

*CURRICULUM VITAE*

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**EDUCATION**

**Stanford University:** Ph.D., Geological and Environmental Sciences, 1995 (advisor: E. Miller)  
**Occidental College:** B.A., Geology, 1990

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**EMPLOYMENT**

**New Mexico State University, Department of Criminal Justice**  
Interim Department Head, July 1, 2016–Present

**New Mexico State University, Department of Geological Sciences**  
Professor, August 15, 2011–Present  
Associate Professor: July 1, 2005–August 14, 2011  
Assistant Professor: July 1, 1999–June 30, 2005

**University of North Carolina, Chapel Hill, Department of Geological Sciences**  
Instructor: July 1, 1998–June 30, 1999

**University of Wisconsin, Madison, Department of Geoscience**  
Weeks Post-Doctoral Scholar and Visiting Assistant Professor: July 1, 1996–June 30, 1998

**University of Alaska, Fairbanks, Department of Geology and Geophysics**  
Instructor: January 1, 1996–May 30, 1996

**Stanford University, Department of Geological and Environmental Sciences**  
Post-Doctoral Researcher: June 1, 1995–December 31, 1995

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**RESEARCH INTERESTS**

Structural geology, tectonics, geochronology, isotope geochemistry, and petrology, including: tectonic processes (accretion and erosion) in subduction complexes; origin of gneiss domes in the middle crust; relationship between magmatism and deformation in high-grade metamorphic complexes; Mesozoic tectonics of the Bering Strait region; Proterozoic tectonic history of the southwest U.S.; origin and timing of diabase dike swarms (with a focus on the 1.1 Ga event in the southwest U.S.); testing the Mojave-Sonora megashear hypothesis, and evaluating the role of subduction erosion in the development of the Mesozoic Chugach accretionary complex in southern Alaska.

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## METHODS AND TOOLS

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Field mapping; structural analysis; petrology; U-Pb isotopic dating of zircon and monazite using SHRIMP and LA-ICPMS; detrital zircon geochronology;  $^{40}\text{Ar}/^{39}\text{Ar}$  thermochronology; Nd and Sr isotopic analysis of igneous rocks; Hf isotopic analysis of zircon; U-Th/He dating of zircon and apatite.

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## PUBLICATIONS (\*Indicates student coauthor)

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### Manuscripts in Review and in Press

- Amato, J. M., Akinin, V. V., Toro, J., and Hampton, B. A., Tectonic evolution of the Mesozoic South Anyui suture zone, eastern Russia: A critical component of paleogeographic reconstructions of the Arctic region—REPLY, *Geosphere*, in review, July 2017
- Morgan, G.S., Hulbert, R.C., Jr., Gottlieb\*, E., Amato, J.M., Mack, G.H., and Jonell\*, T.N., The tapir Tapirus (Mammalia: Perissodactyla) from the late Pliocene (early Blancan) Tonuco Mountain Local Fauna, Camp Rice Formation, Doña Ana County, southern New Mexico, *New Mexico Geology*, in press, July 2017.
- Vandyk\*, T.M., Le Heron, D.P., Chew, D.M., Amato, J.M., Thirlwall, M., Hennig, J., Dehler, C.M., Castonguay, S.R., Knott, T., Tofaif, S., Ali, D.O., Manning, C.J., Busfield, M.E., Doepke, D., Proterozoic olistoliths masquerading as sills from Death Valley, California, *Journal of the Geological Society of London*, in review, July 2017.

### All Refereed Publications

- Lawton, T.F., and Amato, J. M., 2017, U-Pb ages of salt diapir xenoliths, La Popa basin: Implications for salt age in onshore Mexico salt basins, *Lithosphere*, doi: 10.1130/L658.1.
- Amato, J. M., Mack, G. H., Jonell\*, T. N., Seager, W. R., and Upchurch, G. R., 2017, The Laramide orogeny in southern New Mexico: Insights from U-Pb zircon dating of magmatism coeval with the Upper Cretaceous McRae Formation, *Geological Society of America Bulletin*, doi: 10.1130/B31629.1.
- Day\*, E. M., Pavlis, T. L., and Amato, J. M., 2016, Detrital zircon ages indicate an Early Cretaceous episode of blueschist facies metamorphism in southern Alaska: Implications for the Mesozoic paleogeography of the northern Cordillera, *Lithosphere*, doi:10.1130/L525.1.
- Rioux, M., Farmer, G. L., Bowring, S. A., Wootton, K. M., Amato, J. M., Coleman, D. S., and Verplanck, P., 2016, The link between volcanism and plutonism in epizonal magma systems: High-precision U-Pb zircon geochronology from the Organ Mountains caldera and batholith, New Mexico, *Contributions to Mineralogy and Petrology*, v. 171, p. 1-22, doi: 10.1007/s00410-015-1208-6.
- Howard\*, A. L., Farmer, G. L., Amato, J. M., and Fedo, C. M., 2015, Zircon U-Pb ages and Hf isotopic compositions indicate multiple sources for ~1.1 Ga detrital zircon deposited in western Laurentia, *Earth and Planetary Science Letters*, v. 432, p. 300-310, doi:10.1016/j.epsl.2015.10.018.
- Labrado\*, A., Pavlis, T. L., Amato, J. M., and Day\*, E. M., 2015, The tectonic significance of the Early Cretaceous forearc-metamorphic assemblage in south-central Alaska based on detrital zircon dating of sedimentary protoliths, *Canadian Journal of Earth Sciences*, v. 52, p. 1182-1190, doi: 10.1139/cjes-2015-0046.
- Amato, J. M., Toro, J., Akinin, V. V., Hampton, B. A., Salnikov, A. S., and Tuchkova, M., 2015, Tectonic evolution of the Mesozoic South Anyui suture zone, eastern Russia: A critical component of paleogeographic reconstructions of the Arctic region, *Geosphere*, v. 11, doi:10.1130/GES01165.1.

- Bright\*, R. M., Amato, J. M., Denyszyn, S. W., and Ernst, R. E., 2014, U-Pb geochronology of 1.1 Ga diabase in the southwestern United States: Testing models for the origin of a post-Grenville large igneous province, *Lithosphere*, v. 6, p. 135-156, doi: 10.1130/L335.1.
- Amato, J. M., Aleinikoff, J. N., Akinin, V. V., McClelland, W. C., and Toro, J., 2014, Age, chemistry, and correlations of Neoproterozoic-Devonian igneous rocks of the Arctic Alaska-Chukotka terrane: An overview with new U-Pb ages, in Till, A. B., and Dumoulin, J. A., eds., *Reconstruction of a Late Proterozoic to Devonian continental margin sequence, northern Alaska, its paleogeographic significance, and contained base-metal sulfide deposits*, Geological Society of America Special Paper 506, p. 29-58, doi:10.1130/2014.2506.
- Till, A. B., Amato, J. M., Aleinikoff, J.N., and Bleick, H. A., 2014, U-Pb detrital zircon geochronology as evidence for the origin of the Nome Complex, northern Alaska, and implications for regional and trans-Arctic correlations, in Till, A. B., and Dumoulin, J. A., eds., *Reconstruction of a Late Proterozoic to Devonian continental margin sequence, northern Alaska, its paleogeographic significance, and contained base-metal sulfide deposits*, Geological Society of America Special Paper 506, p. 111-132, doi:10.1130/2014.2506.
- Till, A. B., Dumoulin, J.A., Ayuso, R.A., Aleinikoff, J.N., Amato, J. M., Slack, J. F., and Shanks, W.C. III, 2014, Reconstruction of an early Paleozoic continental margin based on the nature of protoliths in the Nome Complex, Seward Peninsula, Alaska, in Till, A.B., and Dumoulin, J.A., eds., *Reconstruction of a Late Proterozoic to Devonian continental margin sequence, northern Alaska, its paleogeographic significance, and contained base-metal sulfide deposits*, Geological Society of America Special Paper 506, p. 1-28, doi:10.1130/2014.2506.
- Amato, J. M., Pavlis, T. L., Clift, P. D., Kochelek\*, E. J., Hecker\*, J. P., Worthman\*, C. M., and Day, E. M., 2013, Architecture of an accretionary complex as revealed by detrital zircon ages and lithologic variations: Evidence for subduction erosion in the Mesozoic Chugach terrane, southern Alaska, *Geological Society of America Bulletin*, v. 125, p. 1891-1911, doi:10.1130/B30818.1.
- Amato, J. M., and Becker\*, T., 2012, Proterozoic rocks of the Caballo Mountains and Kingston Mining District: U-Pb geochronology and correlations within the Mazatzal province of southern New Mexico, in Lucas, S. G., McLemore, V. T., Lueth, V. W., Spielmann, J. A., and Krainer, K., eds., *New Mexico Geological Society Guidebook, 63<sup>rd</sup> Field Conference, Warm Springs Region*, p. 227-234.
- Amato, J. M., Athens\*, C., McIntosh, W., and Peters, L., 2012, U-Pb zircon ages from crustal xenoliths in a Pliocene basalt flow from the southern Rio Grande rift: Implications for the timing of magmatism and extension, in Lucas, S. G., McLemore, V. T., Lueth, V. W., Spielmann, J. A., and Krainer, K., eds., *New Mexico Geological Society Guidebook, 63<sup>rd</sup> Field Conference, Warm Springs Region*, p. 273-284.
- Amato, J. M., and Mack, G. H., 2012, Detrital zircon geochronology from the Cambrian-Ordovician Bliss Sandstone, New Mexico: Evidence for contrasting Grenville-age and Cambrian sources on opposite sides of the Transcontinental Arch, *Geological Society of America Bulletin*, v. 124, p. 1826-1840, doi:10.1130/B30657.1.
- Clift, P. D., Wares, N. M., Amato, J. M., Pavlis, T. L., Hole, M. J., Worthman\*, C., and Day, E., 2012, Evolving heavy mineral assemblages reveals changing exhumation and trench tectonics in the Mesozoic Chugach accretionary complex, south-central Alaska, *Geological Society of America Bulletin*, v. 124, p. 989-1006, doi:10.1130/B30594.1
- Peryam\*, T. C., Lawton, T. F., Amato, J. M., González-León, C. M., and Mauel\*, D. J., 2012, Lower Cretaceous strata of the Sonora Bisbee basin: A record of the tectonomagmatic evolution of northwestern Mexico: *Geological Society of America Bulletin*, v. 124, p. 532-548, doi: 10.1130/B30456.1.

- Kochelek\*, E. J., Amato, J. M., Pavlis, T. L., and Clift, P. D., 2011, Flysch deposition and preservation of coherent bedding in an accretionary complex: Detrital zircon ages from the Valdez Group, Chugach Terrane, Alaska, *Lithosphere*, v. 3, p. 265-274, doi:10.1130/L131.1.
- Amato, J. M., Heizler, M. T., Boullion\*, A. O., Sanders\*, A. E., McLemore, V. T., Toro, J., and Andronicos, C. L., 2011, Syntectonic 1.46 Ga magmatism and rapid cooling of a gneiss dome in the southern Mazatzal Province: Burro Mountains, New Mexico, *Geological Society of America Bulletin*, v. 123, p. 1720-1744, doi: 10.1130/B30337.1.
- Mauel\*, D. J., Lawton, T. F., González-León, C. M., Iriondo, A., and Amato, J. M., 2011, Stratigraphy and age of Upper Jurassic strata in north-central Sonora, Mexico: Southwestern Laurentian record of crustal extension and tectonic transition: *Geosphere*, v. 7, p. 390-414; doi: 10.1130/GES00600.1.
- Amato, J. M., and Pavlis, T. L., 2010, Detrital zircon ages from the McHugh Complex, Chugach terrane, southern Alaska, reveal multiple episodes of subduction accretion and erosion, *Geology*, v. 38, p. 459-462, doi: 10.1130/G30719.1.
- Amato, J. M., Toro, J., Miller, E. L., Gehrels, G. E., Farmer, G. L., Gottlieb\*, E. S., and Till, A. B., 2009, Late Proterozoic–Paleozoic evolution of the Arctic Alaska Chukotka terrane based on U-Pb igneous and detrital zircon ages: Implications for Neoproterozoic paleogeographic reconstructions, *Geological Society of America Bulletin*, v. 121, p. 1219-1235.
- González-León, C. M., Valencia, V. A., Lawton, T. F., Amato, J. M., Gehrels, G., Leggett\*, W. J., Mauel\*, D., Contreras, O. M., and Fernández, M. A., 2009, The Lower Mesozoic record of detrital zircon U-Pb geochronology of Sonora, Mexico, and its paleogeographic implications, *Revista Mexicana de Ciencias Geológicas*, v. 26, p. 301-314.
- Draut, A. E., Clift, P. D., Amato, J. M., Blusztajn, J., and Schouten, H., 2009, Arc-continent collision and the formation of continental crust—a new geochemical and isotopic record from the Ordovician Tyrone Igneous Complex, Ireland: *Journal of the Geological Society, London*, v. 166, p. 485-500; doi: 10.1144/0016-76492008-102.
- Lawton, T. F., Bradford\*, I. A., Vega, F. J., Gehrels, G. E., and Amato, J. M., 2009, Provenance of Upper Cretaceous–Paleogene sandstones in the foreland basin system of the Sierra Madre Oriental, northwestern Mexico, and its bearing on fluvial dispersal systems of the Mexican Laramide Province, *Geological Society of America Bulletin*, v. 121, p. 820-836, doi:10.1130/B26450.1.
- Amato, J. M., Lawton, T. F., Mauel\*, D., Leggett\*, W., Gonzales-Leon, C. M., Farmer, G. L., and Wooden, J. L., 2009, Evidence from Paleoproterozoic igneous rocks and deformed Mesozoic strata for the presence of the Caborca block in Mexico by Early Jurassic Time: Implications for the Mojave-Sonora megashear hypothesis, *Geology*, v. 37, p. 75-78, doi:10.1130/G25240A.1.
- Amato, J. M., Boullion\*, A. O., and Sanders\*, A. E., 2008, Magmatism and metamorphism at 1.46 Ga in the Burro Mountains, southwestern New Mexico, in Mack, G., Witcher, J., and Lueth, V. W., eds., *New Mexico Geological Society Fall Field Conference Guidebook 59: Geology of the Gila Wilderness-Silver City area*, p. 107-115.
- Amato, J. M., and Boullion\*, A. O., 2008, Late Cretaceous mafic magmatism in the Burro Mountains, in Mack, G., Witcher, J., and Lueth, V. W., eds., *New Mexico Geological Society Fall Field Conference Guidebook 59: Geology of the Gila Wilderness-Silver City area*, p. 56-58.
- Mack, G. H., Amato, J. M., and McLemore, V. T., 2008, *Geology of the Burro Mountains Third-*

- day road log from Silver City to the southern Burro Mountains on Highway 90 West, New Mexico Geological Society 59th Fall Field Conference Guidebook, p. 49-56.
- Amato, J. M., Boullion\*, A. O., Serna\*, A. M., Sanders\*, A. E., Farmer, G. L., Gehrels, G. E., and Wooden, J. L., 2008, The evolution of the Mazatzal province and the timing of the Mazatzal orogeny: Insights from U-Pb geochronology and geochemistry of igneous and metasedimentary rocks in southern New Mexico, *Geological Society of America Bulletin*, v. 120, p. 328-346.
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- Amato, J. M., Foley\*, C., Heizler, M., and Esser, R., 2007,  $^{40}\text{Ar}/^{39}\text{Ar}$  and U/Pb geochronology, geochemistry, and tectonic setting of three episodes of Cretaceous-Eocene calc-alkaline magmatism in the Lake Clark Region, southwestern Alaska, in Ridgway, K. D., Trop, J. M., O'Neill, J. M., and Glen, J. M. G., eds., *Tectonic growth of a collisional continental margin: Crustal evolution of southern Alaska*, Geological Society of America Special Paper 431, p. 455-475.
- Amato, J. M., Bogar\*, M. J., Gehrels, G. E., Farmer, G. L., and McIntosh, W. C., 2007, The Tlikakila Complex in southern Alaska: A supra-subduction-zone ophiolite between the Wrangellia composite terrane and North America, in Ridgway, K. D., Trop, J. M., O'Neill, J. M., and Glen, J. M. G., eds., *Tectonic growth of a collisional continental margin: Crustal evolution of southern Alaska*, Geological Society of America Special Paper 431, p. 227-252.
- Miller, E. L., Toro, J., Gehrels, G., Amato, J. M., Prokopyev, A., Tuchkova, M. I., Akinin, V. V., Dumitru, T. A., Moore, T. E., and Cecile, M. P., 2006, New insights into Arctic paleogeography and tectonics from U-Pb detrital zircon geochronology, *Tectonics*, v. 25, TC3013, doi:10.1029/2005TC001830.
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- Amato, J. M., and Miller, E. L., 2004, Geologic map and summary of the evolution of the Kigluaik Mountains gneiss dome, Seward Peninsula, Alaska, in Whitney, D. L., Teyssier, C., and Siddoway, C. S., eds., *Gneiss domes in orogeny*, Geological Society of America Special Paper 380, p. 295-306.
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- Amato, J. M., Miller, E. L., Toro, J., and Wright, J. E., 2003, Potassic Magmatism on St. Lawrence Island, Alaska, and Cape Dezhnev, Northeast Russia: Geochemistry,  $^{40}\text{Ar}/^{39}\text{Ar}$  ages, and implications for the tectonic evolution of the Bering Strait Region, in Clautice, K.

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**ABSTRACTS** (2012-2017; \*Indicates NMSU student coauthor)

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- Amato, J. M., Swenton\*, V.M., McIntosh, W.C., and Jonell\*, T.N., 2017, The “Box Canyon tuff” and its relationship to the Schoolhouse Mountain caldera, Mogollon-Datil volcanic field, southwest New Mexico, New Mexico Geological Society Annual Spring Meeting, Proceedings Volume, p. 13.
- Howland\*, C., Amato, J. M., 2017, The Paleoproterozoic Mazatzal province of southern New Mexico: Insight from detailed field mapping and isotope geochemistry, New Mexico Geological Society Annual Spring Meeting, Proceedings Volume, p. 37.
- Swenton\*, V.M., Amato, J. M., Jonell\*, T.N., and McIntosh, W.C., 2017, The onset of rhyolite volcanism and subsequent collapse in the Schoolhouse Mountain caldera, Mogollon-Datil volcanic field, southwest New Mexico, New Mexico Geological Society Annual Spring Meeting, Proceedings Volume, p. 66.
- Creitz\*, R. H., Hampton, B.A., Mack, G.H., and Amato, J. M., 2017, Sedimentology, stratigraphy, and geochronology from Early (?)–Middle Eocene, post-Laramide volcanic and volcanoclastic strata of the Palm Park formation in south-central New Mexico, New Mexico Geological Society Annual Spring Meeting, Proceedings Volume, p. 22.
- Amato, J. M., Ottenfeld\*, C., and Heizler, M.T., 2016, The Mazatzal province in southern New Mexico: U-Pb dating of Paleoproterozoic rocks to assess magmatism, deposition, metamorphism, and deformation, Geological Society of America Annual Meeting, Abstracts with Programs, v. 48, no. 7, doi: 10.1130/abs/2016AM-281074.
- Swenton\*, V.M., Jonell\*, T.N., Amato, J. M., and McIntosh, W.C., 2016, The lifecycle of the Eocene-Oligocene Schoolhouse Mountain Caldera, Mogollon-Datil volcanic field, southwest New Mexico, Geological Society of America Annual Meeting, Abstracts with Programs, v. 48, no. 7, doi: 10.1130/abs/2016AM-280328.
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- Amato, J. M., and Gottlieb\*, E. S., 2015, Mid-Cretaceous magmatism of the Bering Strait region (Seward Peninsula, St. Lawrence Island, and Chukotka): A review with new zircon U-Pb ages, Geological Society of America Cordilleran Section Meeting Meeting, Abstracts with Programs, v. 47, no. 4, p. 2.

- Toro, J., Amato, J. M., Hampton, B. A., Akinin, V. V., and Tuchkova, M., 2015, Tectonic evolution of the Mesozoic South Anyui suture zone, eastern Russia: A critical component of paleogeographic reconstructions of the Arctic region, Geological Society of America Cordilleran Section Meeting, Abstracts with Programs, v. 47, no. 4, p. 2.
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- Hogan, J. P., and Amato, J. M., 2015, Confirmation of temporally distinct magmatic events in the Wichita Mountains, Oklahoma, Geological Society of America South-Central Section Meeting, Abstracts with Programs, v. 47, no. 1, p. 13.
- Toro, J., and Amato, J. M., 2014, The role of Chukotka during opening of the Amerasian Basin: A new paleogeographic model for the Arctic during the Mesozoic, Geological Society of America Annual Meeting, Abstracts with Programs, v. 46, no. 7, p. 786.
- Pavlis, T., and Amato, J. M., 2014, Kinematic models for the mélange mixing process via simultaneous slip on multiple faults in the subduction channel, Geological Society of America Annual Meeting, Abstracts with Programs, v. 46, no. 7, p. 445.
- Day, E., Pavlis, T., and Amato, J. M., 2014, A new tectono-metamorphic model for the emplacement of the Iceberg Lake and Liberty Creek blueschist bodies, south-central Alaska, Geological Society of America Annual Meeting, Abstracts with Programs, v. 46, no. 6, p. 445.
- Williams\*, R. A., and Amato, J. M., 2014, Geologic Mapping and Geochronology of Proterozoic rocks in the Burro Mountains, New Mexico Reveals a New Grenville Locality in the Southwest U.S., New Mexico Geological Society Annual Spring Meeting Abstracts, p. 64.
- Ottenfeld\*, C. F., and Amato, J. M., 2014, U-Pb Geochronology of Sedimentary and Igneous Arc-Related Proterozoic Rocks in southern New Mexico, New Mexico Geological Society Annual Spring Meeting Abstracts, p. 49.
- Amato, J. M., Williams\*, R. A., and Gehrels, G., 2014, Coeval deposition of carbonate and associated sedimentary rocks at 1.25-1.23 Ga in Texas, New Mexico, and Arizona: Expanding our understanding of Grenville tectonism in the Southwest U.S., New Mexico Geological Society Annual Spring Meeting Abstracts, p. 10.
- Amato, J. M., Bright\*, R., Denyszyn, S. W., Ernst, R. E., and Bleeker, W., 2013, High-precision U-Pb baddeleyite dates from diabase in the southwest U.S.: Implications of coeval silicic and mafic magmatism in a Mesoproterozoic large igneous province, Geological Society of America Annual Meeting, Abstracts with Programs, v. 45, no. 7, p. 462.
- Williams\*, R. A., and Amato, J. M., 2013, Paleoproterozoic metasedimentary rocks in the Burro Mountains, New Mexico: Potential elucidation of depositional setting and causes of metamorphism in the southern Mazatzal Province, Geological Society of America Annual Meeting, Abstracts with Programs, v. 45, no. 7, p. 624.



- Gaynor\*, S., and Amato, J. M., 2013, Proterozoic Zoned Intrusive Suites: Determining the Emplacement Mechanisms of the Burro Mountain Intrusive Suite, *New Mexico Geology*, v. 35, p. 50.
- Machin\*, S., Amato, J. M., and Lucas, S., 2013, The age of the Encinal Canyon Member of the Dakota Formation: New insights into the Early-Late Cretaceous transgression of the Western Interior Seaway into north-central New Mexico, *New Mexico Geology*, v. 35, p. 48.
- Williams\*, R. A., Amato, J. M., and Gaynor\*, S., 2013, Field mapping of the Redrock area, Burro Mountains, southwest New Mexico, and U-Pb dating of 1.2 Ga magmatism and contact metamorphism of Paleoproterozoic metasedimentary rocks, *New Mexico Geology*, v. 35, p. 62.
- Dimitroff\*, C. W., Gaynor\*, S., and Amato, J. M., 2013, Structural analysis of 1.1 Ga diabase intrusions: Burro Mountains, New Mexico, *New Mexico Geology*, v. 35, p. 50.
- Howard, A. L., Farmer, G. L., Fedo, C. M., and Amato, J. M., 2012, Hafnium isotopic evidence on the provenance of ~1.1 Ga detrital zircons in western North America, *Geological Society of America Annual Meeting, Abstracts with Programs*, v. 44, no. 7, p. 284.
- Amato, J. M., Gaynor\*, S., Rioux, M., and Bowring, S., 2012, Precise dating of the Burro Mountain granite and associated metamorphism, southern New Mexico: Syndeformational magmatism and rapid cooling of a gneiss dome, *Geological Society of America Rocky Mountain Section Meeting, Abstracts with Programs*, v. 44, no. 6, p. 9.
- Amato, J. M., and Mack, G. H., 2012, Detrital zircon geochronology from the Cambrian-Ordovician Bliss Sandstone, New Mexico: Evidence for contrasting Grenville-age and Cambrian sources on opposite sides of the Transcontinental Arch, *Geological Society of America Rocky Mountain Section Meeting, Abstracts with Programs*, v. 44, no. 6, p. 82.
- Bright\*, R., Amato, J. M., Denyszyn, S. W., and Ernst, R. E., 2012, U-Pb geochronology and isotope geochemistry of ~1.1 Ga diabase dikes and sills in the southwest U.S.: Implications for Rodinia reconstructions, *Geological Society of America Rocky Mountain Section Meeting, Abstracts with Programs*, v. 44, no. 6, p. 9.
- Gaynor\*, S., and Amato, J. M., 2012, The Burro Mountain plutonic complex: Evaluating emplacement mechanisms of a 1.4 Ga A-type granitoid pluton in southwest New Mexico, *Geological Society of America Rocky Mountain Section Meeting, Abstracts with Programs*, v. 44, no. 6, p. 93.
- Machin\*, S., Amato, J. M., and Lawton, T. F., 2012, The Beartooth-Mojado connection: Using mid-Cretaceous sedimentary rocks to understand the tectonic history of southwestern New Mexico, *Geological Society of America Rocky Mountain Section Meeting, Abstracts with Programs*, v. 44, no. 6, p. 83.
- Jonell\*, T. N., and Amato, J. M., 2012, U-Pb zircon and Sr-isotope constraints on age and contamination of Paleogene volcanic rocks of the Burro Mountains, southwest New Mexico, *New Mexico Geology*, v. 34, p. 51.
- Machin\*, S., Amato, J. M., and Lawton, T. F., 2012, The Beartooth-Mojado connection: Using mid-Cretaceous sedimentary rocks to understand the tectonic history of southwest New Mexico, *New Mexico Geology*, v. 34, p. 56.
- Lawton, T. F., Gilbert\*, J. C., and Amato, J. M., 2012, Age of the Jurassic arc system in southern Arizona, *Geological Society of America Cordilleran Section Meeting, Abstracts with Programs*, v. 44, no. 3, p. 23.

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## DEPARTMENT COLLOQUIA AND INVITED TALKS

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New Mexico State University: Colloquium, 2014  
Occidental College: Remsen Bird Lecture, 2012  
University of Colorado, Boulder: Colloquium, 2012  
New Mexico Institute of Technology: Colloquium, 2010  
Michigan State University: Colloquium, 2009  
West Virginia University: Colloquium, 2007  
University of Texas, El Paso: Colloquium, 2007  
Los Alamos Geological Society: Colloquium, 2006  
Santa Fe Geological Society: Colloquium, 2006  
Stanford University: Guest Speaker, 2005  
El Paso Community College: Colloquium, 2003  
New Mexico Institute of Technology: Colloquium, 2001  
University of New Mexico: Colloquium, 2000  
University of Texas, El Paso: Colloquium, 1999

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## FUNDING

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### National Science Foundation Grants

2016 EAR-Tectonics-1649840 (08/16-07/18, \$101,339): Collaborative Proposal: Testing Models for Extension in the Rio Grande Rift-Basin and Range Transition Zone of Southern New Mexico, PI Jeffrey Amato (collaborative research with Jason Ricketts, UTEP).

2008 EAR-Tectonics-0809608 (08/08-08/13, with 2-year no-cost extension, \$188,033): Collaborative Proposal: Determining triggers for subduction accretion and tectonic erosion in a Mesozoic accretionary complex, Alaska, PI Jeffrey Amato (collaborative research with Terry Pavlis, UTEP).

2003 EAR-Tectonics-0229565 (02/03-12/06, \$204,862): Sedimentary basin development and deformation adjacent to the Mojave-Sonora megashear, Sonora, Mexico, PI's Jeffrey Amato and Tim Lawton, NMSU.

### Federal and State Grants

2016 B.L.M. Grant (4 years, \$20,000): "Studying the geology of NCLS Unit Prehistoric Trackways National Monument (PTNM), Southern New Mexico"

2007 U.S.G.S. EDMAP Grant (1 year, \$30,000): "Geologic mapping of the Bendeleben metamorphic complex, Seward Peninsula, Alaska"

2006 U.S.G.S. EDMAP Grant (1 year, \$38,200): "Geologic mapping of the Bendeleben gneiss dome, Seward Peninsula, Alaska"

2005 U.S.G.S. EDMAP Grant (1 year, \$23,040): "Geologic mapping of the Kugruk fault zone, Seward Peninsula, Alaska"

2005 New Mexico STATEMAP Grant (1 year, \$7150): "Geologic mapping of the Alamogordo South Quadrangle"

### New Mexico State University Mini-Grants

- 2016 Using  $^{40}\text{Ar}/^{39}\text{Ar}$  Dating of Artifacts in New Mexico to Determine Source Areas for Obsidian Tools in the Pithouse and Pueblo Periods (1 year, \$1200)
- 2013 Dating basaltic volcanism in Pali Aike, Chile: Constraining cave formation and xenolith-hosted lavas (1 year, \$900)
- 2007 The use of radiogenic argon to determine the cooling history of rocks along major fault zones (1 year, \$2340)
- 2003 Precambrian crustal extension in the southwest U.S. as the result of continent-continent collision (1 year, \$1500)
- 2003 Detrital zircon geochronology of the Seward Peninsula (1 year, \$1000)
- 2002 Analysis of the Lake Clark Fault Zone (1 year, \$2000)
- 2001 Precambrian evolution of southern New Mexico (1 year, \$1375)
- 2001 Accretion and translation of an oceanic arc, southern Alaska (1 year, \$1200)
- 2000 Structural analysis of Laramide deformation in the Little Hatchet Mtns. (1 yr, \$1887)

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## TEACHING

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### Classes Taught

Structural Geology, Field Geology  
 Natural Hazards, Survey of Geology  
 Igneous and Metamorphic Petrology  
 Geochronology (graduate level)

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## STUDENT ADVISING

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### Current M.S. Students

- Colby Howland, The Paleoproterozoic Mazatzal Province of Southern New Mexico: Insight from Nd and Hf Isotopes, U-Pb dating, field mapping, and structural analysis.
- Vanessa Swenton, Lifecycle of the Schoolhouse Mountain caldera, Burro Mountains, New Mexico.

### M.S. Theses Supervised (with thesis title and current employment, if known)

- Chelsea Ottenfeld, M.S., New Mexico State University, 2015, The Paleoproterozoic Mazatzal province in southern New Mexico: Magmatism, sedimentation, metamorphism, and deformation.
- Rosemary Williams, M.S., New Mexico State University, 2015, Proterozoic sedimentation and magmatism in the Redrock Area, Burro Mountains, southwest New Mexico. Currently employed by Continental Resources, Oklahoma City.
- Sean Gaynor, M.S., New Mexico State University, 2013, Petrology, geochronology, geochemistry, deformation, and field relationships of the 1470-1450 Ma Burro Mountain intrusive suite, southwestern New Mexico. Currently a Ph.D. candidate at UNC-Chapel Hill.
- Sarah Machin, M.S., New Mexico State University, 2013, Solving the Beartooth problem: Using U-Pb zircon geochronology to investigate the significance of mid-Cretaceous sandstones in New Mexico. Currently employed by Continental Resources, Oklahoma City.

- Tara Jonell, M.S., New Mexico State University, 2013, Multiple crustal levels of Paleogene magmatism in the Burro Mountains, southwestern New Mexico. Currently a Ph.D. candidate at Louisiana State University
- Ryan Bright, M.S., New Mexico State University, 2012, Age and origin of the Proterozoic diabase dikes of the southwest U.S.
- Caleb Worthman, M.S., New Mexico State University, 2011, A case study of an accretionary complex: The McHugh Complex and Associated Blueschist-Facies Rocks. Currently employed by Consol Energy, Pennsylvania.
- Evan Kochelek, M.S., New Mexico State University, 2011  
The Valdez Group: Investigation of flysch deposits in a Mesozoic accretionary complex. Currently employed by Parsley Energy, Austin, Texas.
- Eric Gottlieb, M.S., New Mexico State University, 2008  
Geologic mapping and investigation of Cretaceous magmatism and deformation in the Bendeleben metamorphic complex, Seward Peninsula, Alaska. Currently a Ph.D. candidate at Stanford University.
- Cheryl Foley, M.S., New Mexico State University, 2006: Geochemistry and  $^{40}\text{Ar}/^{39}\text{Ar}$  geochronology of Cretaceous-Tertiary igneous rocks in the Lake Clark region, southwest Alaska. Currently employed by Associates of Cape Cod, Inc., East Falmouth, MA.
- Antonio Serna, M.S., New Mexico State University, 2006: Geochronology of the Proterozoic rocks of the southern San Andres Mountains, south-central New Mexico. Currently employed by Occidental Petroleum, Houston, TX.
- Andre Boullion, M.S., New Mexico State University, 2006: The tectonic history of Proterozoic crust in the Mazatzal Province: Geochronology, geochemistry, and kinematic analysis of the intrusive rocks of the Burro Mountains, southwest New Mexico. Currently employed by Shell, Houston, TX.
- Matthew Bogar, M.S., New Mexico State University, 2005: An integrated study of the origin, metamorphism, and structural evolution of the Tlikakila Complex, Lake Clark National Park, Alaska. Currently employed by New Mexico Environment Department: Environmental Health Division.
- Michael Cleary, M.S., New Mexico State University, 2004 : Quantitative strain analysis and timing of north-south extension in the Little Hatchet Mountains, southwest New Mexico. Currently employed by Blasland, Bouck & Lee, Inc., Lexington, KY.
- Amos Sanders, M.S., New Mexico State University, 2003: Age of Deposition and Metamorphism of Deformed Proterozoic Metasedimentary Rocks in the Burro Mountains, Southwest New Mexico. Currently employed by Hunt Oil Company, Dallas, TX.

### **Undergraduate Research Supervision**

- Ana Gomez, 2014-2015: Geology of the Trackways National Monument
- Gabby St. Pierre, 2013-2014: Paleogene Magmatism of Southern New Mexico
- Joe Hecker, 2010-2012: 1.4 Ga Magmatism in the Burro Mountains; Dating clasts in the McHugh Complex, southern Alaska
- Trey Becker, 2006: Proterozoic Rocks of the Caballo Mountains: Geochronology and Petrology
- Carmen Athens, 2006: Zircon ages from Rio Grande Rift xenoliths

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### **PROFESSIONAL SOCIETY MEMBERSHIP**

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New Mexico Geological Society: 1999–Present  
Geological Society of America: 1990–Present  
American Geophysical Union: 1990–Present

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## **SERVICE**

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### **Professional Service**

Associate Editor, *Geosphere* (2010-2015)  
Associate Editor, *Geological Society of America Bulletin* (2007–2014)  
Member, New Mexico STATEMAP Advisory Committee (2007–2013)  
Past-President, New Mexico Geological Society (2006)  
President, New Mexico Geological Society (2004–2005)  
Vice-President, New Geological Society (2003)  
Treasurer, New Mexico Geological Society (2002)  
Member, National Science Foundation Tectonics Panel (2003)

### **University Service**

Member, Faculty Senate (2006–2011)  
Chair, Grading System Revision Ad Hoc Committee (2010-2012)  
Chair, Viewing a Wider World Policy Revision Committee (2007-2008)  
Member, Search Committee for Senior VP of Administration and Finance (2010)

### **Departmental Service**

Chair, Promotion and Tenure Committee (2012-Present)  
Graduate Advisor (2009–2012, 2013–Present)  
Webmaster (1999–Present)  
Manager, Mineral Separation Lab (1999-Present)

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## **ADMINISTRATION**

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Department Head, Interim, Criminal Justice, Arts and Sciences, NMSU (2016-2017)

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## **AWARDS AND HONORS**

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**CIRES Fellowship**–University of Colorado at Boulder, Cooperative Institute for Research in Environmental Sciences (CIRES), June 15, 2012–December 15, 2012 (Sabbatical)

**Exceptional Reviewer**–*Geosphere* (2010)

**Award for Exceptional Achievements in Creative Scholarly Activity**–NMSU University Research Council (2004)