

Curriculum Vitae

État civil.

Nom patronymique: Michael E. Purucker.....

Date de naissance et lieu de naissance: 22/08/1953, USA.....

Nationalité actuelle: Americain.....

Fonctions actuelles: Chief Scientist, Geodynamics, Geophysics, and Space Geodesy Program, Raytheon ITSS, Greenbelt,.....

Depuis 1986, au sein du département de Géodynamique, Centre de vol Spatial de Goddard, NASA , Greenbelt Maryland

Nom et adresse de l'établissement d'origine : Raytheon ITSS at Geodynamics Branch, Code 921,.....

Goddard Space Flight Center, NASA

Greenbelt, MD 20771 USA

Telephone: +1 301-614-6473

Fax: +1 301-614-6522

.....

TITRES UNIVERSITAIRES

GRADESET DIPLOMES	DÉLIVRÉPAR	ANNÉE
Ph.D., Géologie, Oolitic Ironstones and Banded Iron Formation: Controls on Chemical Sedimentation	Université de Princeton, Princeton, New Jersey, USA	1984
Sciences Planétaires	Institut Californien de Technologie, Pasadena, Californie, USA	1976
Géophysique	Institut Californien de Technologie, Pasadena, Californie, USA	1974

ACTIVITÉS RÉCENTES

1 – ENSEIGNEMENT

- ✓ Jurys de thèses : Nasifica Grammatica (2000, Université de Bretagne Occidentale), Benoit Langlais (2001, IPGP), Jon Turner (2003, Université de Sydney, Australie);
- ✓ Encadrement de thèse : Cathrine Fox Maule (Université de Copenhague, Danemark, depuis 2003);
- ✓ Encadrement de stage d' études David Lowe (1998-2000, Masters, Scripps Institute of Oceanography, University of California, San Diego); David Benveniste (2001, École Polytechnique, Paris); Joseph Covington (1992, Université du Maryland); Philip Goodman (1998), Barry Huang (2002), Christine DeLong (2003) et Daniel Peterson (2004), stages d' été;
- ✓ Co-proposant de Swarm (mission ESA, sélectionnée pour lancement en 2009);
- ✓ Co-Proposant de MEMOIRE (sur Dyanmo/Premier, 2002, vers Mars);
- ✓ Co-Proposant de MIME (sur BepiColombo / Mercury Planetary Orbiter, 2012, vers Mercure);
- ✓ Co-Proposant de Ørsted (1999-), CHAMP (2000-) et SAC-C (2000-), satellites mesurant le champ magnétique de la Terre;
- ✓ Organisateur ou co-organisateur de 7 sessions scientifiques dans des assemblées internationales (AGU, IUGG, ...);
- ✓ Professeur invité, IPGP, été 2000 et 2001.

2 - RECHERCHE:

Travaux en cours et perspectives d'orientation des recherches futures:

Les différents sujets ci-dessous sont ou seront considérés:

- Propriétés thermo-mécaniques des slabs subductants;
- Flux régional de chaleur sous les calottes polaires;
- Modélisation multi-paramètres du champ magnétique de la Terre et de celui de Mars;
- Structure des couches superficielles de Mars par étude de conductivité;
- Cartes d' anomalies magnétiques terrestre (longueur d'onde de 5 à 3000);
- Modèle continu de l' aientation de la lithosphère martienne;
- Mesures du champ magnétique depuis l' space.

PUBLICATIONS

Michael Purucker

2000 – Present (Sept., 2004)

Mandea, M., and Purucker, M., Measurement of the Earth's magnetic field from space, Surveys in Geophysics, in review, 50 pages, 2004

Fox Maule, C., Purucker, M., and Olsen, N., Magnetic crustal thickness in Greenland from CHAMP and Ørsted data, soumis, 2nd CHAMP Science volume, in press, 2004.

"Long-wavelength anomalies", "Magsat", and "R.A. Langel" entries in Encyclopedia of Geomagnetism and Paleomagnetism, Gubbins, D., and Herrero-Bervera, E. (eds), in review, 2004.

Sabaka, T., Olsen, N., and Purucker, M., Extending Comprehensive Models of the Earth's Magnetic Field with Ørsted and CHAMP data, Geophys. J. Int., 2004.

Langlais, B., Purucker, M., and Mandea, M., Crustal magnetic field of Mars, Jour. Geophys. Res- Planets, 109(E2), E02008, doi:10.1029/2003JE002048, 2004.

Whaler, K., and Purucker, M., Martian magnetization-preliminary models, The Leading Edge, 22(8), 763-765, August, 2003.

Vennerstrøm, S., Olsen, N., Purucker, M., Acuna, M.H. and Cain, J.C., The magnetic field in the pile-up region at Mars, and its variation with the solar wind, Geophy. Res. Lett, 30(7), 1369, doi: 10.1029/2003GL016883, 2003.

Stauning, P., Luhr, H., Ultre-Guerard, P., LaBrecque, J., Purucker, M., Primdahl, F., Jorgensen, J.L., Christiansen, F., Hoeg, P. Lauritsen, K.B. (editors). OIST-4 Proceedings, 2003.

Purucker, M., Sabaka, T., Olsen, N., and Maus, S., How have Oersted, CHAMP, and SAC-C improved our knowledge of the oceanic regions, OIST-4 Proceedings, 2003.

Purucker, M. and Olsen, N., Modeling of the Earth's magnetic field and its variation with Ørsted, CHAMP, and Ørsted-2/SAC-C, OIST-4 Proceedings, 2003, 319-327.

Purucker, M., McCreadie, H., Vennerstrom, S., Hulot, G., Olsen, N., Luehr, H., and Garnero, E., Highlights from AGU's virtual Session on New Magnetic Field Satellites, EOS, v. 83, no. 34, p.368, August 20, 2002.

Purucker, M. and N. Olsen, Improving the definition of cratonic boundaries utilizing the lithospheric magnetic field derived from CHAMP Observations, in First CHAMP Mission Results for Gravity, Magnetic, and Atmospheric Studies, Reigber et al (eds), Springer, 2003, 275-280.

Ravat, D. and M. Purucker, Unraveling the magnetic mystery of the Earth's lithosphere: The background and role of the CHAMP Mission, in First CHAMP Mission Results for Gravity, Magnetic, and Atmospheric Studies, Reigber et al (eds), Springer, 251-260, 2003

Purucker, M., Langlais, B., Olsen, N., Hulot, G., Mandea, M., The southern edge of cratonic North America: Evidence from new satellite magnetometer observations, Geophys.Res.Lett., 29(15),8000, doi:10.1029/2001GL013645,2002

Voorhies, C.V., Sabaka, T.J., and Purucker, M., On magnetic spectra of Earth and Mars, Journal of Geophysical Research-Planets, 107(E6), 5034, doi:10.1029/2001JE001534, 2002.

Ravat, D., Whaler, K., Pilkington, M., Sabaka, T., and Purucker, M., Compatibility of high-altitude aeromagnetic and satellite altitude magnetic anomalies over Canada, Geophysics, 67, 546-554, March-April, 2002

Lowe, D.A.J., Parker, R.L., Purucker, M.E., and Constable, C.G., Estimating the crustal power spectrum from vector Magsat data, Journal of Geophysical Research, v.106, 8589-8598, May 10, 2001.

Luhmann, J., Acuna, M., Purucker, M., Russell, C., and D. Lyon, The Martian magnetosheath: How Venus like?, Planetary and Space Science, 50, 489-502, 2002.

Olsen., N., Holme, R., Hulot, G., Sabaka, T., Neubert, T., Toffner-Clausen., L., Primdahl, F., Jorgensen, J., Leger, J-M., Barracough, D., Bloxham, J., Cain, J., Constable, C., Golovkov, V., Jackson, A., Kotze, P., Langlais, B., Macmillan, S., Mandea, M., Merayo, J., Newitt, L., Purucker, M., Risbo, T., Stampe, M., Thomson, A., and Voorhies, C., Orsted Initial Field Model, Geophysical Research Letters, v. 27, 3607-3610, Nov. 15, 2000.

Purucker, M. and Dyment, J. Satellite magnetic anomalies related to seafloor spreading in the South Atlantic Ocean, Geophysical Research Letters, v. 27, 2765-2768, Sept. 1, 2000.

Purucker , M., Ravat, D., Frey, H., Voorhies, C., Sabaka, T., and Acuna, M., An altitude-normalized magnetic map of Mars and its interpretation, Geophys. Res. Lett., v. 27, 2449-2452, Aug. 15, 2000.

Purucker, M. and Clark, D. Exploration Geophysics on Mars: Lessons from magnetics, in The Leading Edge, pp. 484-487, May 2000.

Abstracts and Presentations **1999 – Septembre 2004**

Purucker, M., Magnetic field observations from Mars Global Surveyor: New constraints on the primordial Martian dynamo, and the state of the Martian crust and mantle, Danish Space Research Institute, Copenhagen, Denmark, June 16, 1999

Purucker, M., Philosophy and History of the International Geomagnetic Reference Field, Danish Space Research Institute, Copenhagen, Denmark, June 16, 1999

Purucker, M., 4 presentations at the IUGG in Birmingham, England, July, 1999

Purucker, M., Controversies surrounding the strongly magnetic and lineated crustal features on Mars, Fall AGU invited talk, December, 1999, San Francisco

Purucker, M. and Whaler, K., Global models of lithospheric magnetization from satellite magnetic anomaly data sets, AGU poster, December, 1999, San Francisco

Purucker, M., Magnets and Mars, Geophysical Information for Teachers Workshop, Invited AGU presentation, December, 1999, San Francisco

Purucker, M., Hulot, G., Langlais, B., Mandea, M., and Olsen, N., Magnetic fields of high degree measured by Oersted and their interpretation, AGU presentation, December, 2000, San Francisco

Purucker, M., Inverse problems: Magsat to Mars, AGU presentation, May, 2000, Washington, DC.

Purucker, M. and Labrecque, J., Goals for the Decade of Geopotential Research, AGU presentation, May 2000, Washington, DC

Purucker, M, Ravat, D., Frey, H., Voorhies, C., Sabaka, T., and Acuna, M., An altitude-normalized magnetic map of Mars and its interpretation, AGU presentation, May 2000, Washington, DC

Purucker, M., Mars from core to crust: Its enigmatic magnetic field, Universite de Bretagne Occidentale, Brest, France, June, 2000

Purucker, M., A new magnetic map of Mars and its interpretation, Institut de Physique du Globe, Paris, France, July, 2000

Langlais, B., Purucker, M., and Mandea, M., Interpretation of a magnetic map of the Valles Marineris area, Extended abstract for LPSC meeting, March 2001, Houston, Texas

Olsen, N,... and Purucker, M., The space-time structure of magnetic variations and their use for electromagnetic induction studies, 2nd Netlander symposium, April 2-4, 2001, Nantes, France

Langlais, B,... and Purucker, M., The Martian magnetic field: From Mars Global Surveyor to Netlander, 2nd Netlander symposiu, April 2-4, 2001, Nantes, France.

Purucker, M., Martian and Terrestrial magnetic fields: Comparative planetology, Danish Planetary Institute, Oct. 22, 2001, Copenhagen, Denmark.

Purucker, M., Olsen, N., Ravat, D., Schwintzer, P. and Langlais, B., Improving global crustal temperature, geologic variation, and lithospheric strength models utilizing the lithospheric magnetic field derived from CHAMP, 1st CHAMP Science Workshop, January 21-24, 2001, Potsdam, Germany

Purucker, M., Martian and terrestrial magnetic fields: Comparative planetology, Geological Society of Washington, January 9, 2002, Washington DC

Purucker, M., Sabaka, T. and Olsen, N., Mini-constellation observations used as a test-bed for Swarm: Virtual session, Spring AGU meeting, May 28-31, 2002, Washington, DC,

Purucker, M., Sabaka, T., Olsen, N., and Maus, S., How have Oersted, SAC-C, and CHAMP magnetics results improved our knowledge of the oceanic regions?, Invited overview talk at the Orsted International Science Team meeting, Sept 23, 2002, Copenhagen, Denmark

Purucker, M., Exploration Geophysics on Mars: A tale of minerals and water, Gravity and Magnetics Luncheon, Society of Exploration Geophysicists 72nd Annual Meeting, Salt Lake City, Utah, 8 Oct 2002, and Danish Planetary Institute, 20 Sept 2002, Copenhagen, Denmark

Purucker, M., Intercalibration of the magnetometers on SAC-C with those on CHAMP and Oersted, AGU/EGS Joint Meeting, April, 2003, Nice, France

Purucker, M., Connerney, J., Mandea, M., and Hulot, G., A test for secular variation of the Martian magnetic field, AGU/EGS Joint Meeting, April, 2003, Nice, France

Purucker, M., and Whaler, K., Merging satellite and aeromagnetic data over Europe, the North Atlantic, and the Arctic, 2nd CHAMP Science meeting, Sept 1-4, 2003, Potsdam, Germany

Purucker, M., and Whaler, K., Interpretation of a spatially continuous magnetization map of Mars, Fall AGU meeting, Dec, 2003, San Francisco, CA

Fox Maule, C., Purucker, M., and Olsen, N., Magnetic crustal thickness and heat flow in Antarctica, Fall AGU meeting, Dec, 2003, San Francisco, CA

Langlais, B., and Purucker, M., A polar magnetic paleopole on Mars, Fall AGU meeting, Dec., 2003, San Francisco, CA

Purucker, M., Annihilators at Mars: Are there alternative but reasonable magnetization distributions in the Martian crust that explain the MGS magnetic field observations, Spring AGU meeting, April 2004, Montreal, Quebec.