth (ESA): 3D Earth – A Dynamic Living Planet
- EPOS (EU): European Plate Observing System (TCS "Satellite Data")
- PlanetMag (D): Planetary Magnetism, DFG-Schwerpunktprogramms 1488
- Geotechnologien (D): Developing tools to improve CHAMP data processing and geomagnetic field descriptions
- Swarm (ESA/EADS): End-to-end simulator and participation in definition of this multi-satellite mission
- Magflotom (EU): Ocean and core flows from the high-resolution magnetic data
- WDMAM (IAGA/CGMW): World Digital Magnetic Anomaly Map
- Inkaba (D/SA): Studies of the anomalous behavior of the magnetic field over Southern African Continent.