

# João de Teixeira da Encarnação

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

## Personal Information

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**Full Name:** João Gregório de Teixeira da Encarnação  
**Birth:** 25<sup>th</sup> of February 1977 at Funchal, Portugal  
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**Address:** 3925 W Braker Lane  
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[Mendeley](#), [SCOPUS](#), [Publons](#), [GitHub](#)

## Education

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- 2015 **PhD in Space Geodesy**  
Geoscience and Remote Sensing ([GRS](#)), Delft University of Technology ([TU Delft](#))  
Dissertation: [Next-generation satellite gravimetry for measuring mass transport in the Earth system](#)  
Promotor: [Prof. Dr-Ing. habil. Roland Klees](#)  
Supervisor: [Dr. Ir. Pavel Ditmar](#)
- 2004 **Master of Sciences in Aerospace Engineering**  
Astrodynamics and Space missions ([AS](#)), [TU Delft](#)  
Final Thesis: *Numerical Simulation of Launch Vehicles*  
Supervisor: [Prof. Ir. B.A.C. Ambrosius](#)
- 2000 **Licenciatura ([Licenciate](#)) in Aerospace Engineering**  
Instituto Superior Técnico ([IST](#)), Technical University of Lisbon ([UTL](#))  
5<sup>th</sup> year concluded at [TU Delft](#), through the [ERASMUS program](#)  
Report: *Optimum Aerodynamic Shape for a High Altitude Long Endurance Aerostatic Platform*  
Supervisor: Prof. Dr. Ir. Theo van Holten

## Academic and Research Experience

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Aug. 2016 – present

**Research Associate** at Center for Space Research ([CSR](#)), University of Texas at Austin ([UTexas](#)), USA:

- Improvements in the calibration of the accelerometers on-board the Gravity Recovery And Climate Experiment (GRACE) 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 Follow On (GRACE-FO) gap;
- Time-varying gravity fields estimated from Kinematic Orbits;
- In-house software development in Matlab and Ruby.

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 Digital Signal Processing (DSP) techniques to merge the measurement of non-gravitational accelerations from different sources: Global Positioning System (GPS)-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 Gravity field and steady-state Ocean Circulation Explorer (GOCE) 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.
- Apr. 2005 – Nov. 2006    **Stress Engineer** at [Global Technics](#), 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-Utec](#), 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, [TNO](#), 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 European Space Agency ([ESA](#))-funded project to determine the feasibility of Laser Propulsion.

Sep. 2001 – Dec. 2001    **Trainee** at European Space Research and Technology Centre (ESTEC), ESA, Noordwijk, the Netherlands

Supervisor: [Prof. Wubbo Ockels](#):

- 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.

## Teaching Experience

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At TU Delft, I was required to supervise student projects of a practical nature, every year. This means that I had to direct the work of a small group of students (7 to 9) to a particular objective. It is an activity I enjoy doing and I see the students are enthusiastic about. I always ask them to fill (anonymously) a short list of questions regarding their opinion of the project and my ability as instructor (these answer sheets are available if requested). I always get encouraging and positive feedback.

My senior colleagues always grade my teaching activities as very good to excellent and I am often asked by students to support their application with recommendation letters.

In what concerns teaching large groups of students, I have given lectures to classes of about 30 students, on exceptional occasions, at the request of colleagues.

Additionally, I was a lecturer at the 2017 Summer School On Data Assimilation And Its Applications In Oceanography, Hydrology, Risk & Safety And Reservoir Engineering (cf. [data-assimilation.com](http://data-assimilation.com)).

I value all teaching my experiences because they were extremely rewarding.

## Skills

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Communication: Numerous presentations of research results (8 oral and 4 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:	Successfully completed the review of 8 scientific articles, cf. <a href="#">Publons</a>
Computational:	<ul style="list-style-type: none"><li>• Algorithm development and implementation</li><li>• Data management, analysis and visualisation</li><li>• Automation, robustness, fault recovery</li><li>• Problem resolution/solution discovery/hacking</li></ul>
Software:	Latex, MS Office, Git, SVN
Programming:	<ul style="list-style-type: none"><li>• 1996 – present: Bash</li><li>• 1998 – present: Matlab</li><li>• 2002 – present: Fortran</li><li>• 2006 – 2008: C/C++</li><li>• 2011 – present: Ruby</li><li>• 2015 – present: Python</li></ul>
OSs:	OSX, MS Windows, Unix/Linux

## Fields of Interest

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Space geodesy

Earth System modelling

Digital signal processing

Numerical Simulation

Big data

Rocket Motion and Orbital Mechanics

Preliminary Vehicle Design

Aerodynamics

Structural Mechanics

## Collaborations

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2017 – present    Collaboration with Dr. Guillaume Ramillien from Centre National de la Recherche Scientifique ([CNRS](#)) and Dr. Aleš Bezděk the Astronomical Institute ([ASU](#)) of the Czech Academy of Sciences ([AVCR](#)) to **drive surface mass variations directly from “reduced” gravimetric data** (i.e. observations “cleaned” of non-gravitational and trivial gravitational effects).

- 2017 – present Collaboration with Dr. Noble Hatten and Dr. Dae Lee of the [CSR, UTexas](#) for the **development of a CubeSat architecture that replicates the gravimetric capabilities of the GRACE satellites.**
- 2016 – present International collaboration with Prof. Luis Rocha of Universidade do Minho ([UMinho](#)) and Dr. Dae Lee of the [CSR, UTexas](#) for the **development of a MEMS-based space accelerometer as a first step towards the nano-gravimetric satellite framework.**
- 2015 – present International collaboration with Prof. Torsten Mayer-Gürr of the Institute of Geodesy ([IfG](#)) of the Graz University of Technology ([TUG](#)), Dr. Aleš Bezděk of the [ASU](#) of the Czech Academy of Sciences ([AVCR](#)), Prof. Adrian Jäggi of the Astronomical Institute of the University of Bern ([AIUB](#)), Prof. Pieter Visser of the [Aerospace Faculty](#) of the [TU Delft](#) and Prof. C.K. Shum of the School of Earth Science ([SES](#)) of the Ohio State University ([OSU](#)) for the **study of the time-variable gravity field of the Earth estimated from GPS data collected by the Swarm Satellite mission.** Within the scope of this project, we submitted a grant application with very positive reviews (Ref. ESA AO/1-7927/14/NL/MP), and have recently been awarded funding under the [ITT posted by the ESA-funded aDISC consortium](#)
- 2014 – present Collaboration with [TU Delft](#) on the [DopTrack project](#), 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

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- 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

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- Bezděk, A., Sebera, J., **Encarnação, J. T.**, 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](https://doi.org/10.1093/gji/ggw094).

- 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](https://doi.org/10.1186/s40623-016-0474-5).
- 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](https://doi.org/10.1186/s40623-016-0499-9).
- 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](https://doi.org/10.1016/j.asr.2015.06.002).
- Hashemi Farahani, H., Ditmar, P., Klees, R., **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](https://doi.org/10.1093/gji/ggt149).
- 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., Tøffner-Clausen, L., Vigneron, P., Püthe, C., Velimský, J., (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).
- Visser, P., Doornbos, E., IJssel, 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).
- 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).
- 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).
- 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).
- Resendes, D. P., Mota, S., Mendonça, J. T., Sanders, B., **Encarnação, J.**, Del Amo, J. G., (2007). "Laser Propulsion for Ground Launch". 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)

- 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 con-

- stellation". In: *Adv. Astronaut. Sci.* Vol. 142, pp. 2087–2096. URL: <http://www.univelt.com/book=3354>.
- 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>.
- 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>.
- 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. Rijswijk: ESA Communication Production Office, pp. 1–9. URL: [https://pure.tudelft.nl/portal/en/publications/analysis-of-satellite-formations-in-the-context-of-gravity-field-retrieval\(1489930e-7dbd-4a4b-9bf2-f15b8380ad12\).html](https://pure.tudelft.nl/portal/en/publications/analysis-of-satellite-formations-in-the-context-of-gravity-field-retrieval(1489930e-7dbd-4a4b-9bf2-f15b8380ad12).html).
- 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).
- Resendes, D. P., Mota, S., Mendonça, J. T., Sanders, B., **Encarnação, J.**, Amo, J. G., Prins, T. N. O., (2005). "Laser Propulsion for Ground to Orbit Launch". In: *29th Int. Electr. Propuls. Conf. IEPC-2005-310*, pp. 1–8. URL: [http://erps.spacegrant.org/uploads/images/images/iepc\\_articledownload\\_1988-2007/2005index/310.pdf](http://erps.spacegrant.org/uploads/images/images/iepc_articledownload_1988-2007/2005index/310.pdf).

## Invited Presentations

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- Teixeira Encarnação, J.** (2017). "Satellite Gravimetry". In: *Summer Sch. Data Assim. its Appl. Oceanogr. Hydrol. Risk Saf. Reserv. Eng.* Sibiu, Romania. URL: <http://data-assimilation.com>.
- 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

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- 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., (2017a). "Gravity field models derived from Swarm GPS data". In: *EGU Gen. Assem.* Vienna, Austria. URL: [https://www.researchgate.net/publication/319914485\\_Gravity\\_field\\_models\\_derived\\_from\\_Swarm\\_GPS\\_data](https://www.researchgate.net/publication/319914485_Gravity_field_models_derived_from_Swarm_GPS_data).
- Teixeira Encarnação, J.**, Arnold, D., Bezdek, A., Dahle, C., Jäggi, A., Mayer-gürr, T., Sebera, J., Shum, C., Visser, P., Zehentner, N., (2017b). "Swarm as an Observing Platform for Large Surface Mass Transport Processes". In: *4th Swarm Sci. Meet.* Banff, Canada. URL: <http://tinyurl.com/Swarm-Banff>.



- 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., (2016a). "Gravity field models derived from Swarm GPS data". In: *ESA Living Planet*. Prague, Czech Republic. DOI: [10.13140/RG.2.1.2729.8162](https://doi.org/10.13140/RG.2.1.2729.8162).
- Teixeira Encarnação, J.**, Arnold, D., Bezdek, A., Dahle, C., Jäggi, A., Mayer-gürr, T., Sebera, J., Visser, P., Zehentner, N., (2016b). "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).
- Encarnacao, J.**, Ditmar, P., Klees, R., (2015). "Impact of Orbit Position Errors on Future Satellite Gravity Models". In: *Am. Geophys. Union, Fall Meet. 2015*. G31B-1114. URL: <http://adsabs.harvard.edu/abs/2015AGUFM.G31B1114E>.
- 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.
- 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.
- 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.
- Teixeira Encarnação, J.**, IJssel, J., Doornbos, E., Visser, P. N., (2014c). "Preliminary analysis of accelerometer data". In: *2nd Swarm Data Qual. Work.* Rome, Italy.
- 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. Rijswijk: ESA Communication Production Office, pp. 1-9. URL: [https://pure.tudelft.nl/portal/en/publications/analysis-of-satellite-formations-in-the-context-of-gravity-field-retrieval\(1489930e-7dbd-4a4b-9bf2-f15b8380ad12\).html](https://pure.tudelft.nl/portal/en/publications/analysis-of-satellite-formations-in-the-context-of-gravity-field-retrieval(1489930e-7dbd-4a4b-9bf2-f15b8380ad12).html).
- 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.
- Teixeira Encarnação, J. G.**, Ditmar, P. G., Klees, R., (2007a). "Temporal aliasing in GRACE monthly solutions". In: *Intergeo*. Leipzig, Germany.
- 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.
- 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

- Doornbos, E., **de Teixeira da Encarnação, t.**, 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 Symposium 2016*.

- Jäggi, A., Meyer, U., Jean, Y., Susnik, A., Dach, R., Weigelt, M., Dam, T., Li, Z., Chen, Q., Flechtner, F., (2016). "European Gravity Service for Improved Emergency Management-Status and Project Highlights". In: *International Association of Geodesy Symposia*. Springer, p. 1.
- Siemes, C., Grunwaldt, L., Peresty, R., Kraus, J., Doornbos, E., **de Teixeira da Encarnação**, t., IJssel, J., Flury, J., Apelbaum, G., Olsen, P. E. H., (2016). "Improvements of the Swarm Accelerometer Data Processing". In: *ESA Living Planet Symposium 2016*.
- Astafyeva, E., Zakharenkova, I., Foerster, M., Doornbos, E., **de Teixeira da Encarnação**, t., Siemes, C., (2015). "Ionospheric and Thermospheric Response to the 2015 St. Patrick's Day Storm: a Global Multi-Instrumental Overview". In: *AGU Fall Meeting Abstracts*.
- Doornbos, E., Siemes, C., **de Teixeira da Encarnação**, t., Peresty, R., Grunwaldt, L., Kraus, J., Holmdahl Olsen, P., IJssel, J., Flury, J., Apelbaum, G., (2015). "Processing of Swarm Accelerometer Data into Thermospheric Neutral Densities". In: *AGU Fall Meeting Abstracts*.
- 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>.
- Bruinsma, S., Doornbos, E., Siemes, C., Peresty, R., Kraus, J., Bezdek, A., IJssel, J., **de Teixeira da Encarnação**, t., Visser, P., (2014). "Results from the First Year of Swarm GPS Receiver and Accelerometer Data." In: *AGU Fall Meeting Abstracts*.
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## Languages

	Speaking	Reading	Writing
Portuguese		mother tongue	
English <sup>1</sup>	excellent	excellent	excellent
Spanish	good	good	fair
Italian	good	good	fair
Dutch	fair	fair	limited
French	fair	fair	limited

## Personal development

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

## Sports

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1991 – 2009	Basketball
April 2006	Finalist of the <a href="#">26th International Fortis Marathon of Rotterdam</a>
September 2016 - present	Sailing

## Other Activities

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1991 – 2001	Scout at the 92 <sup>nd</sup> Scout-group of the <a href="#">Association of Portuguese Escoteiros</a>
1993 – present	Radio Amateur, call sign CT3IU, class B

## Referees

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