

# Michael P. Eddy

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Department of Geoscience  
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## Education

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### **Massachusetts Institute of Technology**, Cambridge MA

Ph.D., Geology, January 2017

Thesis: “High-resolution temporal records of magmatism, sedimentation, and faulting at evolving plate boundaries”

Advisers: Samuel A. Bowring and Oliver Jagoutz

### **Princeton University**, Princeton, NJ

B.A., Geosciences, May 2011

Thesis: “U-Pb Geochronology from the Pimple Hills near Ogdensburg, NJ: implications for the tectonic history of the Losee-Wanaque Composite Arc”

Adviser: Blair Schoene

## Teaching Experience

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Laboratory Instructor: Natural Disasters – Princeton University	S2017
Teaching Assistant: Terrascope – MIT	F2015
Teaching Assistant: Analytical Techniques in Geochemistry – MIT	S2015
Teaching Assistant: Terrascope – MIT	F2014
Teaching Assistant: Earth, Energy, and the Environment – MIT	F2013
Teaching Assistant: Structural Geology – MIT	F2012

## Awards and Honors

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Excellence in Teaching Award – MIT	2016
Bruce L. “Biff” Reed Scholarship Award – GSA	2015
Kerr Fellowship – MIT	2011
Arthur F. Buddington Award – Princeton University	2011
Phi Beta Kappa	2011
Cum Laude Academic Honors – Princeton University	2011
Member of All-American 4x400m team – Princeton University	2011
Varsity Track and Field Team Captain – Princeton University	2009-2011

## Publications

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- Eddy, MP**, Umhoefer, PJ, Miller, RB, Donaghy, EE, Gunerson, M, and Senes, FI, *in press*, Sedimentary, Volcanic, and Structural Processes during Triple-Junction Migration: Insights from the Paleogene Record in Central Washington, *in* Haugerud, RA, and Kelsey, HM, eds., Field Guide for the GSA 2017 Seattle Meeting.
- Eddy, MP**, Clark, KP, Polenz, M, 2017, Age and Volcanic Stratigraphy of Siletzia in Washington and Vancouver Island: *Lithosphere*, v. 9, p. 652-664, doi: 10.1130/L650.1.
- Eddy, MP**, Jagoutz, O, Ibanez-Mejia, M, 2017, Timing of initial seafloor spreading in the Newfoundland-Iberia rift: *Geology*, v. 45, p. 527-530, doi: 10.1130/G38766.1.
- Bucholz, CE, **Eddy, MP**, Jagoutz, O, Bowring, SA, Schmidt, MW, Sambuu, O., 2017, Constraining the timescales of magmatic differentiation with U-Pb zircon geochronology: *Geology*, v. 45, p. 11-14, doi: 10.1130/G38505.1.
- Eddy, MP**, Bowring, SA, Miller, RB, Tepper, JF, 2016, Rapid assembly and crystallization of a fossil, large-volume, silicic magma chamber: *Geology*, v. 44, p. 331-334, doi: 10.1130/G37631.1.
- Eddy, MP**, Bowring, SA, Umhoefer, PJ, Miller, RB, McLean, NM, Donaghy, EE, 2016, High-resolution temporal and stratigraphic record of Siletzia's accretion and ridge-trench interaction from nonmarine sedimentary basins in central and western Washington: *GSA Bulletin*, v. 128, p. 425-441, doi: 10.1130/B31335.1.
- Dragovich, JD, Mahan, SA, Anderson, ML, MacDonald Jr., JH, Schilter, JF, Frattali, CL, Koger, CJ, Smith, DT, Stoker, BA, DuFrane, SA, **Eddy, MP**, Cakir, R, and Sauer, KB, Geologic map of the Lake Roesiger 7.5-minute quadrangle, Snohomish County, Washington: Washington Division of Geology and Earth Resources Map Series 2015-01, 1 sheet, scale 1:24,000, 47 p. text.
- Bindi, L, Yao, N, Lin, C., Hollister, LS, Andronicos, CL, Distler, VV, **Eddy, MP**, Kostin, A, Kryachko, V, MacPherson, GJ, Steinhardt, WM, Yudovskaya, M, Steinhardt, PJ, 2015, Decagonite, Al<sub>71</sub>Ni<sub>24</sub>Fe<sub>5</sub>, a quasicrystal with decagonal symmetry from the Khatyrka CV3 carbonaceous chondrite: *American Mineralogist*, v. 100, p. 2340-2343, doi: 10.2138/am-2015-5423.
- Bindi, L, Yao, N, Lin, C, Hollister, LS, Andronicos CL, Distler, VV, **Eddy, MP**, Kostin, A, Kryachko, V., MacPherson, GJ, Steinhardt, WM, Yudovskaya, M., Steinhardt, PJ., 2015, Natural quasicrystal with decagonal symmetry: *Scientific Reports*, v. 5, doi: 10.1038/srep09111.
- Schoene, B, Samperton, KM, **Eddy, MP**, Keller, G, Adatte, T, Bowring, SA, Khadri, SFR, Gertsch, B., 2015, U-Pb geochronology of the Deccan Traps and relation to the end-Cretaceous mass extinction: *Science*, v. 347, p. 182-184, doi: 10.1126/science.aaa0118.

- Bindi, L, Yao, N, Lin, C, Hollister, LS, MacPherson, GJ, Poirier, GR, Andronicos, CL, Distler, VV, **Eddy, MP**, Kostin, A, Kryachko, V., Steinhardt, WM, Yudovskaya, M., 2014, Steinhardtite, a new body-centered-cubic allotropic form of aluminum from the Khatyrka CV3 carbonaceous chondrite: *American Mineralogist*, v.99, p. 2433-2436, doi:10.2138/am-2014-5108.
- Ibanez-Mejia, M., Gehrels, GE, Ruiz, J. Vervoort, JD, **Eddy, MP**, Li, C., 2014, Small-volume baddeleyite (ZrO<sub>2</sub>) U-Pb geochronology and Lu-Hf isotope geochemistry by LA-ICP-MS: techniques and applications: *Chemical Geology*, v. 384, p. 149-167, doi: 10.1016/j.chemgeo.2014.07.011.
- Hollister, LS, Bindi, L, Yao, N, Poirier, GR, Andronicos, CL, MacPherson, GJ, Lin, C, Distler, VV, **Eddy, MP**, Kostin, A, Kryachko, V, Steinhardt, WM, Yudovskaya, M., Eiler, JM, Guan, Y, Clarke, JJ, Steinhardt, PJ, 2014, Impact-induced shock and the formation of natural quasicrystals in the early solar system: *Nature Communications*, v. 5, doi: 10.1038/ncomms5040.
- MacPherson, GJ, Andronicos, CL, Bindi, L, Distler, VV, **Eddy, MP**, Eiler, JM, Guan, Y, Hollister, LS, Kostin, A, Kryachko, V., Steinhardt, WM, Yudovskaya, M, Steinhardt, PJ, 2013, Khatyrka: a new CV3 find from the Koryak Mountains, eastern Russia: *Meteoritics and Planetary Science*, v. 48, p. 1499-1514, doi: 10.1111/maps.12170.
- Maloof, AC, Porter, SM, Moore, JL, Dudas, F., Bowring, SA, Higgins, JA, Fike, DA, **Eddy, MP**, 2010, The earliest Cambrian record of animals and ocean geochemical change: *GSA Bulletin*, v. 122, p. 1731-1774, doi: 10.1130/B30346.1.

## Meeting Abstracts

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- Eddy, MP**, 2016, Assessing *in situ* crystal-liquid separation in a fossil, large-volume, silicic, magma reservoir: Abstract V41E-01 presented at 2016 Fall Meeting, AGU, San Francisco, Calif., 12-16 Dec.
- Tsukui, K, Ramezani, J, Zhu, M, Maloof, AC, Porter, S, Moore, J, **Eddy, MP**, Bowring, SA, 2016, High-precision temporal calibration of the early Cambrian biotic and paleoenvironmental records: new U-Pb geochronology from eastern Yunnan, China: Abstract PP31A-2260 presented at 2016 Fall Meeting, AGU, San Francisco, Calif., 12-16 Dec.
- Eddy, MP**, Clark, KP, and Polenz, M, 2016, Volcanic stratigraphy and tectonic setting of the Siletzia large igneous province in Washington and Vancouver Island: *Geological Society of America Abstracts with Programs*, v. 48, n7.
- Eddy, MP**, Bowring, SA, Tepper, JF, Miller, RB, 2015, Extremely High Magma Emplacement Rates Recorded in the Golden Horn Batholith, WA: Abstract V34B-04 presented at 2015 Fall Meeting, AGU, San Francisco, Calif., 14-18 Dec.

- Kant, L, Tepper, JF, **Eddy, MP**, 2015, Basalt of Summit Creek: Eocene magmatism associated with Farallon slab break off: Abstract V23C-03 presented at 2015 Fall Meeting, AGU, San Francisco, Calif., 14-18 Dec.
- Bucholz, CB, **Eddy, MP**, Jagoutz, O, Bowring, SA, 2015, Constraining timescales of magmatic differentiation with U-Pb zircon geochronology: Abstract V32B-06 presented at 2015 Fall Meeting, AGU, San Francisco, Calif., 14-18 Dec.
- Eddy, MP**, Jagoutz, O, 2015, Temporal record of magmatism during the rift to drift transition along the Newfoundland-Iberia conjugate margins: *Geological Society of America Abstracts with Programs*, v. 47, n. 7, p. 864.
- Umhoefer, PJ, Skinner, LA, Miller, RB, **Eddy, MP**, Bowring, SA, 2015, Eocene paleogeography of the Washington-Vancouver Island region during strike-slip faulting before and after a major 50 Ma transition: *Geological Society of America Abstracts with programs*, v. 47, n. 7, p. 444.
- Jagoutz, O, Bailey, E, Weiss, BP, **Eddy, MP**, Royden, LH, Tikoo, SM, 2015, New paleomagnetic results from Ladakh, western Himalaya support multi-stage collision scenario between India and Eurasia, *Geological Society of America Abstracts with Programs*, v. 47, n. 7, p. 39.
- Eddy, MP**, Bowring, SA, Umhoefer, PJ, Miller, RB, 2015, Precise temporal constraints on Eocene strike-slip faulting in Washington and its relationship to triple-junction migration and terrane transport: *Geological Society of America Abstracts with Programs*, v. 47, n. 4, p. 51.
- Miller, RB, **Eddy, MP**, Gordon, SM, Umhoefer, PJ, Sauer, K, 2015, Strike-slip in the southern Coast Mountains – Cascades Orogen: the Ross Lake fault system and implications for “Baja BC”: *Geological Society of America Abstracts with Programs*, v. 47, n. 4, p. 50.
- Schoene, B, Samperton, KS, **Eddy, MP**, Keller, G, Adatte, T, Bowring, SA, Khadri, SFR, Gertsch, B, 2015, U-Pb geochronology of the Deccan Traps and relation to the end-Cretaceous mass extinction: *Geophysical Research Abstracts*, v. 17, EGU2015, 8455, EGU General Assembly 2015.
- Eddy, MP**, Bowring, SA, Umhoefer, PJ, Miller, RB, McLean, NM, Donaghy, EE, 2014, Paleogene basin evolution in the Pacific Northwest: a window into ridge-trench interaction: *Geological Society of America Abstracts with Programs*, v. 46, n. 6, p. 34.
- Umhoefer, PJ, **Eddy, MP**, Miller, RB, Bowring, SA, Donaghy, EE, 2014, Major changes in early Eocene faulting and basins in central Washington: *Geological Society of America Abstracts with Programs*, v. 46, n. 6, p. 34.

Tepper, JH, **Eddy, MP**, Nelson, BK, 2014, Origin and tectonic implications of the Eocene Golden Horn Batholith: a unique “A-Type” granite in the North Cascades, Washington: *Geological Society of America Abstracts with Programs*, v. 46, n. 6, p. 34.

**Eddy, MP**, Bowring, SA, Miller, RB, Tepper, JH, 2014, Rapid Emplacement of the Golden Horn Batholith: North Cascades, WA: *Geological Society of America Abstracts with Programs*, v. 46, n. 5, p. 75.

Miller, RB, Gordon, SM, Bowring, SA, Whitney, DL, **Eddy, MP**, Fenning, NF, 2014, Crustal flow and a comparison of the Eocene evolution of the North Cascades Crystalline Core and Eocene metamorphic core complexes to the east: *Geological Society of America Abstracts with Programs*, v. 46, n. 5, p. 5.

## Invited Talks

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City College of New York – Department Lecture	November 2017
AGU Fall Meeting – Session V036	December 2016
Johns Hopkins University – Bromery Lecture	October 2016
University of Rochester – Department Seminar	September 2016
UC Davis – Department Seminar & Special Seminar	March 2016
Harvard – BISSEPS Lecture	November 2015

## Research Grants

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2015, April: GSA Student Research Grant, Title: *Testing the origin of the Siletzia LIP using high-precision U-Pb zircon geochronology*, Amount: \$2500

## Field Experience

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Olympic Peninsula, WA – Tectonics	2014, 2015
North Cascades, WA – Tectonics/Petrology/Mapping	2012, 2013, 2014, 2015, 2016
Deccan Traps, India – Sampling for U-Pb geochronology	2013, 2016
Mojave, CA – Mapping/Tectonics	2012
Chukotka, Russia – Mapping	2011
Pimple Hills, NJ – Mapping	2010
Katmai, AK – Field Volcanology School	2009

## University and Professional Service

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Chaired Session T232 at the 2017 GSA Annual Meeting	2017
Field Trip Leader for Trip 423 at the 2017 GSA Annual Meeting	2017
Academic Fellow Princeton Men’s Varsity Track and Field Team	2016, 2017
Ad hoc Reviewer for NSF Marine Geology and Geophysics Program	2017
Outside Reviewer for Lithosphere	2016

