

## Lucy M. Flesch

### Education

Beloit College	Physics	B.S.	1995
Stony Brook University	Mineral Physics	M.A.	1997
Advisor: Robert C. Liebermann			
Stony Brook University	Geophysics	Ph.D.	2002
Advisors: William E. Holt and A. John Haines			

### Present Position

2018-present	Associate Dean of Academic Affairs, College of Science, Purdue University, West Lafayette, IN
2016-present	Professor, Department of Earth, Atmospheric, and Planetary Sciences, Purdue University, West Lafayette, IN
2005-present	Visiting Scientist, Carnegie Institution for Science, Department of Terrestrial Magnetism, Washington, DC

### Previous Positions

2011-2016	Associate Professor, Department of Earth, Atmospheric, and Planetary Sciences, Purdue University, West Lafayette, IN
2005-2011	Assistant Professor, Department of Earth, Atmospheric, and Planetary Sciences, Purdue University, West Lafayette, IN
2003-2005	Postdoctoral Fellow, Carnegie Institution for Science, Department of Terrestrial Magnetism, Washington, DC
2002-2003	Postdoctoral Associate, Department of Geosciences, Stony Brook University, Stony Brook, NY

### Awards and Honors

2017	ELATE Fellow
2016	College of Science Leadership Award
2011-2012	EarthScope Science Speaker
05/06, 12/06, 12/08, 12/09, 12/10, 12/11, 05/12, 12/12, 12/13, 12/14, 05/15, 12/15, 05/16, 12/16, 05/17, 12/17	Teaching Honor Roll, Earth, Atmospheric Sciences, and Planetary Sciences, Purdue University
05/06	Purdue Research Foundation International Travel Grant
05/00	Best Student Paper, American Geophysical Union
08/98	GAANN Fellow, Stony Brook University
5/99	Outstanding Teaching Assistant Award, Stony Brook University

### Professional and Scholarly Associations

American Geophysical Union

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Geological Society of America  
SACNAS  
ELATE/ELUM

### Publications

<sup>P</sup> = Post-doc; underlined <sup>G</sup> = Graduate student author;

Refereed journals, book chapters, conference proceedings, etc.

37. Bischoff, S.H.<sup>G</sup>, and **L.M. Flesch**, , *J. Geophys. Res.* Impacts of lithospheric strength distribution on the Indian-Eurasian deformation from 3-D geodynamic models, doi:10.1029/2018/JB015704, 2018b.
36. Bischoff, S.H.<sup>G</sup>, and **L.M. Flesch**, Normal Faulting and Viscous Buckling in the Tibetan Plateau Induced by a Weak Lower Crust, *Nature Communications*, 9, 4952, DOI: 10.1038/s41467-018-07312-9, 2018a.
35. Jay, C.N.<sup>G</sup>, **L.M. Flesch**, and R. Bendick, Kinematics and dynamics of the Pamir, Central Asia: Quantifying the roles of continental subduction in force balance, *J. Geophys. Res.*, 9, 8161-8179, 2018.
34. Bomberger, C., R.O. Bendick, **L.M. Flesch**, and T. Ehlers, Spatial Scales of Active Deformation and Topography in the Western USA, *J. Geophys. Res.*, 123, DOI:10.1029/2018JB016135, 2018.
33. **Flesch, L.M.**, R.O. Bendick, and S. Bischoff<sup>G</sup>, Pamir-Tibet Continuity and Limitations on Inferring Dynamics from Surface Velocities in the India-Eurasia Collision Zone, *G.R.L.*, DOI:10.1002/2017GL076503, 2018.
32. Jay, C.N.<sup>G</sup>, **L.M. Flesch**, R.O. Bendick, Kinematics and dynamics of the Pamir, Central Asia: Quantifying surface deformation and force balance in an intracontinental subduction zone, *Journal of Geophysical Research*, DOI: 10.1002/2017JB014177, 2017.
31. Chang, L<sup>P</sup>, **L.M. Flesch**, C.Y. Wang, Z. Ding, Vertical Coherence of Deformation in the Lithosphere in the NE Margin of the Tibetan Plateau using GPS and Shear-Wave Splitting Data, *Tectonophysics*, 699, 93-101 2017.
30. Qiang, Z.<sup>P</sup>, Q. Wu, Y. Li, M. Gao, S. Demberel, M. Ulzibat, U. Sukhbaatar, **L.M. Flesch**, Complicated Seismic Anisotropy Beneath South-Central Mongolia and its Geodynamic Implications, *Earth and Planetary Sciences Letters*, 465, 126-133, 2017.
29. Chang, L<sup>P</sup>, **L.M. Flesch**, C.Y. Wang, Z. Ding, Constraining the vertical coherence of deformation in the lithosphere in eastern Himalayan syntaxis and surrounding regions using GPS, Quaternary fault slip rates and shear wave splitting data, *G.R.L.*, 42, 5813-5819, doi:10.1002/2015GL064568, 2015.

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28. Finzel, E.M.<sup>G</sup>, **L.M. Flesch**, K.D. Ridgway, and W.E. Holt, Evidence of active mantle flow driving surface motions in Alaska, *G.R.L.*, 42(11), 4350-4358, doi:10.1002/2015GL063987, 2015
27. Finzel, E.S.<sup>G</sup>, **L.M. Flesch**, and K.D. Ridgway, Present-day geodynamics of the northern north American Cordillera, *E.P.S.L.*, 404, 111-123, 2014.
26. Stamps, D.S.<sup>G</sup>, **L.M. Flesch**, E. Calais, Current kinematics and dynamics of the East African Rift, *J. Geophys. Res* 119(6), 5161-5186, 2014.
25. Stein, C.A., S. Stein, M. Merino, G.R. Keller, **L.M. Flesch** and D. Jurdy, Was the Mid-Continent Rift part of a successful seafloor-spreading episode?, *G.R.L.*, 41, 1465-1470, 2014.
24. Wang, C.Y., L.J. Chang, Z.F. Ding, Q.L. Liu, W.L. Liao, **L.M. Flesch**, Upper mantle anisotropy and crust-mantle deformation pattern beneath the Chinese mainland, *Science China – Earth Sciences*, 55, DOI: 10.1007/s11430-013-4675-5, 132-143, 2014.
23. Wang, C.Y., **L.M. Flesch**, L.J. Chang, and T.Y. Zhang, Evidence of active mantle flow beneath South China. *G.R.L.*, 40, DOI:10.1002/grl.50987, 5137-5141, 2013.
22. Bendick, R. and **L.M. Flesch**, A review of heterogeneous materials and their implications for relationships between kinematics and dynamics in continents, *Tectonics*, 32, DOI: 10.1002/tect.20058, 980-992, 2013.
21. O'Malley, D.<sup>P</sup>, J.H. Cushman, and **L.M. Flesch**, Global Sensitivity Analysis for Micropolar Stokes Flow Problem, *INTERNATIONAL JOURNAL FOR MULTISCALE COMPUTATIONAL ENGINEERING*, 11 (4), 359-368, 2013.
20. **Flesch, L.M.** and R. Bendick\*, Relationship between surface kinematics and deformation of the whole lithosphere, *Geology*, 40, 711–714, doi:10.1130/G33269.1, 2012.
19. Leon Soto, G., E. Sandvol, J. Ni, **L.M. Flesch**, T. Hearn, F. Tillmann, Y. Chen, L. Brown, Significant and Vertically Coherent Seismic Anisotropy Beneath Eastern Tibet, *Journal of Geophysical Research*, 117, B05308, doi:10.1029/2011JB008919, 2012.
18. Finzel, E.S.<sup>G</sup>, **L.M. Flesch**, and K.D. Ridgway, Identifying the diffuse North America-Pacific-Bering plate boundary in Alaska and western Canada, *Geology*, 39; 835–838; doi:10.1130/G32271.1, 2011.
17. Stamps, D.S.<sup>G</sup>, **L.M. Flesch**, and E.C. Calais, Lithospheric Buoyancy Stresses in Africa from a Thin-Sheet Approach, *International Journal of Earth Sciences*, 99, 1525, 2010.
16. **Flesch, L.M.**, and C. Kremer, Gravitational potential energy and regional stress and strain rate fields for continental plateaus: Examples from the central Andes and Colorado Plateau, *Tectonophysics*, 482, 182-192, 2010.
15. Ghosh, A., W.E. Holt, and **L.M. Flesch**, Contribution of Gravitational Potential Energy Differences to the Global Stress Field, *G.J.I.*, 179, 787-812, doi: 10.1111/j.1365-246X.20009.04326.x, 2009.

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14. Klein, E.C.,<sup>P</sup> **L.M. Flesch**, W.E. Holt, and A.J. Haines, Evidence of Long-term Weakness on Seismogenic Faults in Western North America from Dynamic Modeling, *J.G.R.*, 114, B03402, doi:10.1029/2007JB005201., 2009.
13. Bendick, R. and **L.M. Flesch**, Reconciling Lithospheric Deformation and Lower Crustal Flow Beneath Central Tibet: Reply, *Geology*, doi: 10.1130/G25391Y.1, 2008.
12. Ghosh, A., W.E. Holt, L. Wen, A.J. Haines, and **L.M. Flesch**, Joint modeling of lithosphere and mantle dynamics elucidating lithosphere-mantle coupling, *Geophys. Res. Lett.*, 35(16), L16309, 2008.
11. Wang, C., **L.M. Flesch**, P.G. Silver, L. Chang, and W.W. Chan, Evidence for Mechanically Coupled Lithosphere and Resulting Implications, *Geology*, 36(5), 363-366, doi:10.1130/G24450A, 2008.
10. **Flesch, L.M.** and R. Bendick, A comment on "Present-day kinematics at the India-Asia collision zone," *Geology*, doi: 10.1130/G24443C.1, 2008.
9. **Flesch, L.M.**, W.E. Holt, A.J. Haines, L. Wen, B. Shen-Tu, The dynamics of western North America: Stress magnitudes and the relative role of gravitational potential energy, plate interaction at the boundary, and basal tractions, *G.J.I.*, 169, 866-896, 2007.
8. Bendick, R., and **L.M. Flesch**, Reconciling Lithospheric Coupling and Crustal Flow Beneath Tibet, *Geology*, 35, 895-898, 2007.
7. Wang, C.Y., L.J. Chang, Z.Y. Lu, J.Z. Qin, W. Su, P.G. Silver, and **L.M. Flesch**, Seismic Anisotropy of Upper Mantle in Eastern Tibet Plateau and Related Crust-Mantle Coupling Pattern, *Science in China Series D*, 50, 1150-1160, 2007.
6. Ghosh, A., W.E. Holt, **L.M. Flesch**, A.J. Haines, The Gravitational Potential Energy of the Tibetan Plateau and the Forces Driving the Indian Plate, *Geology*, 34, 321-324, 2006.
5. **Flesch, L.M.**, W.E. Holt, P.G. Silver, M. Stephenson, C.-Y. Wang, and W.W. Chan, Constraining the Extent of Crust-Mantle Coupling in Central Asia Using GPS, Geologic, and Shear-Wave Splitting Data, *E.P.S.L.*, 238, 248-268, 2005.
4. **Flesch, L.M.**, A.J. Haines, and W.E. Holt, Dynamics of the India-Eurasia collision zone, *J. Geophys. Res.*, 106, 16,435-16,460, 2001.
3. **Flesch, L.M.**, W.E. Holt, A.J. Haines, and B. Shen-Tu, Dynamics of the Pacific-North American plate boundary zone in the western United States, *Science*, 287, 834-836, 2000.
2. **Flesch, L.M.**, B. Li, and R.C. Liebermann, Sound velocities of MgSiO<sub>3</sub> – orthopyroxene to 10 GPa at room temperature, *Am. Min.*, 83, 444-450, 1998.
1. Liu, J., J. Zhang, **L. Flesch**, B. Li, D.J. Weidner, and R.C. Liebermann, Thermal equation of state of stishovite, *Phys. Earth and Planet. Int.*, 112, 257-266, 1999.

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In press refereed journals and book chapters

Submitted refereed journals and book chapters

Non-refereed books and book chapters, etc.

4. **Flesch, L.M.**, writing team member: A Preliminary Strategic Plan for EarthScope Cyberinfrastructure, White Paper (commissioned by EarthScope). Gurnis, M., L. Flesch, D. Okaya, S. Peters, D. Walker, T. Ahern, F. Bohler and R. Arrowsmith. “A Preliminary Strategic Plan for EarthScope Cyberinfrastructure”, May, 2012, 27 pp. [http://www.earthscope.org/es\\_doc/highlights/ES\\_CyberinfrastructureStrategicPlan\\_2012.pdf](http://www.earthscope.org/es_doc/highlights/ES_CyberinfrastructureStrategicPlan_2012.pdf).
3. **Flesch, L.M.**, writing team member (Dynamics of Continents): Geodynamics Grand Challenges White Paper (commissioned by NSF for NSF and NRC use)
2. Ridgway, K.D., and **L.M. Flesch**, Cenozoic Tectonic Processes Along the Southern Alaska Convergent Margin, *Geology*, 35, 1055-1056, 2007.
1. **Flesch, L.M.**, A Possible “Window of Escape” in the Southern Cascadia Subduction Zone, *Geology*, 35, 969-960, 2007.

### Invited Lectures

57. SCEC Community Stress Model Workshop, Pomona, CA, January 2019.
56. Keynote, Grand Challenges in Geodesy, Michigan State University, November 2018.
55. Department of Earth and Environmental Sciences, Tulane University, New Orleans, LA, March 2018.
54. UNAVCO Board of Directors Science talk to Agency Sponsors, Washington, D.C., January 2018.
53. Keynote, EarthScope National Meeting, Anchorage, AK, May 2017.
52. Keynote, UNAVCO Annual Meeting, Boulder, CO, March, 2016.
51. **L.M. Flesch**, L. Chang, C-Y Wang, and Z. Ding, Identification of Mantle Upwelling in North China Through the Joint Analysis of SKS and Surface Deformation Data, *Eos Trans., AGU*, Fall Meeting 2016.
50. Department of Geology and Environmental Earth Sciences, Oxford Ohio, November 2015.
49. Gansu Earthquake Administration, Lanzhou China, September 2015.
48. Chinese Earthquake Administration, Beijing China, September 2015.
47. Briefing for Rodger Wakimoto, Assistant Director (GEO) NSF and GEO program officers on the “Futures of SAGE/GAGE Facilities Workshop” and workshop report, Washington, D.C., September 2015.
46. Computational Infrastructure for Geodynamics Webinar, April 2015.
45. APS Conference for Undergraduate Woman in Physics, West Lafayette, IN, January 2015.

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44. Keynote, CIG Mantle and Lithospheric Dynamics Workshop, Banff, Canada, May 2014.
43. **L.M. Flesch**, C.Y. Wang, L.J. Chang, and T.Y. Zhang, Evidence of active mantle flow beneath South China., *Eos Trans. AGU*, Fall Meet. Suppl., Abstract S31A-2342, 2013.
42. SACNAS, National Meeting, San Antonio, TX, October, 2013.
41. Department of Geosciences, University of Mass-Amherst, March 29<sup>th</sup>, 2012.
40. Department of Geology and Environmental Science, University of Akron, March, 2012.
39. Department of Geosciences, University of Arizona, February, 2012.
38. Department of Geological Sciences, Central Washington University, November, 2011.
37. Institute of Geophysics, China Earthquake Administration, Beijing, China – September, 2011.
36. Department of Earthquake Monitoring and Forecast, Earthquake Administration of Sichuan Province, Chengdu, China, September, 2011.
35. Department of Earth and Environmental Sciences, University of Kentucky, September, 2011.
34. Plenary Talk, *EarthScope National Meeting*, Austin, TX, May 2011.
33. Department of Earth and Space Sciences, UCLA, May, 2011.
32. **L.M. Flesch**, and P.G. Silver, Joint analysis of GPS and shear-wave splitting data to understand large-scale continental deformation in the India-Eurasia Collision zone, *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract S13C-04, 2009.
31. EarthScope Symposium, Capital Hill, Washington D.C., April 29<sup>th</sup>, 2009.
30. NSF - Briefed Tim Kileen, Assistant Director for Geosciences, and Cora B. Marrett, Deputy Director, on EarthScope – Plate Boundary Observatory Science, January 28<sup>th</sup>, 2009.
29. Department of Earth Sciences, University of Southern California, November, 2008.
28. Department of Geosciences, Virginia Tech, September, 2008.
27. Keynote Talk - *CIG-Mantle/Lithosphere Meeting*, July 9<sup>th</sup>-11<sup>th</sup> Davis, CA, 2008.
26. Plenary Talk - *EarthScope National Meeting*, March 24<sup>th</sup>, 2007.
25. Department of Earth Sciences, Indiana University Purdue University Indianapolis, October 2007.
24. Earth and Atmospheric Sciences 40<sup>th</sup> Anniversary, Purdue University, April 2007.
23. Keynote Talk - Continent Scale Dynamics, MYRES-II, Verbania, Italy, July, 2006.
22. Department of Geological Sciences, Indiana University, April 2006.
21. Department of Geology, University of Illinois-Urbain-Champaign, March 2006.

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20. Department of Earth and Environmental Sciences, University of Illinois-Chicago, March 2006.
19. Department of Geosciences, Princeton University, April 2005.
18. Department of Geosciences, Penn State University, March 2004.
17. Department of Earth and Atmospheric Sciences, Purdue University, March 2004.
16. Department of Geology, University of Oregon, March 2004.
15. Department of Geosciences, University of Arizona, March 2004.
14. Department of Geology, Miami University, February 2004.
13. Department of Geological Sciences, University of California-Santa Barbara, February 2004.
12. Department of Geological Sciences, University of Southern California, February 2004.
11. **Flesch, L.M.**, P.G. Silver, C. Wang, L. Chang, W.W. Chan, Evidence for Mechanically-Coupled Asian Lithosphere from the Joint Analysis of Surface Deformation and Seismic Anisotropy Data, *Eos Trans. AGU*, 87(52), Fall meet. Suppl., Abstract T32B-05, 2003.
10. Dept. of Terrestrial Magnetism, Carnegie Institution of Washington, March 2003.
9. **Flesch, L.M.**, W.E. Holt, A.J. Haines, and B. Shen-Tu, Dynamics of the Western North American Plate Boundary Zone, AGU Western Pacific Meeting, Wellington, New Zealand, July, 2002.
8. Dept. of Terrestrial Magnetism, Carnegie Institution of Washington, March 2002.
7. Department of Earth Sciences, University of Cambridge, February 2002.
6. Department of Geophysical Sciences, University of Chicago, February 2002.
5. Department of Geophysics, Stanford University, January 2002.
4. Department of Geology and Geophysics, Yale University, January 2001.
3. **Flesch, L.M.**, W.E. Holt, A.J. Haines, B. Shen-Tu, and M.W. Hamburger, Kinematic and Dynamic Models of western North America, EOS Transactions, AGU, 81(48), Fall Meeting Supplement, 2000.
2. **Flesch, L.M.**, W.E. Holt, A.J. Haines, and B. Shen-Tu, Understanding the dynamics of the western United States using seismic, geologic, topographic, and geodetic data, Geological Society of America, A-243, 2000.
1. **Flesch, L.M.**, W.E. Holt, and A.J. Haines, The dynamics of the India-Eurasia collision zone, Eos Transactions, AGU, 79 (45), Fall Meeting Supplement, 204, 1998.

### Funding History

NSF-EAR0538119, Co-PI: Kinematic constrains on mantle-lithosphere interactions in Eastern Africa, 03/2006, \$423,250.

Purdue Research Foundation XR Grant, PI, 06/2007, \$15,586.

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- NSF-EAR0609337, PI: Collaborative Research: Quantifying the dynamics of Asia using GPS, geologic and shear-wave splitting data, and large-scale flow models, 06/2006, \$255,944.
- NSF-EAR0738920, Co-PI: Extensional Deformation in convergent systems, 01/2008, \$211,874.
- ACS Petroleum Research Fund, Co-PI: Geodynamics of Flat-Slab Subduction, Sedimentary Basin Development, and Hydrocarbon Systems Along the Southern Alaska, 01/2009, \$100,000.
- NSF-EAR0934806, PI: CMG RESEARCH: The application of polar field theories to large-scale continental deformation, 09/2009, \$510,996.
- NSF-EAR1118931, PI: Collaborative Research: Exploring extensional tectonics beyond the Ethiopian rift, 08/2011, \$275,910.
- NSF-EAR1148027, PI: Collaborative Research: Geophysical investigation of the Mid-Continent rift system, 09/12, \$115,000.
- Purdue Research Foundation XR Grant, PI, 05/2014, \$28,281.
- NSF-EAR1447100, PI Investigating the partitioning of vertical strength with the India-Eurasia lithosphere using surface observations: A numerical modeling approach, 01/2015, \$190,000.
- NSF-EAR1736153, PI: Quantifying the relationship between the Earth's convection interior, plate motions and earthquakes in Alaska using three-dimensional numerical simulations, 07/2017, \$294,288.
- NSF-EAR1813844, PI: Collaborative Research: Integrating tectonics, climate and mammal diversity, pending, \$373,344.
- NSF-EAR1813844, PI: Collaborative Research: Integrating tectonics, climate and mammal diversity, 09/2018, \$235,349.
- NSF-EAR, PI: Collaborative Research: Understanding lithospheric structure and deformation in Alaska via integration of seismic imaging and geodynamic modeling, 08/2018, \$16,352.

### Professional Activities

Editor Geophysical Research Letters, 2018-present

Board of Directors, UNAVCO, a non-profit membership-governed consortium that facilitates geoscience research using geodesy, elected 2016.

Board Secretary –2017

Vice Chair – 2018

Chair - 2019

Member Solid Earth Panel of the 2017-2027 Decadal Survey for Earth Science and Applications from Space (ESAS 2017) commissioned by the National Academies of Sciences, Engineering, and Medicine, which will help shape science priorities and guide agency investments into the next decade. The survey, sponsored by NASA, NOAA, and the USGS, is driven by input from the scientific community and policy experts.



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Member of the NSF-Geophysics panel (2014-2017)

Member of the NSF-EarthCube Panel (2017)

Co-Chair of the organizing committee for the “Future for Seismic and Geodetic Facility Needs in Geosciences” meeting May 2015, Landover VA. Dr. Flesch was recruited by the Presidents of IRIS and UNAVCO to co-organize this workshop. NSF/EAR had indicated the plan to recompute the management and operation of its seismic and geodetic facilities in 2018. In order to inform this recompetition, IRIS, UNAVCO, and the EarthScope National Office (ENO) worked together to gather community input for NSF on the key scientific questions and emerging areas of research the geosciences community will be pursuing in 2018 and beyond, and the seismic and geodetic facility capabilities that will be required to support this research. This meeting brought together 120 members of the community to discuss and prioritize science questions and needs for future geophysical facilities, and resulted in a workshop report that was given to the National Research Council to inform the construction of the NSF-RFP for NSF facility recompetition.

Dr. Flesch was a member of the Geodetic Data Services Advisory Committee (GDS-AC) of UNAVCO, a non-profit membership-governed consortium that facilitates geoscience research using geodesy (2013-2014).

Dr. Flesch was a member of (2011- 2015) the EarthScope’s (an NSF sponsored community effort to provide freely available data from a dense geophysical instrumentation in the western United States) Cyberinfrastructure Committee, which is currently tasked with the generation of a plan to expand cyberinfrastructure within the EarthScope community and beyond and interfacing with NSF-Earthcube initiative.

Dr. Flesch was a member of (2012-2014) the IRIS DMS Data Products Working Group that is charged with the product development effort aims to produce products beyond raw data that serve as the basis for research needs or end-use education and outreach material. IRIS is a consortium of over 100 US universities dedicated to the operation of science facilities for the acquisition, management, and distribution of seismological data. IRIS programs contribute to scholarly research, education, earthquake hazard mitigation, and verification of the Comprehensive Nuclear-Test-Ban Treaty.

Co-Organizer of the EarthCube end-user domain workshop for EarthScope, Tempe, AZ Oct, 2012.

Dr. Flesch served on the PhD examination committee of Karin Warners-Ruckstuhl in the Department of Geosciences, Utrecht University, January 2012.

Member NSF-East Asia and Pacific Summer Institutes panel, January, 2011.

Co-Organizer of “Future directions for NSF-sponsored geoscience research in the Himalaya/Tibet” workshop, June 11-12 2010, San Francisco, CA. The purpose of this workshop, commissioned and sponsored by NSF, is to review the collective results of

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Continental Dynamics funded projects in Tibet along with Tibetan research funded through other GEO programs and identify outstanding grand challenges that need to be addressed and data sets that are needed in order to guide future NSF proposals for this region.

Scientific Program Committee of “Geodynamics of the Lithosphere and Deep Earth GLADE 2010: From grains to global tectonics” meeting, July 26-29 2010, San Diego, CA. This meeting co-sponsored by NSF and Computational Infrastructure for Geodynamics, a membership-governed organization that supports and promotes Earth science by developing and maintaining software for computational geophysics and related fields. It will emphasize cutting-edge research of geodynamical modeling of the lithosphere and deep Earth and will serve as a nesting ground for the US Geodynamics community.

Member Geodynamics Grand Challenges White Paper writing team, 2010. This document was solicited by NSF to be used in future planning concerning geodynamic and computational research for both NSF and the NRC.

Dr. Flesch was a member of the Editorial Board of the Journal *Geology* from 2008-2010.

Dr. Flesch was a member of the Plate Boundary Observatory (PBO) – Advisory Committee (2008-2013). PBO is the geodetic observatory within EarthScope (an NSF sponsored community effort to provide freely available data from a dense geophysical instrumentation in the western United States) run by UNAVCO, a non-profit membership-governed consortium that facilitates geoscience research using geodesy. The PBO – Advisory Committee advises the UNAVCO board of directors concerning activities of the PBO UNAVCO program.

Dr. Flesch is an active peer reviewer for NSF proposals averaging ~8-10 per year. Additionally, she performs peer reviews for numerous journals (*Nature*, *Geology*, *Geophysical Research Letters*, *Journal of Geophysical Research*, *Geophysical Journal International*, *Earth and Planetary Science Letters*, *Physics of the Earth and Planetary Interiors*, *Journal of Geodesy*, *Geological Society of London*, *Bulletin of the Seismological Society of America*, *Tectonophysics*) averaging ~10 reviews per year.

Workshop participant in the Geodetic Science Planning Meeting (Salt Lake City, Utah, 2009) and the EarthScope Science Planning Meeting (Snowbird, Utah, 2009), which are both strategically important community efforts to define future science directions.

Program Chair of the Tectonophysics Section of the American Geophysical Union Joint Assembly from 2007-2008.

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Co-organized, and co-convene the highlighted Pardee Special Session “*Large-scale Continental Deformation at Plate Boundaries*” for the Geological Society of America meeting, 2008.

Co-organized and co-convened several special sessions at American Geophysical Union meetings:

“*A Decade of EarthScope Advances in Research*” - 2013 AGU Fall Meeting

“*Understanding Deformation Phases of the India-Asia Continental Collision*” – 2012 AGU Fall Meeting

“*Dynamics of the Lithosphere*” - 2008 AGU Joint Assembly

“*Stress in the Lithosphere: Top Down or Bottom Up Control?*” - AGU 2007 Fall meeting

“*Beyond Plate Tectonics*” - AGU 2005 Fall meeting

### **M.S. and Ph.D. students graduated**

Sarah Stamps –PhD May 2013

*Asst. Prof. Virginia Tech*

Emily Finzel – PhD August 2010

*Asst. Prof. University of Iowa*

Kelvin Koster – MS February 2013

Sarah Bischoff – PhD May 2017

*Research Data Analyst, Purdue University*

Cassidy Jay – PhD May 2018

*Asst. Visiting Prof., Washington and Lee University*

Elliot Klein – Post-Doctoral

*Air Worldwide*

Lijun Chang – Visiting Scholar China (2013-2014)

*Faculty, China Earthquake Administration*

Zhengyang Qiang – Visiting Scholar China (2015-2016)

*Faculty, China Earthquake Administration*

### **Current graduate and postdoctoral student**

Joe McConeghy – PhD student started Fall 2014

### **Service on Graduate Committees**

Patrick Brennan, Christine Lindemann, Paul Landis, Saptarshi Dasgupta, Emily Finzel, Don Koglin, Tabrez Ali, Sarah Stamps, Jessica Griffin, Ali Can Bakir, Kelvin Koster, Russell Martin, Elifuraha Saria, Chen Chen, Cassidy Jay, Sarah Bischoff, Jake Crane, Patrick Newman, Wai Allen.

### **Department Service**

Associate Head, 2017-2018

## **Lucy M. Flesch**

Chair, Graduate Committee, Purdue University 2013-2017  
Graduate Committee, Purdue University, 2005-present  
Alumni & Corporate Relations, Purdue University, 2016-2018  
Honors Committee, Purdue University, 2016-2018  
Energy Chair Search Committee, Purdue University, 2016  
Chair, Geohydrology Search Committee, Purdue University, 2014  
Geodesy and Active Tectonics Search Committee, Purdue University, 2013  
Executive Committee, Purdue University, 2007-2009, 2011-2013, 2014-present  
Diversity Committee, Purdue University, 2012  
Graduate Student Recruiting Committee, Purdue University, 2005-2007  
GAT Search Committee, Purdue University, 2007  
EAPS-Woman in Science at Purdue

### **College Service**

GCAP Member, 2013-2017  
Grievance Hearing Committee, 2010-2012  
College of Science Elections Committee, 2010-2012  
Grade Appeals Alternative, 2006-2007  
Speaker, Woman in Science at Purdue, 2007, 2011, 2017, 2018

### **University Service**

Graduate Council, 2014-2018  
Chair, Area Committee C, Graduate Council 2016-2018  
Judge, Undergraduate Research Symposium, 2006  
Research Integrity Standing Committee, 2016-present  
Judge, Sigma Chi, graduate poster competition, 2014  
Provost's "Promotion and Tenure Task Force" charged for making recommendations for the rewriting of the current guidelines for Promotion and Tenure at Purdue University, 2011-2012

### **Public Outreach**

Participant in Congressional Visits Day sponsored by AAAS and AGI spring 2009, meeting with staffers from Senator Luger's office and Representative Buyer's office.  
Source for various local news outlets following the 2015 Nepali earthquake.