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ISI Researcher ID: C-4233-2011

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State College, PA 16803
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EDUCATION:

Hartwick College	Geology	B.A.1993
Florida International University	Geology	M.Sc.1997
University of Miami - RSMAS	Marine Geology & Geophysics	Ph.D.2006
University of Miami - RSMAS	Post-Doctoral Researcher	2006

APPOINTMENTS:

2013 - **Associate Professor of Geosciences:** The Department of Geosciences, The Pennsylvania State University

2006 – 2013 **Assistant Professor of Geosciences:** The Department of Geosciences, The Pennsylvania State University

2005 – 2006 **Post Doctoral Researcher:** Department of Marine Geology and Geophysics, University of Miami, Rosenstiel School of Marine and Atmospheric Sciences.

2000 – 2005 **Graduate Research Assistant:** Department of Marine Geology and Geophysics, University of Miami, Rosenstiel School of Marine and Atmospheric Sciences.

1998 – 2003 **Scientist:** Southwest Research Institute - Center for Nuclear Waste Regulatory Analyses, San Antonio, TX. Part-time employment and consulting 2000-2003.

1997 – 1998 **Geophysical Consultant**

AWARDS:

2010 - National Science Foundation: Faculty Early Career Development (CAREER) Award

2006 - Walton Smith Award: In Recognition of Outstanding PhD Dissertation (One given per year), The University of Miami – Rosenstiel School of Marine and Atmospheric Sciences

FUNDED RESEARCH:

(1) NSF (EAR-0711456), 7/1/07-6/30/12, \$198,777, “Iceland Geodynamics: Magma-Tectonic Interactions in South Iceland.”

- (2) NSF (EAR-0711456), 7/1/07-6/30/12, \$20,000, “REU Supplements: 2 x \$10,000.”
- (3) NSF (EAR-0738941), 1/1/08-12/31/10, \$279,550, “Collaborative Research: Active, Upper Plate Deformation in Response to Migration of the Panama Triple Junction, Pacific Coast, Panama and Costa Rica.”
- (4) NSF (EAR-0841901), 8/1/09-7/31/11, \$164,000, “Acquisition of a Subsurface Radar Imaging Facility at Penn State.”
- (5) NSF (EAR-0911546), 8/1/09-7/31/13, \$217,500, “Collaborative Research: Toward an Understanding of Magmatic and Seismogenic Processes Beneath Quiescently Active Volcanoes.”
- (6) NSF (EAR-0955560), 5/15/10-4/30/15, \$508,995, “CAREER: Convergence of Space Geodesy in Plate Boundary Research and Geoscience Education.”
- (7) NSF (OISE-1242269), 07/01/12-09/30/13, \$100,000, “PASI: Magma-Tectonics in Latin America.”
- (8) NSF (EAR- 1261653), 10/01/12-09/31/14, \$275,000, “Acquisition of Next Generation Terrestrial Laser Scanning Systems for Community Earth and Polar Science Research.”

PUBLICATIONS:

^a principal author, ^b supervising author, ^c contributing author, ^d student author

- (1) Sturkell, E., K. Ágústsson, A. T. Linde, S. I. Sacks, P. Einarsson, F. Sigmundsson, H. Geirsson, R. Pedersen, ^c**P. C. LaFemina**, H. Ólafsson, (2013). New insights into volcanic activity from strain and other deformation data for the Hekla 2000 eruption, *Journal of Volcanology and Geothermal Research*, Volume 256, 15 April 2013, Pages 78-86, doi: 10.1016/j.jvolgeores.2013.02.001.
- (2) ^dGeirsson, H., ^b**LaFemina, P.**, Sturkell, E., Árnadóttir, Þ., Sigmundsson, F., Travis, M., Schmidt, P., Lund, B., Hreinsdóttir, S., Bennett, R., (2012). Volcano deformation at active plate boundaries: Deep magma accumulation at Hekla volcano and plate boundary deformation in south Iceland, *Journal of Geophysical Research*, 177, B, doi:10.1029/2012JB009400.
- (3) ^dChesley, C., ^b**LaFemina, P.C.**, Puskas, C.M., Kobayashi, D., 2012. The 1707 M8.7 Hiei Earthquake Triggered the Largest Historical Eruption of Mt. Fuji, Japan *Geophysical Research Letters*, vol. 39, L24309, doi:10.1029/2012GL053868.
- (4) Brounce, M., Feineman, M., ^{cb}**LaFemina, P.**, Gurenko, A., (2012). Insights into crustal assimilation by Icelandic basalts from boron isotopes in melt inclusions from the 1783–1784 Lakagígar Eruption, *Geochimica et Cosmochimica Acta*; 94, 164–180.
- (5) Pritchard, M., Owen, S., Anandakrishnan, S., Holt, W., Bennett, R., ^c**LaFemina, P.**, Jansma, P., MacGregor, I., Raymond, C., Schwartz, S., Stein, S., Miller, M., (2012). FORUM: Open access to geophysical data sets requires community responsibility, *EOS, Transactions, American Geophysical Union*, vol. 93, (26), 243, 2012 doi:10.1029/2012EO260006.
- (6) Saballos, J.A., Malservisi, R., Connor, C.B., ^c**LaFemina, P.C.**, Wetmore, P.H., Gravity and Geodesy of Concepcion Volcano, Nicaragua, (2012). *GSA Special Publication Understanding Open-Vent Volcanism and Related Hazards*, Palma, L., Rose, B., Varley, N. and Delgado, H., Eds. Geological Society of America, Denver, CO.
- (7) Scheiber-Enslin, S., ^b**LaFemina, P.**, Sturkell, E., Hooper, A. and Webb, S., Geodetic

- Investigation of Plate Spreading Along a Propagating Ridge, (2011). *Geophysical Journal International*, 187, 1175–1194, doi: 10.1111/j.1365-246X.2011.05243.x. Supervisor of Principal Author.
- (8) Morell, K.D., Fisher, D.S., Gardner, T.W., °**LaFemina, P.C.**, Davidson, D., Teletzke, A., (2011). Quaternary outer forearc deformation and uplift inboard of the Panama Triple Junction, Burica Peninsula, *Journal of Geophysical Research*, 116, B05402, doi:10.1029/2010JB007979.
- (9) Geirsson, H., Árnadóttir, T., Hreinsdóttir, S., Decriem, J., °**LaFemina, P.C.**, Jónsson, S., Bennett, R.A., Metzger, S., Holland, A., Sturkell, E., Villemin, T., Völksen, C., Sigmundsson, F., Einarsson, P., Roberts, M.J., Sveinbjörnsson, H., (2010). Overview of results from continuous GPS observations in Iceland from 1995 to 2010, *Jokull*, 60, 3-22.
- (10) Decriem, J., Arnadóttir, A., Hooper, A., Geirsson, H., Sigmundsson, F., Keiding, M., Ofeigsson, B.G., Hreinsdóttir, S., Einarsson, P., °**LaFemina, P.**, Bennett, R., (2010). The 2008 May 29 Earthquake Doublet in SW Iceland, *Geophysical Journal International*, 181, 1128-1146, doi: 10.1111/j.1365-246X.2010.04565.x.
- (11)^a**LaFemina, P.**, Dixon, T.H., Govers, R., Norabuena, E., Turner, H., Saballos, A., Mattioli, G., Protti, M., Strauch, W., (2009). Fore-arc Motion and Cocos Ridge Collision in Central America, *Geochemistry, Geophysics, Geosystems*, 10 (5), Q05S14, doi:10.1029/2008GC002181.
- (12) Hreinsdóttir, S., Arnadóttir, T., Decriem, J., Geirsson, H., Tryggvason, A., Bennett, R.A., °**LaFemina, P.**, (2009). A complex earthquake sequence captured by the continuous GPS network in SW Iceland, *Geophysical Research Letters*, 36, L12309, doi:10.1029/2009GL038391.
- (13) Sak, P., Fisher, D.M., Gardner, T.W., Marshall, J.S., °**LaFemina, P.C.**, (2009). Rough crust subduction, fore arc kinematics, and Quaternary uplift rates, Costa Rican segment of the Middle American Trench, *Geological Society of America Bulletin*, 121 (7/8), 992-1012, doi: 10.1130/B26237.1.
- (14) Plattner, C., Malservisi, R., Dixon, T., °**LaFemina, P.**, Sella, G., Fletcher, J., Suarez-Vidal, F. (2007). New constraints on relative motion between the Pacific Plate and Baja California microplate (Mexico) from GPS measurements, *Geophysical Journal International*, 170, 1373–1380, doi: 10.1111/j.1365-246X.2007.03494.x.
- (15) Turner, H. L., III, °**P. LaFemina**, A. Saballos, G. S. Mattioli, P. E. Jansma, and T. Dixon (2007). Kinematics of the Nicaraguan forearc from GPS geodesy, *Geophys. Res. Lett.*, 34, L02302, doi:10.1029/2006GL027586.
- (16) Cailleau, B., °**LaFemina, P.C.**, and Dixon, T.H., (2007), Stress accumulation between volcanoes: an explanation for intra-arc earthquakes in Nicaragua?, *Geophysical Journal International*, 169, 1132-1138 , doi: 10.1111/j.1365-246X.2007.03353.x.
- (17) Lopez, A.M., Stein, S., Dixon, T., Sella, G., Calais, E., Jansma, P., Weber, J. and °**LaFemina, P.** (2006). Is there a Lesser Antilles forearc block?, *Geophysical Research Letters*, 33, L07313, doi:10.1029/2005GL025293.
- (18)^a**La Femina, P.C.**, Dixon, T.H., Malservisi, R., Arnadóttir, T., Sturkell, E., Sigmundsson, F., Einarsson, P., (2005). Strain partitioning and accumulation in a propagating ridge system:

Geodetic GPS measurements in south Iceland, *Journal of Geophysical Research*, 110, B11405, doi:10.1029/2005JB003675.

- (19) Diez, M., ^b**La Femina, P.C.**, Connor, C.B., Strauch, W., Tenorio, V., (2005). Evidence for Static Stress Changes Triggering the 1999 Eruption of Cerro Negro Volcano, Nicaragua and Regional Seismic Swarms, *Geophysical Research Letters*, 32, L04309, doi:10.1029/2004GL021788.
- (20) ^a**La Femina, P.C.**, C.B. Connor, B.E. Hill, W. Strauch, and A.J. Saballos, (2004). Magma-Tectonic Interactions in Nicaragua: The 1999 Seismic Swarm and Eruption of Cerro Negro Volcano, *Journal of Volcanology and Geothermal Research*, 137 (1-3), 187-199, doi:10.1016/j.jvolgeores.2004.05.006.
- (21) Dunn, W. M., Ferrill, D.A., Crider, J.G., Hill, B.E., Waiting, D.J., ^c**La Femina, P.C.**, Morris, A.P., Fedors, R.W., (2003). Orthogonal jointing during coeval igneous degassing and normal faulting, Yucca Mountain, Nevada. *GSA Bulletin*, 115 (12), 1492-1509.
- (22) Malservisi, R., Dixon, T.H., ^c**La Femina, P.C.**, and Furlong, K.P., (2003). Holocene slip rate of the Wasatch fault zone, Utah, from geodetic data: Earthquake cycle effects, *Geophysical Research Letters*, 30 (13), 1673, doi:10.1029/2003GL017408.
- (23) ^a**La Femina, P.C.**, Dixon, T.H., and Strauch, W., (2002). Bookshelf faulting in Nicaragua, *Geology*, 30 (8), 751-754.
- (24) ^a**La Femina, P.C.**, Connor, C.B., Stamatakos, J.A., Farrell, D.A., (2002). Imaging an Active Normal Fault in Alluvium by High-Resolution Magnetic and Electromagnetic Surveys, *Environmental and Engineering Geosciences*, 8 (3), 193-207.
- (25) Connor, C.B., Hill, B.E., Winfrey, B., Franklin, N.M., ^c**La Femina, P.C.**, (2001). Estimation of volcanic hazards from tephra fallout, *Natural Hazards Review*, 2, (1), 33-42.
- (26) Hill, B.E., Connor, C.B., Jarzempa, M.S., ^c**La Femina, P.C.**, Navaro, M., Strauch, W., (1998). 1995 eruptions of Cerro Negro volcano, Nicaragua, and risk assessment for future eruptions, *GSA Bulletin*, 110 (10), 1231-1241.
- (27) Connor, C.B., Lane-Magsino, S., Stamatakos, J.A., Martin, R.H., ^c**La Femina, P.C.**, Hill, B.E. and Lieber, S., (1997). Magnetic surveys help reassess volcanic hazards at Yucca Mountain, Nevada, *Eos, Transactions, AGU*, 78 (7), February 18, 1997, 73, 77-78.
- (28) Connor, C.B., Lane-Magsino, S., Stamatakos, J.A., Martin, R.H., ^c**La Femina, P.C.**, Hill, B.E. and Lieber, S., (1997). Blasts from the past indicate hazard level at Yucca Mountain. *Earth in Space: For teachers and students of Science*, May, 1997, 11-14.
- (29) Connor, C.B., Hill, B.E., ^c**La Femina, P.C.**, Navarro, M. and Conway, F.M., (1996). Soil radon pulse during the 1995 phreatic eruption of Cerro Negro, Nicaragua. *Journal of Volcanology and Geothermal Research*, 73, 119-127.

MANUSCRIPTS SUBMITTED/IN PREPARATION:

- (1) ^a**LaFemina, P.**, The Kinematics of Fore-Arc Motion in Nicaragua: The Bookshelf Faulting Model Revisited (submitted/in **revision** for *Geochemistry Geophysics Geosystems*, February 2011).
- (2) Travis, M., ^b**LaFemina, P.**, Geirsson, H., Arnadottir, T., Sturkell, E., Hreinsdottir, S., Direct observations of ridge deactivation in a propagating ridge system: The Western Volcanic Zone, South Iceland (in preparation for *Geophysical Research Letters*; September 2012).
- (3) Kobayashi, D., ^b**LaFemina, P.**, Halldór Geirsson, Antonio A Abrego, Hector Mora-Paez, Eric Chichaco, Eduardo Camacho, Tectonic modification of the western Caribbean by ridge collision (in preparation for *Geochemistry, Geophysics, Geosystems*).
- (4) ^a**LaFemina, P.**, Robertson, J. & Dooling, P., Plate Boundary Reorganization and Microplate Rigidity in South Iceland. (in preparation for *Tectonics*; September 2012). Draft Manuscript.

ARTICLES PUBLISHED IN NONREFEREED JOURNALS:

La Femina, P.C., (1998). From Borobudur to bicycles: geophysical surveys on foot and by wheel, *GPS World*, July, 1998, p. 36-43.

ARTICLES IN IN-HOUSE PUBLICATIONS:

Connor, L.M., Connor, C.B., **LaFemina, P.C.**, (1999). Geophysics in Real-Time, *Technology Today*, Southwest Research Institute, San Antonio, TX

RESEARCH REPORTS TO SPONSORS:

- (1) Winterle, J.R., and **La Femina, P.C.**, (1999), Review and Analysis of Hydraulic and Tracer Testing at the C-Holes Complex Near Yucca Mountain, Nevada, prepared for Nuclear Regulatory Commission: Contract NRC-02-97-009, June 1999.
- (2) Magsino, S.L., Connor, C.B., Hill, B.E., Stamatakos, J.A., **La Femina, P.C.**, Sims, D.A., and Martin, R.H., CNWRA Ground Magnetic Surveys in the Yucca Mountain Region, Nevada (1996-1997), prepared for Nuclear Regulatory Commission: Contract NRC-02-97-009, January 1998.
- (3) Connor, C.B. and **La Femina, P.C.**, (1997), Final Report: Magnetic Survey of the Ujung Lemahabang Site, Muria Peninsula, Indonesia, prepared for the International Atomic Energy Agency, Division of Nuclear Installation Safety, Vienna Austria, November 1997.

INVITED LECTURES:

- (1) **LaFemina, P.**, Accommodation of Forearc Motion in Central America: Insights from Geodesy, Seismology & Geology, (2012). GSA Penrose Conference: Deformation, Fluid Flow and Mass Transfer in the Forearc of Convergent Margins, 25-31 March 2012, Il Cioco, Italy.
- (2) **LaFemina, P.**, Convergence of Space Geodesy in Plate Boundary Research and Geoscience Education, (2012). Arizona State University School of Earth and Space Exploration Seminar, February 23, 2012.

- (3) **LaFemina, P.**, Studies of Seismogenesis in Central America Utilizing Geodetic Data (2011). Joint ICTP/TWAS Workshop on “Seismic Sources in Central America: What is the Largest Earthquake Each Can Produce?”, 30 October – 5 November, 2011, Heredia, Costa Rica
- (4) **LaFemina, P.**, Geodetic Investigation of Cocos Ridge Collision and Seismic Hazards in Central America, (2011). TU Delft, Department Remote Sensing and Geoscience, Delft, The Netherlands, June 14, 2011.
- (5) **LaFemina, P.**, Life & Death Struggle in a Propagating Ridge System: Geodetic GPS and Geologic Observations in South Iceland, (2011). Dickinson College, Department of Earth Sciences, April 4, 2011.
- (6) **LaFemina, P.**, Continuous GPS Networks in Central America, (2011). NSF-UNAVCO COCONet Workshop, February 3-4, 2011, San Juan, Puerto Rico.
- (7) **LaFemina, P.**, It Came from the Galapagos: Cocos Ridge Collision and Seismic Hazards in Central America, (2010). Tectonophysics Group, University of Utrecht, The Netherlands, November 25, 2010
- (8) **LaFemina, P.**, It Came from the Galapagos: Cocos Ridge Collision and Seismic Hazards in Central America, (2010). Attack of Planet Earth Seminar Series, Cornell University, October 20, 2010.
- (9) **LaFemina, P.** and Geirsson, H., The 2010 Eruption of Eyjafjalljokull Eruption, Iceland, (2010). Nittany Mineralogical Society, September 15, 2010.
- (10) **LaFemina, P.**, Cocos Ridge Collision and Fore-arc Deformation in Central America, (2009). Temple University, Department of Earth and Environmental Sciences, October 30, 2009.
- (11) **LaFemina, P.**, Dixon, T., Govers, R., Schwartz, S., Protti, M., Forearc Motion and Cocos Ridge Collision in Central America, (2008). Rutgers University, Department of Earth & Planetary Sciences, November 5, 2008.
- (12) **LaFemina, P.**, Forearc Motion and Cocos Ridge Collision in Central America, (2008). The Next Decade of the Seismogenic Zone Experiment, NSF-MARGINS, Mt. Hood, Oregon, 22-26 September, 2008.
- (13) **LaFemina, P.**, Arnadottir, T., Sturkell, E., Sigmundsson, F., (2008). Strain Partitioning and Accumulation across the Eastern and Western Volcanic Zones, South Iceland: Implications for Future Fissures Eruptions, IAVCEI General Assembly Meeting, Reykjavik, Iceland.
- (14) **LaFemina, P.**, Life & Death Struggle in a Propagating Ridge System: Geodetic GPS and Geologic Observations in South Iceland, (2007). Summer School on Geodynamics and Magmatic Processes, Northern Volcanic Zone, Iceland, August 20-29, 2007.
- (15) **LaFemina, P.**, Life & Death Struggle in a Propagating Ridge System: Geodetic GPS and Geologic Observations in South Iceland, (2007). Department of Terrestrial Magnetism – Carnegie Institute of Washington, Washington, D.C., May 30, 2007.
- (16) **LaFemina, P.**, Dixon, T., Govers, R., Schwartz, S., Protti, M., Norabuena, E., & Newman, A., Earthquake Cycle to Long-term Deformation of the Central American Convergent Margin, (2007). Workshop to Integrate Subduction Factory and Seismogenic Zone Studies in Central America June 18-22, 2007, La Condesa Hotel Heredia, Costa Rica, 2007.
- (17) **LaFemina, P.**, Dixon, T.H., Govers, R., Protti, M. and Gonzales, V. (2007), Changes in Seismogenic Zone Coupling Along the Middle America Margin?, *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract T44A-08.

COURSES TAUGHT:

Peter C. La Femina – Curriculum Vita

GEOSC 001: Physical Geology

GEOSC 434: Physical Volcanology

GEOSC 597K: Active Tectonics

EMSC 470W: CAUSE: Iceland

GRADUATE STUDENTS:

PhD: Halldor Geirsson (in progress)

MSc: Stephanie Scheiber (2007 (Co-Advisor) – University of the Witwatersrand, South Africa); Caroline O’Hara (2009); Daisuke Kobayashi (2012 – Defended); Matthew Travis (2012 – Defended).

COLLABORATORS:

Dr. Thóra Árnadóttir, NOROVULK, Institute of Earth Sciences, University of Iceland, Iceland

Dr. Rick Bennett, Department of Geosciences, University of Arizona, U.S.

Dr. Charles B. Connor, Department of Geology, University of South Florida, U.S.

Dr. Maureen Feineman, Department of Geosciences, The Pennsylvania State University, U.S.

Dr. Donald M. Fisher, Department of Geosciences, The Pennsylvania State University, U.S.

Dr. Kevin Furlong, Department of Geosciences, The Pennsylvania State University, U.S.

Dr. Thomas Gardner, Department of Geosciences, Trinity University, U.S.

Dr. Robert Govers, Department of Earth Sciences, Utrecht University, The Netherlands

Dr. Andy Hooper, Department of Remote Sensing and Geoscience, TU Delft, The Netherlands

Dr. Sigrun Hreinsdottir, Institute of Earth Sciences, University of Iceland, Iceland

Dr. Rocco Malservisi, Department of Geology, University of South Florida, U.S.

Dr. Diana C. Roman, Department of Terrestrial Magnetism, Carnegie Institute Washington, U.S.

Dr. Freysteinn Sigmundsson, Institute of Earth Sciences, University of Iceland, Iceland

Dr. Erik Sturkell, Department of Earth Sciences, University of Gothenburg, Sweden

SYNERGISTIC ACTIVITIES:

2012-13 – Vice-Chairman of the Board of Directors, UNAVCO, Inc.

2009-12 - **Chair** UNAVCO Facilities Advisory Committee, UNAVCO, Inc.

2008-09 - Member UNAVCO Facilities Advisory Committee, UNAVCO, Inc.

2006-13 - Penn State Geosciences Admissions Committee

2006-09 - Penn State Geosciences Computer Committee

2008-09 - Penn State Geosciences Executive Committee

1993 - American Geophysical Union (reviewer Geophysical Research Letters, Journal of Geophysical Research, Geochemistry Geophysics and Geosystems, Tectonics)

1993 - Geological Society of America (reviewer Geology, GSA Bulletin and special volumes)

Reviewer: National Science Foundation: Tectonics, I&F, Continental Dynamics, Geophysics and Earthscope programs; Earth and Planetary Science Letters, Geophysical Journal International

DOCUMENTARIES/ARTICLES ON RESEARCH:

Peter C. La Femina – Curriculum Vita

“How the Earth was Made: Iceland” – History Channel/Pioneer Productions 2009; This documentary featured my research on plate tectonics and volcanism in Iceland.

“History of Science” – BBC – 2010; I was interviewed in this documentary to explain my active research and discuss the history of plate tectonics in Iceland.