Karin Lydia Louzada, PhD

www.karinlouzada.com

Scientist and skilled science communicator and convener looking to leverage experience in diplomacy, research and publishing, and renewed coding skills.

USA and Netherlands citizenship, no work authorization required in US or EU.

EDUCATION

- **PhD Earth and Planetary Sciences** | Harvard University | Cambridge, MA 2009
  Dissertation: The effects of impact cratering on planetary crustal magnetism.
  Advisor: Dr. S.T. Stewart-Mukhopadhyay
- **AM Earth and Planetary Sciences** | Harvard University | Cambridge, MA 2007
- **MSc Geology** - With Distinction | Utrecht University | Utrecht, The Netherlands 2003
  Thesis: The magmatic evolution of the upper ~3450 Ma Hooggenoeg Formation, Barberton greenstone belt, Kaapvaal Craton, South Africa.
  Advisor: Dr. M.J. van Bergen
- **Propaedeutics Geology -** Cum Laude| Utrecht University | Utrecht, The Netherlands 1998

WORK HISTORY

SR. ADVISOR FOR INNOVATION, TECHNOLOGY AND SCIENCE (POLICY OFFICER) 03/2016 – Present

Netherlands Consulate General | San Francisco, CA

- Build and maintain a network of science and innovation representatives and decision makers within North American industry, academia and government.
- Scout for, and report on, science, technology and innovation trends in sectors, including space technology, agriculture, life sciences and health, and energy transition.
- Conduct partner searches and market scans (ave. two per year) for Dutch industry and academia.
- Organize and moderate seminars, panel discussions and innovation and trade missions for over 100 companies and research institutes per year with the aim of increasing commercialization potential and partnering for Dutch industry and research in the USA.
- Facilitate international government-to-government, agency-to-agency collaborative agreements.
- Advise the Netherlands Ministry of Economic Affairs and Climate on international science policy.
- Manage and/or mentor up to five interns/trainees per year.

MISSION COUNCIL PRESIDENT 2017 – Present

Consulate General of the Netherlands in San Francisco
Volunteer

- Advocate for staff working conditions of the Netherlands Embassy network in the USA.
- Coordinate staff response to proposed changes to collective health insurance or pension plan.
- As member of Embassy Network Pension Plan Advisory Board advise on procurement.

CONFIDENTIAL ADVISOR **2017 – Present**

Consulate General of the Netherlands in San Francisco
Volunteer

- Confidentially advise and support staff in personnel disputes and integrity issues or complaints.
- Coordinate discussion and exchange of best practices in peer group of confidential advisors located in different countries within Embassy network.

FOUNDING CHAIR **2019 – 2021**

Local Employee Staff Council | Netherlands Ministry of Foreign Affairs
8 hours/week | Volunteer

- Represent 2300 locally engaged employees of the Netherlands Ministry of Foreign Affairs worldwide in the first-ever participation council.
- Negotiate global labor benefits and working conditions with Ministry management in The Hague.

EDITOR ATOMIC, MOLECULAR, OPTICAL AND PLASMA PHYSICS **11/2014 – 02/2016**

Springer Nature | New York, NY

- Build and maintain a network of researchers and scientists in fields relevant to five textbook series and two scientific journals on atomic, molecular, optical and plasma physics.
- Scout for and internalize cutting edge science and identify trending topics in physics.
- Recruit and guide authors for/during the book writing, publication and marketing process.

SCIENCE AND TECHNOLOGY ATTACHÉ (DIPLOMAT) **09/2009 – 09/2014**

Royal Netherlands Embassy | Washington, DC

- Liaison for Dutch industry, academia and government with counterparts in the US and Canada.
- Similar duties as current role: Sr Advisor for Innovation, Technology and Science (see above).

ACTING COUNSELOR FOR SCIENCE AND TECHNOLOGY **11/2011 – 10/2012**

Royal Netherlands Embassy | Washington, DC

- In addition to regular Attaché duties above, responsible for management, budget and team human resources.
- Report on strategic and financial planning, and progress of the Netherlands Office for S&T.
- Coordinate activities and liaise with Embassy leadership and staff, and headquarters.

POSTDOCTORAL RESEARCHER **06/2009 – 08/2009**

Harvard University | Cambridge, MA

- Conduct impact recovery experiments.
- Conduct ray-path propagation calculations.
- Publish scientific research in peer reviewed journals.

GRADUATE STUDENT **09/2003 – 05/2009**

Harvard University | Cambridge, MA

- Design and conduct high-velocity impact experiments (twelve shots) and experimental magnetism on rocks and minerals in laboratories at Harvard, MIT, Yale, and Caltech.
- Design and conduct geological field work and paleomagnetic research at Lonar Crater, India.
- Design and conduct static pressure cell experiments on magnetic minerals to complement the dynamic shock experiments at CEREGE, Aix en Provence, France.
- Model planetary scale shock wave ray-path propagation in IDL (Interactive Data Language).
- Data analysis and visualization in IDL.
- Conduct imaging of experimentally shocked minerals using Atomic and Magnetic Force Microscopy at Institute for Rock Magnetism, University of Minnesota.
- Present scientific findings at international conferences and in peer-reviewed scientific journals.
- Graduate teaching assistant.

MSc GEOLOGY STUDENT **1997 – 2003**

Utrecht University | Utrecht, The Netherlands

- Geological field mapping and geochemical sampling in the Barberton Greenstone Belt, South Africa, and the Coppin Cap Greenstone Belt, Western Australia.
- Perform geochemical (elemental) analyses at the University of Cape Town, South Africa.

FELLOWSHIPS AND AWARDS

- Mary Taussig-Henderson Crystallography Prize (Harvard University, 2008)
- Institute for Rock Magnetism Visiting Fellowship (University of Minnesota, 2008)
- Amelia Earhart Fellowship (Zonta International, 2006 & 2007)
- Stickney Fellowship (Harvard University, 2004)

PEER REVIEW

- USDA: SBIR Phase II – Commercialization Training Panelist (2013)
- NASA/ROSES: Planetary Geology and Geophysics, Planetary Mission Data Analysis Program and Outer Planets, Panelist/Reviewer (2009-2012)
- Ministry of Economic Affairs (NL): Eureka Innovation Industry Grant Reviewer (2010)

SELECTED EXPERIMENTAL AND OTHER SKILLS

Experimental techniques: High-velocity (shock) impact recovery experiments with a 40-mm horizontal light-gas gun; Static pressure cell experiments; Rock magnetism protocols; Field sampling and mapping.

Material properties measurements: Major and trace elemental analyses: X-ray fluorescence, inductively coupled plasma mass spectroscopy; Imaging: microprobe analyses, magnetic force microscopy; Sound speed measurements; Density determinations; Magnetic properties measurements: alternating gradient field magnetometer, vibrating sample magnetometer, magnetic properties measurement system, 2G Enterprises SQUID magnetometer; Hugoniot elastic limit determinations: velocity interferometer system for any reflector; Crystallography: single crystal and powder X-ray diffraction; Including sample preparation for all listed.

Computer and other skills:

- Software for coding and analysis: IDL (graduate research), Python, Matlab (limited), R (limited)
- Data science (online learning)
- Software for editing, layout, and design: Microsoft Office, Adobe Illustrator, Photoshop
- Languages: English (Native), Dutch (Native)

RESEARCH PUBLICATIONS

K.L. Louzada, S.T. Stewart, B.P. Weiss, J. Gattacceca, R.J. Lillis, and J.S. Halekas (2011). Impact demagnetization of the Martian crust: Current knowledge and future directions. *Earth and Planetary Science Letters, Frontiers,* v.305, 257–269, doi:10.1016/j.epsl.2011.03.013.

R.J. Lillis, J. Arkani-Hamed, D. Ravat, M. Fuller, K. Whaler, C. Milbury, C.T. Russell, G. Delory, D. Brain, J. S. Halekas, R.P. Lin, M. Manga, C.L. Johnson, L.L. Hood, M. Purucker, D. Jurdy, S. Smrekar, J.E.P. Connerney, J. Espley, G. Kletetschka, B.P. Weiss, J.H. Roberts, **K.L. Louzada**, S.T. Stewart, J.C. Cain, D. Mozzoni, S. Vennerstrom, B. Langlais, J. Gattacceca, and P. Rochette (2011). Mars' Ancient Dynamo and Crustal Remanent Magnetism **-** A whitepaper submitted to the 2011 Planetary Science Decadal Survey. [Archive.org]

R.J. Lillis, M.E. Purucker, J.S. Halekas, **K.L. Louzada,** S.T. Stewart-Mukhopadhyay, M. Manga, and H.V. Frey (2010). Study of impact demagnetization at Mars using Monte Carlo modeling and multiple altitude data. *Journal of Geophysical Research - Planets*, v.115, E07007, doi:10.1029/2009JE003556.

B.P. Weiss, S. Pedersen, I. Garrick-Bethell, S.T. Stewart, **K.L. Louzada**, A.C. Maloof, N.L. Swanson-Hysell (2010). Paleomagnetism of impact spherules from Lonar crater, India, and a test for impact-generated fields. *Earth and Planetary Science Letters*, v. 298, 66–76, doi:10.1016/j.epsl.2010.07.028.

A.C. Maloof, S.T. Stewart, B.P. Weiss, S.A. Soule, N.L. Swanson-Hysell, **K.L. Louzada**, I. Garrick-Bethell, and P.M. Poussart (2010). Geology of Lonar Crater, India. *Geological Society of America Bulletin*, v.122, 109–126, doi:10.1130/B26474.1.

K.L. Louzada, S.T. Stewart, B.P. Weiss, J. Gattacceca, and N.S. Bezaeva (2010). Shock and static pressure demagnetization of pyrrhotite and implications for the Martian crust. *Earth and Planetary Science Letters*, v.290, 90–101, doi:10.1016/j.epsl.2009.12.006.

K.L. Louzada and S.T. Stewart (2009). Effects of planet curvature and crust on the shock pressure field around impact basins. *Geophysical Research Letters*, v.36 (L15203), doi:10.1029/2009GL037869.

K.L. Louzada, B.P. Weiss, A.C. Maloof, S.T. Stewart, N.L. Swanson-Hysell, and S.A. Soule (2008). Paleo-magnetism of Lonar impact crater, India. *Earth and Planetary Science Letters*, v.275, 308–319, doi:10.1016/j.epsl.2008.08.025.

K.L. Louzada, S.T. Stewart and B.P. Weiss (2007). Effect of shock on the magnetic properties of pyrrhotite, the Martian crust, and meteorites. *Geophysical Research Letters*, v.34 (L05204), doi:10.1029/2006GL027685.

K.L. Louzada, S.T. Stewart and B.P. Weiss (2006). Shock demagnetization of pyrrhotite (Fe1-xS, x≤0.13) and Implications for the Martian Crust and Meteorites. *Shock Compression of Condensed Matter—2005*, ed. M. D. Furnish et al. American Institute of Physics, Melville, NY, v.845, 1476–1479. [APS].

W. Nijman, S.T. de Vries, I. Vos, and **K. L. Louzada** (2001). Synsedimentary collapse structures in the Warrawoona Group, Coppin Gap greenstone belt. *In*: M.J. van Kranendonk, A.H. Hickman, I.R. Williams, and W. Nijman (editors), *Archaean geology of the East Pilbara granite-greenstone terrane,*

Western Australia: A field guide. Western Australia Geological Survey, 77–83. [Nat. Library of Australia]

INVITED TALKS

K.L. Louzada, Impacts and their effects on the magnetic properties of planetary crusts. Seminar at NASA Goddard (March 2013).

K.L. Louzada, Impacts and their effects on the magnetic properties of planetary crusts. Seminar at Rutgers University (January 2012).

K.L. Louzada, S.T. Stewart and B.P. Weiss. Unraveling the shock history of Mars. American Geophysical Union, San Francisco, CA, Abs. No. GP33B-02 (2008).

K.L. Louzada, S.T. Stewart and B.P. Weiss. The effects of shock on low-coercivity magnetization in pyrrhotite in the Martian crust and meteorites. International Union of Geodesy and Geophysics, Perugia, Italy, (2007).

PROFESSIONAL TALKS

K.L. Louzada and S.T. Stewart. The effect of planet curvature on the shock pressure field around Martian impact basins. Large Meteorite Impacts and Planetary Evolution IV, Parys, South Africa (2008).

K.L. Louzada, S.T. Stewart and B.P. Weiss. Shock demagnetization of pyrrhotite (Fe1-xS, x≤0.13) and implications for the Martian crust and meteorites. Shock Compression of Condensed Matter Topical Conference, American Physical Society, Baltimore, MD (2005).

K.L. Louzada, S.T. Stewart, B.P. Weiss and A. C. Maloof. Shock demagnetization of the Martian crust. 8th Mars Crater Consortium Meeting, Flagstaff, AZ (2005).

K.L. Louzada, S.T. Stewart and B.P. Weiss. Shock-induced demagnetization of pyrrhotite and implications for the Martian crust. American Geophysical Union, San Francisco, CA (2004).

SELECTED POSTER PRESENTATIONS

K.L. Louzada, B.P. Weiss, A.C. Maloof, S.T. Stewart, and N. Swanson-Hysell. A paleomagnetic study of Lonar impact crater, India. Lunar and Planetary Science Conference XXXVIII, Houston, TX (2007).

K.L. Louzada, S.T. Stewart and B.P. Weiss. New results from shock experiments on pyrrhotite and implications for the magnetization of the Martian crust and meteorites. American Geophysical Union, San Francisco, CA (2006).

K.L. Louzada, S.T. Stewart and B.P. Weiss. Shock demagnetization of pyrrhotite. Lunar and Planetary Science Conference XXXVI, Houston, TX (2005).