

João de Teixeira da Encarnação

Postdoctoral Fellow, Center for Space Research, University of Texas at Austin

Personal Information

Full Name: João Gregório de Teixeira da Encarnação
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Web: University of Texas ¹, TU Delft ², LinkedIn ³, ResearchGate ⁴, Google Scholar ⁵, ORCID ⁶, Mendeley ⁷, SCOPUS ⁸, Publons ⁹, GitHub ¹⁰

Education

- 2015 **PhD in Space Geodesy**
[GRS](#)¹¹, [TU Delft](#)¹²
Dissertation: *Next-generation satellite gravimetry for measuring mass transport in the Earth system* ¹³
Promotor: Prof. Dr-Ing. habil. Roland Klees ¹⁴
Supervisor: Dr. Ir. Pavel Ditmar ¹⁵
- 2004 **Master of Sciences in Aerospace Engineering**
[AS](#)¹⁶, [TU Delft](#)
Final Thesis: *Numerical Simulation of Launch Vehicles*
Supervisor: Prof. Ir. B.A.C. Ambrosius ¹⁷

¹directory.utexas.edu/index.php?q=joao+encarnacao

²www.tudelft.nl/en/staff/j.g.deteixeiradaencarnacao-2/

³nl.linkedin.com/in/joaoencarnacao

⁴www.researchgate.net/profile/Joao_Encarnacao2

⁵scholar.google.com/citations?user=k2liFwQAAAAJ

⁶orcid.org/0000-0001-6824-2733

⁷www.mendeley.com/profiles/joao-encarnacao4/

⁸www.scopus.com/authid/detail.uri?authorId=15135565900

⁹publons.com/a/782170/

¹⁰github.com/jgte

¹¹Geoscience and Remote Sensing, www.tudelft.nl/en/ceg/over-faculteit/departments/geoscience-remote-sensing/

¹²Delft University of Technology, www.tudelft.nl

¹³tinyurl.com/SatGrav

¹⁴www.tudelft.nl/en/ceg/over-faculteit/departments/geoscience-remote-sensing/staff/scientific-staff/profdr-ing-habil-r-roland-klees/

¹⁵www.tudelft.nl/citg/over-faculteit/afdelingen/geoscience-remote-sensing/staff/scientific-staff/dr-pg-pavel-ditmar/

¹⁶Astrodynamics and Space missions, www.as.lr.tudelft.nl/

¹⁷www.tudelft.nl/en/staff/b.a.c.ambrosius

2000 **Licenciate**¹⁸ in Aerospace Engineering

IST¹⁹, UTL²⁰

5th year concluded at TU Delft, through the ERASMUS program²¹

Report: *Optimum Aerodynamic Shape for a High Altitude Long Endurance
Aerostatic Platform*

Supervisor: Prof. Dr. Ir. Theo van Holten

¹⁸ Licenciatura, en.wikipedia.org/wiki/Licentiate

¹⁹ Instituto Superior Técnico, tecnico.ulisboa.pt

²⁰ Technical University of Lisbon, www.ulisboa.pt/en

²¹ www.erasmusprogramme.com

Academic and Work Experience

Jun. 2018 – present **Research Engineering/Scientist Associate** at [CSR](#)²²,
[UTexas](#)²³, USA:

- Refinement of the last gravity field solutions from the GRACE mission;
- Assess signal continuity between GRACE and GRACE-FO²⁴;
- GRACE²⁵ mission-complete reprocessing;
- Time-varying gravity fields estimated from Kinematic Orbits;
- In-house software development in Matlab and Ruby.

Aug. 2016 – May 2018 **Postdoctoral Fellow** at [CSR](#)²⁶, [UTexas](#)²⁷, USA:

- Improvements in the calibration of the accelerometers on-board the GRACE²⁸ satellites, in particular in what relates to temperature effects;
- Determination of the (non-linear) long-term trends in the GRACE gravity field solutions and their prediction during the GRACE/GRACE-FO²⁹ gap;
- Time-varying gravity fields estimated from Kinematic Orbits;
- In-house software development in Matlab and Ruby.

²²Center for Space Research, www.csr.utexas.edu

²³University of Texas at Austin, www.utexas.edu

²⁴GRACE Follow On

²⁵Gravity Recovery And Climate Experiment

²⁶Center for Space Research, www.csr.utexas.edu

²⁷University of Texas at Austin, www.utexas.edu

²⁸Gravity Recovery And Climate Experiment

²⁹GRACE Follow On

Sep. 2011 – Jul. 2016 **Research Associate** at [AS](#), [TU Delft](#), the Netherlands:

- Calibration of the accelerometers on-board the Swarm satellites;
- Improvements in the modelling of non-conservative forces acting on satellites;
- Exploiting DSP³⁰ techniques to merge the measurement of non-gravitational accelerations from different sources: GPS³¹-driven and accelerometer observations;
- Time-varying gravity fields estimated from Kinematic Orbits;
- Research project: Assessment of Satellite Constellations for Monitoring the Variations in Earth's Gravity Field;
- Research project: GOCE+ Theme3: Air density and wind retrieval using GOCE³² data;
- Research project: Development of the Swarm Level 2 Algorithms and Associated Level 2 Processing Facility;
- In-house software development in Fortran, Matlab and Ruby;
- Student supervision and mentoring.

Jan. 2007 – Dec. 2015 **PhD Candidate** at [GRS](#), [TU Delft](#), the Netherlands:

- Simulation of future gravimetric satellite missions and noise budget of low-low satellite-to-satellite tracking gravimetric data;
- Impact of orbit position modelling errors in the quality of satellite gravimetric data;
- Retrieval of the high-frequency time-variable gravity field of the Earth with numerous satellites;
- Research project: Assessment of a Next Generation Gravity Mission for Monitoring the Variations of Earth's Gravity Field;
- Research project: Monitoring and Modelling Individual Sources of Mass Distribution and Transport in the Earth System by Means of Satellites;
- In-house software development in Fortran and Matlab;
- Student supervision and mentoring.

³⁰Digital Signal Processing

³¹Global Positioning System

³²Gravity field and steady-state Ocean Circulation Explorer

- Apr. 2005 – Nov. 2006 **Stress Engineer** at Global Technics³³, Leiden, the Netherlands:
 - Automated design (for weight and stress minimization) of fuselage panels for the Airbus A380 aircraft (in-house implementation of a tool in C++);
 - Trainees supervision and mentoring.
- Oct. 2004 – Jan. 2005 **Aerospace Engineer** at Delta-Utec³⁴, Leiden, the Netherlands:
 - Contractor Work: Implementation of a Sub-Orbital Optimization Module into the Simulation Tool COLVET (developed in-house at TU Delft).
- Mar. 2004 – Apr. 2004 **Trainee** at the Prins Maurits Laboratorium, TNO³⁵, the Netherlands
Supervisor: Ir. Berry Sanders, Rocket Technology Research Group:
 - Implementation of the Launch Vehicle Simulation and Optimisation Tool COLVET;
 - Numerical Simulations on Laser Propulsion (appendix of MSc thesis);
 - Collaboration with international colleagues (PT and NL) on a ESA³⁶-funded project to determine the feasibility of Laser Propulsion.
- Sep. 2001 – Dec. 2001 **Trainee** at ESTEC³⁷, ESA, Noordwijk, the Netherlands
Supervisor: Prof. Wubbo Ockels³⁸:
 - Collaboration with fellow MSc colleagues on a space mission design project: *Lunar Exploration with Ariane 5*;
 - Simulation of rocket ascent trajectories (implemented a 2D orbit integrator in Matlab);
 - Optimization of rocket trajectories, thrust and attitude program, fuel consumption and payload;
 - Preliminary lunar mission design.

Funding

³³www.globaltechnics.nl/

³⁴www.delta-utec.com/

³⁵www.tno.nl/

³⁶European Space Agency, www.esa.int

³⁷European Space Research and Technology Centre, www.esa.int/About_Us/ESTEC

³⁸en.wikipedia.org/wiki/Wubbo_Ockels

- Sep. 2017 – Sep. 2018 *Multi-approach gravity field models from Swarm GPS data*
- European Space Agency (Noordwijk, Netherlands)
 - Funding: 100k €
 - Contract: SD-ITT-1.1 (part of contract 4000109587/13/I-NB)

Awards

- 2017 H2020 Marie Skłodowska-Curie Individual Fellowship Seal of Excellent ³⁹ to the proposal on *Direct Gravimetric data assimilation into Geophysical models* ⁴⁰

Skills

- Communication: Numerous presentations of research results
- 8 oral
 - 7 poster
- Teaching:
- Student supervision in the context of individual and group assignments
 - Introductory lectures to the practical projects
- Theoretical:
- Parametric inversion
 - Statistical analysis
 - Stochastic modelling
 - Spherical harmonic functions
 - Digital signal processing
 - Coordinate transformations/quaternion arithmetic
 - Fourier analysis
- Articles review: Reviewed 13 scientific articles in 9 journals, cf. Publons ⁴¹
- Computational:
- Algorithm development and implementation
 - Data management, analysis and visualisation
 - Automation, robustness, fault recovery
 - Problem resolution/solution optimization/hacking
- Software: Latex, MS Office, Git, SVN

³⁹ec.europa.eu/research/soe/index.cfm?pg=what

⁴⁰jgte.github.io/permalinks/H2020_MSCA_IF_2017_Seal_of_Excellence-jgte.pdf

⁴¹publons.com/a/782170/

Programming: 1996 – present : Bash
1998 – present : Matlab
2002 – present : Fortran
2006 – 2008 : C/C++
2011 – present : Ruby
2017 – present : Python
Operating Systems: OSX, MS Windows, Unix/Linux

Fields of Interest

Space geodesy
Earth System Science
Mathematical Modelling
Digital signal processing
Numerical Simulation
Big data
Rocket Motion and Orbital Mechanics
System Analysis and Design
Aerodynamics
Structural Mechanics

Collaborations

2017 – present Collaboration with Dr. Guillaume Ramillien from [CNRS](#)⁴² and Dr. Aleš Bezděk the [ASU](#)⁴³ of the [AVCR](#)⁴⁴ to **drive surface mass variations directly from “reduced” gravimetric data** (i.e. observations “cleaned” of non-gravitational and trivial gravitational effects).
2015 – present International collaboration with Prof. Torsten Mayer-Gürr of the [IfG](#)⁴⁵ of the [TUG](#)⁴⁶, Dr. Aleš Bezděk of the [ASU](#) of the [AVCR](#)⁴⁷, Prof. Adrian Jäggi of the [AIUB](#)⁴⁸, Prof. Pieter Visser of the Aerospace Faculty⁴⁹ of the [TU Delft](#) and Prof. C.K. Shum of the [SES](#)⁵⁰ of the [OSU](#)⁵¹ for the **study of the time-variable gravity field of the Earth estimated from GPS data collected by the Swarm Satellite mission**⁵². These activities have started before we were awarded the funding ITT posted by the [ESA](#)-funded DISC consortium⁵³.

⁴²Centre National de la Recherche Scientifique, www.cnrs.fr/index.php

⁴³Astronomical Institute, www.asu.cas.cz/en

⁴⁴Czech Academy of Sciences, www.avcr.cz/en/

⁴⁵Institute of Geodesy, www.itsg.tugraz.at

⁴⁶Graz University of Technology, www.tugraz.at

⁴⁷Czech Academy of Sciences, www.avcr.cz/en/

⁴⁸Astronomical Institute of the University of Bern, www.aiub.unibe.ch

⁴⁹www.lr.tudelft.nl

⁵⁰School of Earth Science, earthsciences.osu.edu

⁵¹Ohio State University, www.osu.edu

⁵²earth.esa.int/web/guest/missions/esa-operational-eo-missions/swarm

⁵³tinyurl.com/SwarmGrav

- 2014 – present Collaboration with [TU Delft](#) on the DopTrack project ⁵⁴, consisting of a **satellite tracking radio station that exploits the Doppler effect**; co-initiated and promoted the project, secured departmental funding, selected and assembled the hardware, developed software, engaged students and mentored practical undergraduate projects.

Research Projects

- 2017 – 2018 Multi-approach gravity field models from Swarm GPS data (DISC contract SD-ITT-1.1, part of ESA contract 4000109587/13/I-NB)
- 2013 – 2015 Assessment of Satellite Constellations for Monitoring the Variations in Earth's Gravity Field (ESA contract 4000108663/13/NL/MV)
- 2013 GOCE+ Theme3: Air density and wind retrieval using GOCE data (ESA contract 400010284/11/NL/EL)
- 2011 – 2016 Development of the Swarm Level 2 Algorithms and Associated Level 2 Processing Facility (ESA Contract 4000102140/10/NL/JA)
- 2010 Assessment of a Next Generation Gravity Mission for Monitoring the Variations of Earth's Gravity Field (ESTEC contract 22643/09/NL/AF)
- 2008 Monitoring and Modelling Individual Sources of Mass Distribution and Transport in the Earth System by Means of Satellites (ESA contract 20403)

Journal publications

1. Bezděk, A., Sebera, J., **Teixeira da Encarnação, J.**, Klokočník, J., (2016). "Time-variable gravity fields derived from GPS tracking of Swarm". In: *Geophys. J. Int.* 205.3, pp. 1665–1669. DOI: [10.1093/gji/ggw094](#).
2. Siemes, C., **de Teixeira da Encarnação, J.**, Doornbos, E., IJssel, J., Kraus, J., Perešty, R., Grunwaldt, L., Apelbaum, G., Flury, J., Holmdahl Olsen, P. E., (2016). "Swarm accelerometer data processing from raw accelerations to thermospheric neutral densities". In: *Earth, Planets Sp.* 68.1, p. 92. DOI: [10.1186/s40623-016-0474-5](#).
3. **Teixeira da Encarnação, J.**, Arnold, D., Bezděk, A., Dahle, C., Doornbos, E., IJssel, J., Jäggi, A., Mayer-Gürr, T., Sebera, J., Visser, P., Zehentner, N., (2016). "Gravity field models derived from Swarm GPS data". In: *Earth, Planets Sp.* 68.1, p. 127. DOI: [10.1186/s40623-016-0499-9](#).
4. IJssel, J., **Encarnação, J.**, Doornbos, E., Visser, P., (2015). "Precise science orbits for the Swarm satellite constellation". In: *Adv. Sp. Res.* 56.6, pp. 1042–1055. DOI: [10.1016/j.asr.2015.06.002](#).
5. Hashemi Farahani, H., Ditmar, P., Klees, R., **Teixeira da Encarnação, J.**, Liu, X., Zhao, Q., Guo, J., (2013). "Validation of static gravity field models using GRACE K-band ranging and GOCE gradiometry data". In: *Geophys. J. Int.* 194.2, pp. 751–771. DOI: [10.1093/gji/ggt149](#).

⁵⁴ [doptrack.tudelft.nl](#)

6. Olsen, N., Alken, P., Beggan, C. D., Chulliat, A., Doornbos, E., **Encarnação, J.**, Floberghagen, R., Friis-Christensen, E. A., Hamilton, B., Hulot, G., IJssel, J., Kuvshinov, A. V. A., Lesur, V., Luhr, H., Macmillan, S., Maus, S., Olsen, P. E. H., Park, J., Plank, G., Püthe, C., Ritter, P., Rother, M., Sabaka, T. J., Stolle, C., Thebault, E., Thomson, A. W. P., Tøffner-Clausen, L., Velimsky, J., Visser, P. N.A. M., Luehr, H., Noja, M., Puethe, C., Rauberg, J., Schachtschneider, R., Sirol, O., Toeffner-Clausen, L., Vigneron, P., Püthe, C., Velimský, J., Floberghagen, R., Alken, P., Beggan, C. D., Chulliat, A., Doornbos, E., **Encarnação, J. T.**, Hamilton, B., Hulot, G., IJssel, J., Kuvshinov, A. V. A., Lesur, V., Lühr, H., Macmillan, S., Maus, S., Noja, M., Olsen, P. E. H., Park, J., Plank, G., Püthe, C., Rauberg, J., Ritter, P., Rother, M., Sabaka, T. J., Schachtschneider, R., Sirol, O., Stolle, C., Thébault, E., Thomson, A. W. P., Tøffner-Clausen, L., Velimský, J., Vigneron, P., Visser, P. N.A. M., (2013). "The Swarm Satellite Constellation Application and Research Facility (SCARF) and Swarm data products". In: *Earth, Planets Sp.* 65.11, p. 100. DOI: [10.5047/eps.2013.07.001](https://doi.org/10.5047/eps.2013.07.001).
7. Visser, P., Doornbos, E., Van Den IJssel, J., Da Encarnação, J., **Teixeira da Encarnação, J.**, (2013). "Thermospheric density and wind retrieval from Swarm observations". In: *Earth, Planets Sp.* 65.11, pp. 1319–1331. DOI: [10.5047/eps.2013.08.003](https://doi.org/10.5047/eps.2013.08.003).
8. Ditmar, P., **Encarnação, J.**, Hashemi Farahani, H., (2012). "Understanding data noise in gravity field recovery on the basis of inter-satellite ranging measurements acquired by the satellite gravimetry mission GRACE". In: *J. Geod.* 86.6, pp. 441–465. DOI: [10.1007/s00190-011-0531-6](https://doi.org/10.1007/s00190-011-0531-6).
9. Gunter, B. C., **Encarnacao, J.**, Ditmar, P., Klees, R., (2011). "Using Satellite Constellations for Improved Determination of Earth's Time-Variable Gravity". In: *J. Spacecr. Rockets* 48.2, pp. 368–377. DOI: [10.2514/1.50926](https://doi.org/10.2514/1.50926).
10. Resendes, D. P., Mota, S., Mendonça, J. T., Sanders, B., **Encarnação, J.**, Del Amo, J. G., (2007). "Laser Propulsion for Ground Launch". en. In: *J. Propuls. Power* 23.1, pp. 73–80. DOI: [10.2514/1.24527](https://doi.org/10.2514/1.24527).

Conference proceedings (peer-reviewed)

1. Gunter, B. C., **Encarnação, J.**, Ditmar, P., Klees, R., Van Barneveld, P. W. L., Visser, P., (2012). "Deriving global time-variable gravity from precise orbits of the Iridium NEXT constellation". In: *Adv. Astronaut. Sci.* Vol. 142, pp. 2087–2096. URL: <http://www.univelt.com/book=3354>.
2. Gunter, B. C., Ditmar, P., **Encarnação, J.**, (2010). "The determination of time variable gravity from a constellation of non-dedicated satellites". In: *Adv. Astronaut. Sci.* Pittsburgh, pp. 1999–2007. URL: <http://www.univelt.com/book=1349>.
3. Gunter, B. C., **Encarnação, J.**, Ditmar, P., Klees, R., (2009). "The use of satellite constellations and formations for future gravity field missions". In: *Adv. Astronaut. Sci.* Savannah, pp. 1357–1368. URL: <http://www.univelt.com/book=1451>.

4. **Encarnação, J.**, Ditmar, P., Liu, X., (2008). "Analysis of Satellite Formations in the Context of Gravity Field Retrieval". In: *3rd Int. Symp. Form. Flying, Mission. Technol.* Ed. by K Fletcher. Vol. ESA SP-654. 654 SP. Rijswijk: ESA Communication Production Office, pp. 1–9. URL: <https://tinyurl.com/3rdISFFMT>.
5. **Encarnação, J.**, Klees, R., Zapreeva, E., Ditmar, P., Kusche, J., (2008). "Influence of Hydrology-Related Temporal Aliasing on the Quality of Monthly Models Derived from GRACE Satellite Gravimetric Data". In: *Obs. our Chang. Earth* 133, pp. 323–328. DOI: [10.1007/978-3-540-85426-5_38](https://doi.org/10.1007/978-3-540-85426-5_38).
6. Resendes, D. P., Mota, S., Mendonça, J. T., Sanders, B., **Encarnação, J.**, Amo, J. G., Myrabo, L. N., (2006). "Laser Propulsion for ESA Missions: Ground to Orbit Launch Project Overview — Part 1". en. In: *AIP Conf. Proc.* Vol. 830. 1. AIP, pp. 576–587. DOI: [10.1063/1.2203299](https://doi.org/10.1063/1.2203299).
7. Resendes, D. P., Mota, S., Mendonça, J. T., Sanders, B., **Encarnação, J.**, Del Amo, J. G., (2005). "Laser Propulsion for Ground Launch". In: *29th Int. Electr. Propuls. Conf.* IEPC-2005-310. URL: http://erps.spacegrant.org/uploads/images/images/iepc_articledownload_1988-2007/2005index/310.pdf.

Invited Presentations

1. **Teixeira Encarnação, J.** (2017). "Satellite Gravimetry". In: *Summer Sch. Data Assim. its Appl. Oceanogr. Hydrol. Risk Saf. Reserv. Eng.* URL: <http://data-assimilation.com>.
2. **Teixeira Encarnação, J.**, Arnold, D., Bezdek, A., Dahle, C., Doornbos, E., Ijssel, J. V. D., Jäggi, A., Mayer-gürr, T., Sebera, J., Visser, P., Zehentner, N., (2015). "First monthly gravity field solutions derived from GPS orbits of Swarm". In: *AGU Fall Meet. Abstr.* San Francisco, CA, USA. URL: <https://agu.confex.com/agu/fm15/webprogram/Paper71877.html>.

Conference Attendance

1. **Encarnacao, J.**, Save, H., Siemes, C., Doornbos, E., Tapley, B., (2017). "Temperature corrected-calibration of GRACE's accelerometer". In: *AGU Fall Meet. Abstr.* 5.512, p. 78759. DOI: [10.13140/RG.2.2.20396.97929](https://doi.org/10.13140/RG.2.2.20396.97929). URL: <https://agu.confex.com/agu/fm17/meetingapp.cgi/Paper/288232>.
2. **Teixeira Encarnação, J.**, Arnold, D., Bezdek, A., Dahle, C., Doornbos, E., Ijssel, J. V. D., Jäggi, A., Mayer-gürr, T., Sebera, J., Shum, C., Visser, P., Zehentner, N., (2017). "Gravity field models derived from Swarm GPS data". In: *EGU Gen. Assem.* Vienna, Austria. URL: <https://tinyurl.com/gswarmEGU2017>.
3. **Teixeira Encarnação, J.**, Arnold, D., Bezdek, A., Dahle, C., Jäggi, A., Mayer-gürr, T., Sebera, J., Visser, P., Zehentner, N., (2016). "Gravity field models derived from Swarm GPS data". In: *EGU Gen. Assem.* Vienna, Austria. DOI: [10.13140/RG.2.1.3909.4642](https://doi.org/10.13140/RG.2.1.3909.4642).

4. **Encarnacao, J.**, Ditmar, P., Klees, R., (2015). *Impact of Orbit Position Errors on Future Satellite Gravity Models*. URL: <http://adsabs.harvard.edu/abs/2015AGUFM.G31B1114E>.
5. **Teixeira Encarnação, J.**, IJssel, J., Doornbos, E., Visser, P. N., (2015). "Frequency domain combination of POD-driven and measured accelerations". In: *5th Swarm Data Qual. Work*. Paris, France.
6. **Teixeira Encarnação, J. G.**, IJssel, J., Doornbos, E., Visser, P., (2014a). "POD-assisted calibration of Swarms Accelerometer Data". In: *4th Swarm Data Qual. Work*. December. Postdam, Germany.
7. **Teixeira Encarnação, J.**, Doornbos, E., IJssel, J., Visser, P. N., (2014b). "Combination of Swarm's Uncalibrated Accelerometer Data with POD-Based Accelerometry". In: *3rd Swarm Sci. Meet*. Copenhagen, Denmark, p. 2.
8. **Teixeira Encarnação, J.**, IJssel, J., Doornbos, E., Visser, P. N., (2014c). "Preliminary analysis of accelerometer data". In: *2nd Swarm Data Qual. Work*. Rome, Italy.
9. **Encarnação, J.**, Ditmar, P., Liu, X., (2008). "Analysis of Satellite Formations in the Context of Gravity Field Retrieval". In: *3rd Int. Symp. Form. Flying, Mission. Technol.* Ed. by K Fletcher. Vol. ESA SP-654. 654 SP. Rijswijk: ESA Communication Production Office, pp. 1–9. URL: <https://tinyurl.com/3rdISFFMT>.
10. **Teixeira Encarnação, J.**, Ditmar, P. G., Klees, R., (2008). "Spectral analysis of positioning modelling errors in gravimetric data". In: *IAG Symp. Gravity, Geoid, Earth Obs*. Chania, Greece.
11. **Teixeira Encarnação, J. G.**, Ditmar, P. G., Klees, R., (2007a). "Temporal aliasing in GRACE monthly solutions". In: *Intergeo*. Leipzig, Germany.
12. **Teixeira Encarnação, J.**, Ditmar, P. G., Klees, R., (2007b). "Influence of hydrology-related temporal aliasing on the quality of monthly models derived from GRACE satellite gravimetric data". In: *VMSG Symp*. Utrecht, The Netherlands.
13. **Encarnação, J.** (2002). "Single Stage To Orbit Minimum Requirements Through Numerical Simulation". In: *34th COSPAR Sci. Assem. Second World Sp. Congr*. Houston, TX, USA: IAF. URL: <http://adsabs.harvard.edu/abs/2002iaf.confE.984T>.

Conference Contributions

1. **Teixeira Encarnação, J.**, Arnold, D., Bezdek, A., Dahle, C., Jäggi, A., Mayer-gürr, T., Sebera, J., Shum, C., Visser, P., Zehentner, N., (2017). "Swarm as an Observing Platform for Large Surface Mass Transport Processes". In: *4th Swarm Sci. Meet*. Banff, Canada. URL: <http://tinyurl.com/Swarm-Banff>.
2. Doornbos, E., **de Teixeira da Encarnação, J.**, IJss, J., Siemes, C., Grunwaldt, L., Peresty, R., Kraus, J., Flury, J., Apelbaum, G., Olsen, P. E. H., (2016). "Thermospheric neutral densities derived from Swarm accelerometer and GPS data". In: *ESA Living Planet Symp. 2016*.

3. Jäggi, A., Meyer, U., Jean, Y., Susnik, A., Dach, R., Weigelt, M., Dam, T., Li, Z., Chen, Q., Flechtner, F., Gruber, C., Poropat, L., Güntner, A., Gouweleeuw, B., Mayer-Gürr, T., Kvas, A., Klinger, B., Martinis, S., Zwenzner, H., Bruinsma, S., Lemoine, J.-M., Biancale, R., Flury, J., Bandikova, T., Bourgogne, S., Steffen, H., **de Teixeira da Encarnação, J.**, Horwath, M., (2016). "European Gravity Service for Improved Emergency Management - Status and Project Highlights". In: *Int. Assoc. Geod. Symp.* Springer, p. 1.
4. Siemes, C., Grunwaldt, L., Peresty, R., Kraus, J., Doornbos, E., **de Teixeira da Encarnação, J.**, IJssel, J., Flury, J., Apelbaum, G., Olsen, P. E. H., (2016). "Improvements of the Swarm Accelerometer Data Processing". In: *ESA Living Planet Symp. 2016*.
5. Sneew, N., Iran Pour, S., Reubelt, T., Daras, I., Murböck, M., Pail, R., Gruber, T., Visser, P., **Encarnacao, J.**, IJssel, J., Others, (2016). "ESA SC4MGV Study - Assessment of Satellite Constellations for Monitoring the Variations in Earth Gravity Field". In: *Living Planet Symp. 2016*.
6. Astafyeva, E., Zakharenkova, I., Foerster, M., Doornbos, E., **Teixeira da Encarnacao, J.**, Siemes, C, (2015). "Ionospheric and Thermospheric Response to the 2015 St. Patrick's Day Storm - a Global Multi-Instrumental Overview". In: *AGU Fall Meet. Abstr.*
7. Doornbos, E, Siemes, C, **Teixeira da Encarnação, J.**, Peresty, R, Grunwaldt, L, Kraus, J, Holmdahl Olsen, P. E., IJssel, J, Flury, J, Apelbaum, G, (2015). "Processing of Swarm Accelerometer Data into Thermospheric Neutral Densities". In: *AGU Fall Meet. Abstr.*
8. Siemes, C., **Encarnacao, J.**, Doornbos, E., Peresty, R., Grunwaldt, L., Kraus, J., Olsen, P. E. H., IJssel, J., Flury, J., Apelbaum, G., (2015). "Processing of Swarm Accelerometer Data into Thermospheric Neutral Densities". In: *AGU Fall Meet. Abstr.* Abstract SA31D-2371. San Francisco, CA, USA. URL: <http://abstractsearch.agu.org/meetings/2015/FM/SA31D-2371.html>.
9. Bruinsma, S, Doornbos, E, Siemes, C, Peresty, R, Kraus, J, Bezdek, A, IJssel, J, **Teixeira da Encarnação, J.**, Visser, P. N., (2014). "Results from the First Year of Swarm GPS Receiver and Accelerometer Data". In: *AGU Fall Meet. Abstr.*
10. Iran Pour, S, Weigelt, M, Murböck, M, Tonetti, S, Visser, P, Daras, I, **Encarnacao, J.**, Cesare, S, Siemes, C, IJssel, J, Others, (2014). "Search strategies for optimal double pair scenarios for future gravity satellite missions - experience from the ESA SC4MGV project". In: *5th Int. GOCE User Work.*
11. Doornbos, E, Bruinsma, S, Fritsche, B, Visser, P, Van Den IJssel, J, **de Teixeira da Encarnação, J.**, Kern, M, (2013). "Air density and wind retrieval using GOCE data". In: *ESA Living Planet Symp. Vol. 722*, p. 7.

12. Olsen, N., Alken, P., Beggan, C., Chulliat, A., Doornbos, E., **Encarnação, J.**, Floberghagen, R., Friis-Christensen, E. A., Hamilton, B., Hulot, G., IJssel, J. V. D., Kuvshinov, A. V., Lesur, V., Luhr, H., Macmillan, S., Maus, S., Olsen, P. E. H., Park, J., Plank, G., Püthe, C., Ritter, P., Rother, M., Sabaka, T. J., Stolle, C., Thebault, E., Thomson, A. W. P., Tøffner-Clausen, L., Velimsky, J., Visser, P. N., (2013). "SCARF - the swarm satellite constellation application and research facility". In: *ESA Living Planet Symp.* Edinburgh, United Kingdom: European Space Agency, p. 100. URL: <https://tinyurl.com/SCARFLPS2013>.
13. Doornbos, E., Bruinsma, S., Koppenwallner, G., Fritsche, B., IJssel, J., Visser, P., **Teixeira da Encarnação, J.**, Kern, M., (2012). "Thermospheric density and wind from GOCE thruster activation and accelerometer data". In: *EGU Gen. Assem. Conf. Abstr.* Vol. 14, p. 5634.
14. Gunter, B. C., **Teixeira da Encarnação, J.**, Ditmar, P., Klees, R., (2012). "Potential contributions to space geodesy from the IridiumNEXT constellation". In: *AGU Fall Meet. Abstr.*
15. Gunter, B., **Teixeira da Encarnação, J.**, Ditmar, P., Klees, R., (2011). "An investigation into new advances in geodesy utilizing future satellite constellations". In: *AGU Fall Meet. Abstr.*
16. Ditmar, P., Hashemi Farahani, H., **Teixeira da Encarnação, J.**, (2010). "Mitigation of along-track artifacts in unconstrained mass transport models based on GRACE satellite data". In: *EGU Gen. Assem. Conf. Abstr.* Vol. 12, p. 10393.
17. Gunter, B., **Teixeira da Encarnação, J.**, Ditmar, P., Klees, R., (2010). "Using existing satellite constellations to complement current and future dedicated gravity field missions". In: *AGU Fall Meet. Abstr.*
18. Hashemi Farahani, H., Ditmar, P., **Teixeira da Encarnação, J.**, Liu, X., (2010). "Contribution of an accurate determination of GRACE satellite orbits to precise mass transport modeling". In: *EGU Gen. Assem. Conf. Abstr.* Vol. 12, p. 10867.

Miscellaneous Contributions

1. Sneeuw, N., Iran-Pour, S., Reubelt, T., Sneeuw, N., Daras, I., Murböck, M., Gruber, T., Pail, R., Weigelt, M., Dam, T., Visser, P., **Teixeira Encarnação, J.**, IJssel, J., Tonetti, S., Cornara, S., Cesare, S., (2015). *Assessment of Satellite Constellations for Monitoring the Variations in Earth Gravity Field "SC4MGV"*. Tech. rep. European Space Agency. URL: <https://tinyurl.com/SC4MGV>.
2. Anselmi, A., Cesare, S., Visser, P., Van Dam, T., Sneeuw, N., Gruber, T., Altes, B., Christophe, B., Cossu, F., Ditmar, P., Murboeck, M., Parisch, M., Renard, M., Reubelt, T., Sechi, G., **Teixeira Encarnação, J.**, (2010). *Assessment of a next Generation Gravity Mission for Monitoring the Variations of Earth's Gravity Field*. Tech. rep. Thales Alenia Space report SD-RP-AI-0668: ESA Contract No. 22643/09/NL/AF. URL: <https://tinyurl.com/ANGMMVEGF>.

Languages

	Speaking	Reading	Writing
Portuguese		mother tongue	
English ^a	excellent	excellent	excellent
Spanish	good	good	fair
Italian	good	good	fair
Dutch	fair	fair	limited
French	fair	fair	limited

^aholding the Certificate of Proficiency in English ^b

Personal development

- Sep. 2017 Dealing with Difficult People, Jeff Stellmach, [UTexas](#)
- Sep. 2017 Conflict Management Foundations, Kimberly Sullivan, [UTexas](#)
- Jul. 2017 Leading without formal authority, Emil Kresl, [UTexas](#)
- Jul. 2017 Meeting effectiveness, Emil Kresl, [UTexas](#)
- Sep. 2015 Scientific Writing, Sören Johnson, [TU Delft](#)

Sports

- 1991 – 2009 Basketball
- Apr. 2006 Finalist of the 26th International Fortis Marathon of Rotterdam⁵⁵
- Sep. 2016 – present Sailing

Other Activities

- 1991 – 2001 Scout at the 92nd Scout-group of the Association of Portuguese Escoteiros⁵⁶
- 1993 – present Radio Amateur, call sign CT3IU, class B

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