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Born February 13th, 1959 in Perpignan, France



Education:

- Habilitation in Astronomy/Geodesy “Local Determinations of the Gravity Field of Venus: Theoria cum Praxis”, Paul Sabatier University, Toulouse, 1997.
- Post-Doc, Simulation of the Aristoteles mission (GOCE), GRGS, 1987-1989.
- PhD in Physics, “Geoid modelling (with geologic interpretation) from altimetric and gravimetric data over the North-West part of the Indian Ocean and the West part of the Mediterranean sea ”, USTL Montpellier University, 1987.
- Master in Mathematical Physics, USTL Montpellier University, 1983.
- Military duties, Air Force, 1981-1982.
- Undergraduate studies, USTL Montpellier University, 1981.

Positions:

- 2006-Présent, Professor of Geodesy/Geophysics, University of French Polynesia.
- 2003-2006, Expert Research Engineer, French Space Agency (CNES), working at the Midi-Pyrénées Observatory in Toulouse.
- 1991-1992, Research Associate (CNES delegate), Navigation Section, Jet Propulsion Laboratory, Pasadena, USA.
- 1989-2002, Research Engineer, French Space Agency (CNES), working at the Midi-Pyrénées Observatory in Toulouse.

Administrative duties:

- 2006-present: Director of the Geodesy Observatory of Tahiti, director of the Geosciences Laboratory of the South Pacific.
- 1999-2007: Director of the International Gravimetric Bureau.
- 2000-2004: Member of the Directing Board of the Midi-Pyrénées observatory.
- 1998-2006: General Secretary of the French Branch (CNFGG) of IUGG.
- 1997-2003: Principal Investigator of the Netlander Ionosphere and Geodesy Experiment.

Summer Schools and Symposia organized:

- Oct. 2005: Summer School « Static and Dynamic Aspects of Microgravimetric Techniques », Lanzarote island, 57 participants from 26 countries (with ICET and IAG), with CD Proceedings.
- Jul. 2005: 10th Scientific Assembly of IAGA, Toulouse, 882 participants, 1336 communications.
- Sept. 2002: Summer Schools « Terrestrial Gravity Data Acquisition Techniques », Louvain-La-Neuve, 30 participants from 12 countries, with ICET, with CD Proceedings.

PhD/post-doc supervised:

- Ho Khanh Nam, Expérimental and theoretical study of storm electric discharges from GPS and other measurements, U. of French Polynesia, end January 2010 (with P. Ortega).
- Bertrand de Saint-Jean, Processing and inversion of airborne gravity data, PhD French National Survey, end June 2008 (with H. Duquenne).
- Madjid Abbasi, Space domain filtering of airborne gravity data, PhD Toulouse U., July 2006.
- Julien Duron, Modelling of the gravity field of Mars and of its temporal variations from MGS, PhD Catholic U. of Louvain, June 2007 (with V. Dehant).
- Sophie Pireaux, relativistic orbit determination, post-doc MAGE, 2003-2004.
- Marie Yseboodt, Determination of the Mars rotation parameters from Doppler tracking: theory and simulation, PhD Catholic U. of Louvain, Dec. 2003 (with V. Dehant).
- Mehdi Benna, Generation and inversion of radiowaves propagating through a comet nucleus, PhD Toulouse U., Sept 2002.
- Romain Garmier, Modelling of the gravity field in terms of ellipsoidal harmonics: application to the Eros asteroid, PhD Paris Observatory, Oct. 2001.

Scientific papers (international journals):

- M. Pätzold, B. Häusler, K. Aksnes, J.D. Anderson, S.W. Asmar, J.-P. Barriot, M. K. Bird, H. Boehnhardt, W. Eidel, E. Grün, Wing H. Ip, E. Marouf, T. Morley, F. M. Neubauer, H. Rickman, N. Thomas, B. T. Tsurutani, M. K. Wallis, N. C. Wickramasinghe, E. Mysen, O. Olson, S. Remus, S. Tellmann, T. Andert, L. Carone, M. Fels, C. Stanzel, I. Audenrieth-Kersten, A. Gahr, A.-L. Müller, D. Stupar and C. Walter, Rosetta Radio Science Investigations (RSI), Space Sciences Review, Feb 6th, 2007.
- W. Kofman, A. Herique, J.-P. Goutail, T. Hagfors, I. P. Williams, E. Nielsen, J.-P. Barriot, Y. Barbin, C. Elachi, P. Edenhofer, A.-C. Lévassieur-Regourd, D. Plettemeier, G. Picardi, R. Seu

and V. Svedhem, The Comet Nucleus Sounding Experiment by Radiowave Transmission (CONCERT): A Short Description of the Instrument and of the Commissioning Stages, Space Science Reviews, Jan 12th, 2007.

- S. Pireaux, J.P. Barriot, and P. Rosenblatt, SCRMI: A Semi Classical Relativistic Motion Integrator, to model the orbits of space probes around the Earth and other planets, Acta Astronautica, vol 59, 2006.
- M. Abbasi, J.P. Barriot and J. Verdun, Airborne Lacoste and Romberg gravimetry: a space domain approach, Journal of Geodesy, Nov. 18th, 2006.
- B. Hausler, M. Paetzold, G.L. Tyler, R.A. Simpson, M.K. Bird, V. Dehant, J.P. Barriot, W. Eidel, R. Mattei, S. Remus, J. Selle, S. Tellmann and T. Imamura, Radio sciences investigations by VeRa onboard the Venus Express spacecraft, Planetary and Space Sciences, Vol. 54, Issues 13-14, pp 1315-1335, Nov. 2006.
- M. Beuthe, P. Rosenblatt, V. Dehant, J.P. Barriot, M. Paetzold, B. Hausler, O. Karatekin, S. Le Maistre, T. Van Hoolst, Assessment of the Martian gravity field at short wavelength with Mars Express, Geoph. Res. Letters, Vol 33, Feb. 9th, 2006.
- V. Dehant, O. de Viron and J.-P. Barriot, Geophysical excitation of the Earth orientation parameters EOP and its contribution to GGOS, Journal of Geodynamics, Vol. 40(4-5) Special Issue on The Global Geodetic Observing System, Edited by Hermann Drewes, Nov.-Dec. 2005
- O. Verhoeven, A. Rivoldini, P. Vacher, A. Mocquet, G. Choblet, M. Menvielle, V. Dehant, T. Van Hoolst, J. Sleewaegen, J.P Barriot and P. Lognonné, Interior Structure of Terrestrial Planets. I. Modeling Mars' mantle and its electromagnetic, geodetic and seismic properties, J. Geoph. Res., Vol 110, E04009, 2005.
- B. de Saint-Jean, J. Verdun, H. Duquenne, JP. Barriot, S. Melaochrinos and J. Cali, Fine analysis of lever arm effects in moving gravimetry, Proceedings of the IAG meeting in Cairns, 2005, Springer-Verlag.
- O. Karatekin, J. Duron, P. Rosenblatt, T. Van Hoolst, V. Dehant and J.P. Barriot, Mars' time variable gravity and its determination: Simulated geodesy experiments, J. Geoph. Res., Vol. 110, E06001, 2005.
- P. Rosenblatt, J.C. Marty, F. Perosanz, J.P. Barriot, T. Van Hoolst and V. Dehant, Numerical simulations of a Mars geodesy network experiment: Effect of orbiter angular momentum desaturation on Mars' rotation estimation, Planetary and Space Science, Vol. 52, 11, pp. 965-975, Sept. 2004.
- H. Denker, J.P. Barriot, R. Barzahi, R. Forsberg, J. Ihde, A. Kenyeres, U. Marti, I.N. Tziavos, Status of the European Gravity and Geoid Project EGGP, Proceedings of the Gravity, Geoid and Space Missions IAG International Symposium, Vol. 125, Porto, Portugal, 2004.
- J. Duron, P. Rosenblatt, M. Yseboodt, O. Karatekin, V. Dehant, T. Van Hoolst and J.P. Barriot, Joint Estimation of Martian CO₂ and rotation variations from simultaneous geodetic measurements, Geoph. Res. Letters, 30(18), p. 1971, 2004.
- J. Vienne, J.P. Barriot, P. Rosenblatt, M. Yseboodt, J. Duron, and V. Dehant, 2004, Numerical simulations of the NetLander ionosphere and Geodesy Experiment (NEIGE): Landing site positions determination from Doppler tracking between an orbiter and landers, Proceedings of the International Workshop on Planetary Probe Atmospheric Entry and Descent Trajectory Analysis and Science, Lisbon, Portugal, pp. 351-355, ESA Special Publication SP-544, 2004.
- M. Benna, J.P Barriot, W. Kofman and Y. Barbin, Generation of 3-D Synthetic Data for the Modeling of the CONCERT Experiment (The radiotomography of Comet 67P/Churyumov-Gerasimenko), IEEE Transactions on Antennas and Propagation, Vol. 52, No 3, March 2004.

- M. Pätzold, F.M. Neubauer, L. Carone, A. Hagermann, C. Stanzel, B. Häusler, S. Remus, J. Selle, D. Hagl, D.P. Hinson, R.A. Simpson, G.L. Tyler, S.W. Asmar, W.I. Axford, T. Hagfors, J.-P. Barriot, J.-C. Cerisier, T. Imamura, K.-I. Oyama, P. Janle, G. Kirchengast, & V. Dehant, MaRS: Mars Express Orbiter Radio Science, ESA Special Publication SP-1240, pp 141-164, 2004.
- Chassefière E., et al., Barriot J.-P., et al., DYNAMO: a Mars upper atmosphere package for investigating solar wind interaction and escape processes, and mapping Martian fields, *Adv. Space Res.*, 33, 12, 2228-2235, 2004.
- M. Yseboodt, J.P. Barriot, V. Dehant. Analytical modeling of the Doppler tracking between a lander and a Mars orbiter in term of rotational dynamics, *J. Geoph. Res. - Planets*, Vol 108, No E7, p. 5076, July 2003.
- Barriot, J.P., Benna M., Radiotomography with an additional functional assumption: the CONSERT case, *Proc. Appl. Math. Mech.* 2(1): 507-508, Mar. 2003.
- A.S. Konopliv, et al., J.P. Barriot, A Global Solution for the Gravity Field, Rotation, Landmarks, and Ephemeris of Eros, *Icarus*, 160: 289-299, Dec. 2002.
- Benna, M., Piot, A., Barriot, J.-P. and Kofman, W. Data Set Generation and Inversion of Radio Waves Propagating Through a Two-Dimensional Comet Nucleus (CONSERT Experiment), *Radio Sciences*, 37(6), Nov. 2002.
- Van Hoolst T., Dehant V., De Viron O., Defraigne P. and Barriot J.-P, Degree-one displacements on Mars, *Geoph. Res. Letters*, 29(11): 6-1 to 6-4, 6 Jun. 2002.
- M. Benna, J.-P. Barriot and W. Kofman, A Priori Information Required for a two or three Dimensional Reconstruction of the Internal Structure of a Comet Nucleus (Consert Experiment), *Advances in Space Research.* 29(5): 715-724, May 2002.
- R. Garmier, J.-P. Barriot, A. S. Konopliv, D. K. Yeomans, Modeling of the Eros gravity field as an ellipsoidal harmonic expansion from the NEAR Doppler tracking data, *Geophy. Res. Letters*, 29(8): 72-1 to 72-3, Apr. 2002.
- M. Yseboodt, P. Rosenblatt, V. Dehant, J.P. Barriot, T. Van Hoolst, Mars Geodesy with NEIGE: simulation of the Martian orientation parameters estimation, ESA Special Publication SP-514, 2002.
- J.-P. Barriot, V. Dehant, W. Folkner, J.-C. Cerisier, A. Ribes, J. Benoist, The Netlander Ionosphere and Geodesy Experiment, *Advances in Space Research*, 28(8): 1237-1249, Dec. 2001.
- E. Chassefière, et al., J.-P. Barriot, et al., Scientific Objectives of the Dynamo Mission, *Advances in Space research*, 27(11): 1851-1860, Oct. 2001.
- M. Paetzold, et al., J.-P. Barriot, et al., Gravity Field Determination of a Comet Nucleus: Rosetta at P/Wirtanen, *Astronomy and Astrophysics*, 375: 651-660, 2001.
- R. Garmier, J.-P. Barriot, Ellipsoidal harmonic expansion of the gravitational potential: theory and application, *Celestial Mechanics and Dynamical Astronomy*, 79(4): 235-275, 2001.
- Yeomans D.K., P.G. Antreasian, J.P. Barriot, S.R. Chesley, D.W. Dunham, R.W. Farquhar, J.D. Giorgini, C.E. Helfrich, A.S. Konopliv, J.V. McAdams, J.K. Miller, W.M. Owen Jr., D.J. Scheeres, P.C. Thomas, J. Veverka, B.G. Williams, Radio-Science Results during the NEAR-Shoemaker Spacecraft Rendezvous with Eros, *Science*, 289: 2085-2097, 2000.
- J.-P. Barriot, W. Kofman, A. Herique, S. Leblanc, A. Portal, A Two Dimensional Simulation of the Consert Experiment (Radio-Tomography of Comet Wirtanen), *Advances in Space Research*, 24(9): 1127-1138, 1999.
- A.-M. Harri, O. Marsal, P. Lognonne, et al., J.-P. Barriot, et al., Network science landers for Mars, *Advances in Space Research*, 23(11): 1915-1924, 1999.

- G. Moreaux, J.-P. Barriot, L. Amodei, A Harmonic Spline Model for Local Estimation of Planetary Gravity Fields from Line-of-sight Acceleration, Journal of Geodesy, 73: 130-137, 1999.
- J.-P. Barriot, N. Valès, G. Balmino, P. Rosenblatt, A 180th degree and order model of the Venus gravity field from Magellan line of sight residual Doppler data, Geophy. Res. Letters, 25(19): 3743-3746, 1998.
- W. Kofman, et al., J.-P. Barriot, et al., Comet Nucleus Sounding Experiment by Radiowave Transmission (CONCERT), Advances in Space Research, 21(11): 1589-1598, 1998.
- D.K. Yeomans, J.-P. Barriot, D.W. Dunham, R.W. Farquhar, J.D. Giorgini, C.E. Helfrich, A.S. Konopliv, J.V. McAdams, J.K. Miller, W.M. Owen Jr., D.J. Scheeres, S.P. Synnott and B.G. Williams, Estimating the Mass of Asteroid 253 Mathilde from Tracking Data During the NEAR Flyby, Science, 278, 19 Dec. 1997.
- J.-P. Barriot, G. Balmino and N. Valès, Building reliable local models of the Venus gravity field from the cycles 5 and 6 of the Magellan LOS gravity data, Geophy. Res. Letters, 24(4): 477-480, Feb. 1997.
- W. L. Sjogren, et al., J.P. Barriot, et al. The Venus gravity field and other geodetic parameters, in Venus II: Geology, Geophysics, Atmosphere and Solar Wind Environment, ISBN 0816518300: 1125-1161, 1997.
- M. Pätzold, F.M. Neubauer, A. Wennmacher, K. Aksnes, J.D. Anderson, S.W. Asmar, M. Tinto, B.T. Tsurutani, D.K. Yeomans, J.-P. Barriot, M.K. Bird, H. Boehnhardt, E. Gill, O. Montenbruck, et al., Rosetta Radio Science Investigations and Gravity Investigations at Comet P/Wirtanen, Dynamics and Astrometry of Natural and Artificial Celestial Bodies, Vol. 141, 1997.
- D.K. Yeomans, A.S. Konopliv and J.-P. Barriot, The Near Radio Science Investigations, J. Geophy. Res., 102(E10): 23775-23780, Oct. 1996.
- J.P. Barriot and G. Balmino, Local gravity fields from PVO and Magellan data: a comparative study, Geophy. Res. Letters, 21(24): 2657-2659, Dec. 1994.
- J.-P. Barriot, An inverse problem in Planetary Geodesy, Inverse Problems, 10: 809-816, 1994
- J.-P. Barriot, Line of Sight Operators in Planetary Geodesy, Manuscripta Geodaetica, 19(269-283), 1994 (Primed by IAG).
- A.S. Konopliv, N.J. Borderies, P.W. Chodas, E.J. Christensen, W.L. Sjogren, B.G. Williams, G. Balmino and J.P. Barriot, Venus gravity and topography: 60th degree and order model, Geophy. Res. Letters, 20(21), Nov. 1993.
- J.P. Barriot and G. Balmino, Estimation of Local Planetary Gravity Fields Using Line of Sight Gravity Data and an integral Operator, Icarus, 99: 202-224, 1992.
- G. Balmino, J. Barriot, R. Koop, B. Middel, N.C. Thong, et M. Vermeer, Simulation of gravity gradients: a comparison study, Bulletin Géodésique, 65: 218-229, 1991.
- G. Balmino, J.P. Barriot, et N. Valès, Non-singular formulation of the gravity vector and gravity gradient tensor in spherical harmonics, Manuscripta Geodaetica, 15: 11-16, 1990.
- G. Balmino et J.P. Barriot, Numerical integration techniques revisited, Manuscripta Geodaetica, 15: 1-10, 1990.
- A. Bonneville, J.P. Barriot et R. Bayer, Evidence From Geoid Data of a Hotspot Origin for the Southern Mascarene Plateau and Mascarene Islands (Indian Ocean), J. of Geophy. Res., 93(B5): 4199-4212, May 1988.
- J.P. Barriot and N. Valès, Determination itérative des géoïdes altimétriques, Bulletin Géodésique, 62: 17-40, 1988.

- J.P. Barriot, F. Lucazeau and S. Le Douaran, Gravity constraints on thermal models for extensional basins, Thermal modeling in sedimentary basins, J. Burrus Ed. (Technip): 375-416, 1986.
- F. Lucazeau, G. Vasseur, A. Lesquer, J.-P. Barriot, Thermal Regime of the Provencal Basin, Terra Cognita, 5(4): 383-384, 1985.

Other scientific papers:

- B. de Saint-Jean, J. Verdun, H. Duquenne, JP Barriot and J. Cali, Calibration of a 3-accelerometer inertial gravimetry system for moving gravimetry, Newton's Bulletin, Vol. 3, Dec. 2005.
- J. Chenal and J.P. Barriot, A simple anisotropic model of the covariance function of the terrestrial gravity field over coastal areas, Newton's Bulletin, Vol 2, Dec. 2004.
- J.P. Barriot and M. Sarrailh, Adjustment of Gravimetric Networks, Newton's Bulletin, Vol. 1, Dec. 2003.
- M. van Ruymbeke, R. Howard, E. Putz, F. Beauducel, A. Somerhausen and J.P. Barriot, An introduction to the use of HICUM for Signal Analysis, Bulletin International des Marées, Vol. 138, Dec 2003.
- M. Sarrailh and J.P. Barriot, Gravity data validation and outlier detection using L1 norm, Bulletin d'Information du Bureau Gravimétrique International, Vol. 91, Dec. 2002.
- J.P. Barriot, A new derivation of the least squares collocation formula, Bulletin d'Information du Bureau Gravimétrique International, Vol. 90, Jul. 2002.
- L. Sliwa and J.P. Barriot, Establishment and Maintenance of a Gravity Network in the Carribean, Bulletin d'Information du Bureau Gravimétrique International, Vol. 91, Dec 2002.
- M. Sarrailh, Ph. Boscarriol and J.P. Barriot, Detection and Correction of Systematic Errors on Gravity Data Sets, Bulletin du Bureau Gravimétrique International, Vol. 87, Dec. 2000.
- M. Abbasi, JP Barriot, J Verdun and H. Duquenne. Data snooping, correction and reduction of the airborne gravimetric data acquired by a LaCoste & Romberg Air/Sea gravimeter, Fev. 2006, in Proceedings of Atelier d' Experimentation et d'Instrumentation (AEI), Toulouse, France
- S. Pireaux, JP Barriot, P. Rosenblatt and M. Benna, Integrating the motion of satellites in a consistent relativistic framework : the SCRMI prototype software, in Proceedings of the Flight Mechanics Symposium, Oct. 2005, Goddard Space Flight Center, Washington DC, USA.
- S. Pireaux , JP Barriot and P. Rosenblatt, Relativistic approach to geodetic satellites equipped with accelerometers , in Proceedings Les Journées Systèmes de Références Spatio-Temporels, Sept. 2004, Paris, France.
- S. Pireaux S., JP Barriot and G. Balmino, Basis for a native relativistic software integrating the motion of satellites, in Proceedings Les Journées Systèmes de Référence Spatio-Temporels, Sept. 2003, St Petersburg, Russia.
- S. Damiani and J.P. Barriot, Modélisation de la répartition des éjectas à la surface de l'astéroïde Eros, Actes du 3ème Coll. Nat. de Planétologie, Nantes, France, Sept. 2002.
- O. Verhoeven, A. Rivoldini, et al., J.P. Barriot, et al., Mission Netlander: La synergie entre les expériences MAGNET-NEIGE-SEIS comme clef de voûte d'une nouvelle modélisation de la structure interne de Mars, Actes du 3ème Coll. Nat. de Planétologie, Nantes, France, Sept. 2002.

- J.P. Barriot, V. Dehant, W. Folkner, J.C. Cerisier, J. Vienne, M. Yseboodt, P. Rosenblatt and J. Duron, L'expérience NEIGE de Géodésie Spatiale sur Mars, Actes du 3ème Coll. Nat. de Planétologie, Nantes, France (Volume additionnel), Sept. 2002.
- M. Benna, J.P. Barriot, W. Kofman and J. Vienne, Characterization of comet 46/P Wirtanen nucleus interior using radio-waves sounding data, Actes du 3ème Coll. Nat. de Planétologie, Nantes, France, Sept. 2002.
- V. Dehant, Barriot J.-P., Van Hoolst T., Defraigne P., Yseboodt M., Roosbeek F., Netlander Ionosphere and Geodesy Experiment (NEIGE). Comparison between the nutations of the planet Mars and the nutations of the Earth, in Proceedings Les Journées Systèmes de Référence Spatio-Temporels, Sept. 2001, Bruxelles, Belgique.
- M. Yseboodt, J.P. Barriot and V. Dehant, A simplified analytical formulation of the NEIGE orbiter/lander geodesy observable, in Proceedings les Journées des Systèmes de Référence Spatio-Temporels, Sept. 2001, Bruxelles, Belgique.

Editorship:

- Newton's Bulletin (2003-2006): joint IGFS publication with IgeS, 1 issue/year, ISSN 1810-8547.
- Editor of the CD Proceedings (ISBN 92-990017-1-51) of the summer school « Static and Dynamic Aspects of Microgravimetric Techniques », Lanzarote, Oct. 2005
- Editor of the CD Proceedings (ISBN 92-990017-0-17) of the summer school « Terrestrial Gravity Data Acquisition Techniques », Louvain-La-Neuve, Sept. 2002.
- French Report to IUGG, XXIIth General Assembly, 305 pages, 28 scientific papers, Birmingham, 1999.
- French Report to IUGG, XXIIIth General Assembly, 252 pages, 24 scientific papers, Sapporo, 2003.
- Bulletin du Bureau Gravimétrique International (1998-2002): 2 issues/year.

Awards and Honors:

- 1995, Best Paper Award, Int. Association of Geodesy (Bulletin Géodésique, Vol. 69(3)).
- 1996, Fellow of the Royal Astronomical Society.
- 2003, Fellow of the Int. Association of Geodesy.

Member of:

- American Geophysical union.
- European Geophysical Union.
- Gesellschaft für Angewandte Mathematik und Mechanik.
- Planetary Society.