João de Teixeira da Encarnação

Scientist Associate, Center for Space Research, University of Texas at Austin

Personal Information

Full Name:	João Gregório de Teixeira da Encarnação
Birth:	25th of February 1977 at Funchal, Portugal
Nationality:	Portuguese
Marital Status:	Single
Address:	4303 Duval Street 302 78751, Austin Texas, USA
Telephone:	+1 512 765 1351
Email:	j_encarnacao@yahoo.com
Web:	University of Texas, TU Delft, LinkedIn, ResearchGate, Google Scholar, ORCID, Mendeley, SCOPUS, Publons, GitHub

Education

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)
5th 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 Work Experience

present
Jun. 2018

Research Engineering/Scientist Associate at Center for Space Research (CSR), University of Texas at Austin (UTexas), USA:
- Refinement of the last gravity field solutions from the Gravity Recovery And Climate Experiment (GRACE) mission;
- Assess signal continuity between GRACE and GRACE-FO;
- GRACE mission-complete reprocessing;
- Time-varying gravity fields estimated from Kinematic Orbits;
- In-house software development in Matlab and Ruby.

May 2018
Aug. 2016

Postdoctoral Fellow at Center for Space Research (CSR), University of Texas at Austin (UTexas), USA:
- Improvements in the calibration of the accelerometers on-board the 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-FO gap;
- Time-varying gravity fields estimated from Kinematic Orbits;
- In-house software development in Matlab and Ruby.

Jul. 2016
Sep. 2011

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.

Dec. 2015
Jan. 2007

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.

Nov. 2006
Apr. 2005

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.

Jan. 2005
Oct. 2004

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).

Apr. 2004
Mar. 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.

Dec. 2001	**Trainee** at European Space Research and Technology Centre ([ESTEC](#)),
Sep. 2001	[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 or rocket trajectories, thrust and attitude program, fuel consumption and payload;
- Preliminary lunar mission design.

Funding

Dec. 2018	*Multi-approach gravity field models from Swarm GPS data*
Sep. 2017	

- 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](#) to the proposal on *Direct Gravimetric data assimilation into Geophysical models*

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](#)

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
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

present 2017	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).

present 2015	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**. These activities have started before we were awarded the funding ITT posted by the ESA-funded DISC consortium.
present 2014	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

2016 – 2019	GRACE data processing at CSR (NASA contract NNL14AA00C)
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. **de Teixeira da Encarnação, J.**, Save, H., Tapley, B. D., Rim, H. J., (2018). "GRACE's accelerometer scale-factor calibration Original". In: *Submitt. to J. Geod*.

2. 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.

3. Siemes, C., **de Teixeira da Encarnação, J.**, Doornbos, E., IJssel, J., Kraus, J., Pereštý, 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.

4. **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.

5. 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.

6. 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.

7. Olsen, N. (2013). "The Swarm Satellite Constellation Application and Research Facility (SCARF) and Swarm data products". In: *Earth, Planets Sp.* 65.11, pp. 1189–1200. DOI: 10.5047/eps.2013.07.001.

8. 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.

9. 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.

10. Gunter, B. C. B., **Encarnacao, J.**, Ditmar, P., Klees, R., Encarnaçao, 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.

11. 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.

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.

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.

7. Resendes, D. P., Mota, S., Mendonça, J. T., Sanders, B., **Encarnação, J.**, Del Amo, J. G., (2005). "Laser Propulsion for Ground to Orbit 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. 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`.

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. **Encarnacao, J.**, Visser, P., Doornbos, E., IJssel, J., Mao, X., Iorfida, E., Arnold, D., Jäggi, A., Meyer, U., Bezdek, A., Sebera, J., Klokocnik, J., Ellmer, M., Mayer-Gürr, T., Zehentner, N., Guo, J., Luk, P., Shum, C. K., Zhang, Y. Y., (2018). "Signal contents of combined monthly gravity field models derived from Swarm GPS data Multi-approach gravity field models from Swarm GPS data". In: *EGU Gen. Assem.* April, EGU2018–10. DOI: 10.13140/RG.2.2.24263.39845. URL: https://www.researchgate.net/publication/324545998_Signal_contents_of_combined_monthly_gravity_field_models_derived_from_Swarm_GPS_data.

2. Zehentner, N., Mayer-Gürr, T., Ellmer, M., **Encarnacao, J. T.**, Visser, P., Doornbos, E., IJssel, J. V., Mao, X., Iorfida, E., Arnold, D., Jäggi, A., Meyer, U., Bezdek, A., Sebera, J., Klokocnik, J., Guo, J., Shum, C., (2018). "Investigations of GNSS-derived baselines for gravity field recovery". In: *EGU Gen. Assem.* Vienna, Austria, EGU2018–11920. DOI: 10.13140/RG.2.2.18307.81440. URL: ftp://ftp.tugraz.at/outgoing/ITSG/poster/zehentner_etal_EGU2018.pdf.

3. **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.

4. 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*.

5. 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.

6. 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*.

7. 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*.

8. 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.*

9. Doornbos, E., Siemes, C., **Teixeira da Encarnação, J**, Perestý, 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.* Abstract SA31D-2371. San Francisco, CA, USA. URL: http://abstractsearch.agu.org/meetings/2015/FM/SA31D-2371.html.

10. Bruinsma, S, Doornbos, E, Siemes, C, Perestý, 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.*

11. 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.*

12. 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.

13. 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.

14. 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.

15. 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.*

16. 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.*

17. 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.

18. 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.*

19. 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

[a]holding the Certificate of Proficiency in English

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 Rotterdam](#)
Sep. 2016 – present	Sailing

Other Activities

1991 – 2001	Scout at the 92nd Scout-group of the [Association of Portuguese Escoteiros](#)
1993 – present	Radio Amateur, call sign CT3IU, class B

References

Prof. Dr. Frank Flechtner	PhD committee member +49 331 288 1130 frank.flechtner@gfz-potsdam.de
Prof. Dr. Ir. Pieter Visser	Research advisor at Astrodynamics and Space missions of Delft University of Technology +31 15 27 82595 P.N.A.M.Visser@tudelft.nl
Dr. Pavel Ditmar	PhD advisor at Geoscience and Remote Sensing of Delft University of Technology +31 15 27 82501 p.g.ditmar@tudelft.nl