

Maylis de La Serve

RESEARCH SCIENTIST IN GEODESY



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FRANCE

EDUCATION

2022 Ph.D. in Geodesy

Institut de physique du globe de Paris (IPGP), Université Paris Cité, Paris, France

2017 Engineering degree in Geomatics

École Nationale des Sciences Géographiques (ENSG), Marne-la-Vallée, France
Main subjects : Computer science, Mathematics, Physics, Geodesy, Photogrammetry, Remote sensing, Surveying, Cartography, Topography, GIS, Management

MAIN SKILLS

- Data analysis
- Signal processing
- Mathematics / statistics
- Computer science
- Pedagogy / popularization

LANGUAGES

French	◆◆◆◆◆
English	◆◆◆◆◇
German	◆◆◆◇◇
Italian	◆◆◆◇◇

COMPUTER SKILLS

- **Languages:** Python, C++, Matlab, SQL, HTML, CSS, PHP, JavaScript, Bash, Perl
- **Softwares:** office suite, LaTeX, git, MicMac, GMT, QGIS, PostGIS, RTKlib
- **Operating systems :** Windows, GNU/Linux, Android

EXPERIENCE

2022-present

Paris, France

Research Scientist

Geodesy Team, Institut national de l'information géographique et forestière (IGN) & Institut de physique du globe de Paris (IPGP)

2019-2022

Paris, France

Graduate Researcher

Geodesy Team, Institut national de l'information géographique et forestière (IGN) & Institut de physique du globe de Paris (IPGP)

Toward a terrestrial reference frame in the form of a time series ?

Advisors: Zuheir Altamimi, Paul Rebischung and Xavier Collilieux

2017-2019

Paris, France

Research Engineer

Institut national de l'information géographique et forestière (IGN)

Support for geodesy research team work

- Development of satellite orbit modeling software - <https://deimos.ign.fr> - in collaboration with David Coulot
- Setting up a PPP processing chain with Bernese software to study the troposphere - in collaboration with Olivier Bock
- Creation of time series visualisation and analysis software - in collaboration with Paul Rebischung and Zuheir Altamimi
- Automatic processing and comparison of different GRACE gravity fields solutions - in collaboration with Isabelle Panet

Visiting Undergraduate Researcher

2017 - 6 months

Paris, France

Laboratoire Commun de Métrologie (LNE - Cnam)

Characterization of a prototype high-accuracy telemeter with a range of 5 km

Mentors: Jean-Pierre Wallerand, Joffray Guillory, Daniel Truong

2016 - 3 months

Austin, USA

Center for Space Research (CSR), University of Texas

Geographical correlation of orbital perturbations and application to the correction of gravity models.

Mentor: Srinivas Bettadpur

PUBLICATIONS

Published in peer review journals

de La Serve, M., Rebischung, P., Collilieux, X., Altamimi, Z., & Metivier, L. (2023). Are there detectable common aperiodic displacements at ITRF co-location sites? *Journal of Geodesy*, 97(8), 79, [doi:10.1007/s00190-023-01769-3](https://doi.org/10.1007/s00190-023-01769-3)

Guillory, J., **de La Serve, M. T.**, Truong, D., Alexandre, C., & Wallerand, J. P. (2019). Uncertainty assessment of optical distance measurements at micrometer level accuracy for long-range applications. *IEEE Transactions on Instrumentation and Measurement*, 68(6), 2260-2267, [doi: 10.1109/TIM.2019.2902804](https://doi.org/10.1109/TIM.2019.2902804).

In review

Collilieux, X., Altamimi, Z., Rebischung, P., **de La Serve, M.**, Metivier, L., Chanard, K. & Boy, J.P. A review of space geodetic technique seasonal displacements based on ITRF2020 results. *Proceedings of the IAG Symposia REFAG 2022*

Dissertation

de La Serve, M. (2022). Vers un repère de référence terrestre sous forme de série temporelle ? (Ph.D.), Université Paris Cité, <https://www.theses.fr/s230679>

PRESENTATIONS

AGU 2023
San Francisco, USA **de La Serve, M.**, Rebischung, P., Altamimi, Z., Collilieux, X., & Métivier, L. (2023). A new study of common aperiodic displacements at ITRF co-location sites. Abstract submitted to AGU Fall Meeting.

IUGG 2023
Berlin, Germany Altamimi, Z., Rebischung, P., Collilieux, X., Métivier, L., **de La Serve, M.**, & Chanard K. (2023). The International Terrestrial Reference Frame: More than three decades of R&D, strengths and weaknesses Talk presented at IUGG General Assembly

EGU 2022
Vienna, Austria **de La Serve, M.**, Rebischung, P., Altamimi, Z., Collilieux, X., & Métivier, L. (2022). Study of common aperiodic displacements at ITRF co-location sites. Talk presented at EGU General Assembly Conference, [doi: 10.5194/egusphere-egu22-2985](https://doi.org/10.5194/egusphere-egu22-2985)

AGU 2021
New Orleans, USA **de La Serve, M.**, Rebischung, P., Collilieux, X., Altamimi, Z. & Métivier, L. (2021). Are there detectable common aperiodic displacements at ITRF co-location sites?. Poster presented at AGU Fall meeting, [doi: 10.1002/essoar.10509118.1S](https://doi.org/10.1002/essoar.10509118.1S)

EGU 2021
Vienna, Austria Altamimi, Z., Rebischung, P., Metivier, L., Collilieux, X., Chanard, K., & **Teyssendier-de-la-Serve, M.** (2021). Preparatory analysis and development for the ITRF2020. Talk presented at EGU General Assembly Conference [doi: 10.5194/egusphere-egu21-2056](https://doi.org/10.5194/egusphere-egu21-2056)

INVITED TALK

February 2022
Toulouse, France **Seminar at Observatoire Midi-Pyrénées (OMP)**
Are there detectable common aperiodic displacements at ITRF co-location sites?

TEACHING Graduated Level Courses

2020-2021 ESTP	Second-year engineer in construction and project management. - Least-squares estimation and scientific programming
2017-2020 ENSG	Specialized Master's degree in Photogrammetry, Positioning and Deformation Measurement (PPMD) - IT projects supervision
2018-2019 ENSG	Specialized Master's degree in Photogrammetry, Positioning and Deformation Measurement (PPMD) - Practical work in metrology

Undergraduated Level Courses

2023-2024 ENSG	First year of vocational degree "surveyor-geomatichian" - Geodesy, reference system
2017-2023 ENSG	2nd year of advanced technician's certificate in geomatics - IT projects supervision
2020-2021 ENSG	2nd year of advanced technician's certificate in geomatics - Practical work in scientific programming for geodesy
2018-2019 ENSG	First year engineer in geomatics - Sensors and data acquisition, remote sensing
2018-2019 ENSG	First year engineer in geomatics - Scientific programming
2017-2019 ESTP	First year engineer in construction and project management. - Least-squares estimation and scientific programming

Continuing Education Courses

2017 ENSG	Geodesy - Altitude and height reference systems
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Field Courses

2017-present ENSG	Geodesy - GNSS surveying
2017-2021 ENSG	Metrology - Structures monitoring

OUTREACH ACTIVITES

forthcoming	Interview for IUGG Geoscience Connections
2019-2021 IGN	Participation in various communication events for IGN as a geodesy specialist - French Science Festival, Heritage Days, Timeworld congress, and so on.
2018 XYZ, AFT	Publication of a press article for which I received an award from the French Topography Association (AFT) - de La Serve, M. T. , Wallerand, J. P., Guillory, J., Truong, D., Alexandre, C., Cali, J., & Durand, S. (2018). Arpent: un prototype de haute exactitude pour les mesures de grande distance. Revue XYZ , (154), 35-40.

