

## **Alexander Clemens Robinson**

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### **EDUCATION:**

2005 Ph.D., Geology, University of California Los Angeles, Los Angeles, CA  
1997 B.S., Geology, Bates College, Lewiston, ME

### **RESEARCH INTERESTS:**

Structural Geology  
Regional Tectonics  
Metamorphic petrology  
U-Th-Pb Geochronology

### **PROFESSIONAL EXPERIENCE:**

2013-Present Associate Professor, Department of Geosciences, University of Houston,  
Houston, Texas  
2006-2013 Assistant Professor, Department of Geosciences, University of Houston,  
Houston, Texas  
2005-2006 Post-Doctoral Research Associate, Department of Geosciences, University of Arizona,  
Tucson, Arizona  
1998-1999 Lab Technician, United States Geological Survey, Woods Hole, MA  
1997 Field Geologist, WGM Inc. Anchorage, AL  
1995 Field Geologist, Maine Geological Survey, ME

### **FIELD WORK:**

Tajikistan Pamir: 2015, 2017  
Eastern Pamir: 2000, 2003, 2009, 2010  
British Columbia: 2010  
New Mexico: 2007, 2008  
Northern Tibet: 2002  
Presidential Mountains, NH: 1996  
Southern Maine, Gray 7.5 minute quadrangle: 1995

### **AWARDS AND HONORS:**

UC Dissertation Year Fellowship, 2004  
Gary Ernst Fellowship, 2003  
UC Regents Fellowship, 2003, 2004  
IGPP Fellowship, 1999-2001  
Geological Society of America Student Research Grant, 2002  
Phi Beta Kappa  
Magna Cum Laude  
Lewis Jordan Jr. Award, Bates College Geology Department

### **PROFESSIONAL MEMBERSHIPS:**

American Geophysical Union  
Geological Society of America  
Sigma Xi

## PUBLICATIONS:

- Cai, Z., Xu, Z., Cao, H., **Robinson, A.C.**, Li, G., Xu, X., 2017, Miocene exhumation of northeast Pamir: Deformation and geo/thermochronological evidence from western Muztaghata shear zone and Kuke ductile shear zone; *Journal of Structural Geology*, v. 102, p. 130-146.
- Hedrick, K., Owen, L.A., Chen, J., **Robinson, A.**, Yuan, X., Yang, Z., Imrecke, D.B., Li, W., Caffee, M., Schoenbohm, L., 2017, Quaternary history and landscape evolution of a high-altitude intermountain basin, Waqia Valley, Chinese Pamir; *Geomorphology*, v. 284, p. 156-174.
- Robinson, A. C.**, Owen, L. A., Chen, J., Schoenbohm, L. M., Hedrick, K. A., Blisniuk, K., Sharp, W. D., Imrecke, D. B., Li, W., Yuan, Z., Caffee, M. W., and Mertz-Kraus, R., 2016, Response to Comment on “No late Quaternary strike-slip motion along the northern Karakoram fault”, *Earth and Planetary Science Letters*, v. 443, p. 220-223.
- \*Imrecke, D.B., **Robinson, A.C.**, Murphy, M.A., 2015, Kinematic Evolution of the Chalk Draw Fault during Basin and Range Extension, Trans-Pecos Texas; *Journal of Geology*, v. 123, p. 385-403.
- Robinson, A.C.**, Owen, L. A., Chen, J., Schoenbohm, L. M., Hedrick, K. A., Blisniuk, K., Sharp, W. D., Imrecke, D. B., Li, W., Yuan, Z., Caffee, M. W., and Mertz-Kraus, R., 2015, No late Quaternary strike-slip motion along the northern Karakoram fault, *Earth and Planetary Science Letters*, v. 409, no. 1, p. 290-298.
- Robinson, A.C.**, 2015, Mesozoic tectonics of the Gondwanan terranes of the Pamir plateau, *Journal of Asian Earth Sciences*, v. 102, p. 170-179.
- Raterman, N.S., **Robinson, A.C.**, and Cowgill, E.S., 2014, Structure and detrital zircon geochronology of the Doman fold-thrust belt: Evidence of pre-Cenozoic crustal thickening of the western Tibetan Plateau, *in* Nie, J., Horton, B. K., and Hoke, G. D., eds., *Toward an Improved Understanding of Uplift Mechanisms and the Elevation History of the Tibetan Plateau*, Geological Society of America Special Paper 507, p. 89-114, doi:10.1130/2014.2507(05).
- Yuan, Z., Chen, J., Owen, L.A., Hedrick, K.A., Caffee, M., Lia, M., Schoenbohm, L.M. **Robinson, A.C.**, 2013, Nature and timing of large landslides within an active orogen, Eastern Pamir, China, *Geomorphology*, v. 182, p. 49-65
- Sanchez, V.I., Murphy, M.A., **Robinson, A.C.**, Lapen, T.J., Heizler, M.T., 2013, Tectonic evolution of the India-Asia suture zone since Middle Eocene time, Lopukangri area, south-central Tibet, *Journal of Asian Earth Sciences*, v. 62, p. 205-220
- Robinson, A.C.** , Ducea, M., Lapen, T.J., 2012, Detrital Zircon and Isotopic Constraints on the Tectonic Evolution and Crustal Architecture of the Northeastern Pamir, *Tectonics*, v. 31, 16 p.
- Owen, L.A., Chen, J., Hedrick, K.A., Caffee, M.W., **Robinson, A.C.**, Schoenbohm, L.M., Yuan, Z., Li, L., Imrecke, D.B., 2012, Quaternary glaciation of the Tashkurgan Valley, Southeast Pamir, *Quaternary Science Reviews*, v. 47, p. 56-72.
- Robinson, A.C.**, Yin, A., Lovera, O., 2010, Thermokinematic modeling of the effect of footwall erosion on cooling age patterns in Detachment Fault Settings: Implications for the Evolution for the Kongur Shan detachment system, NW China, *Tectonophysics*, v. 496, p. 28-43.
- Robinson, A.C.** , 2009, Evidence against Quaternary slip on the northern Karakorum Fault suggests kinematic reorganization at the western end of the Himalayan-Tibetan orogen, *Earth and Planetary Science Letters*, v. 286, p. 158-170.
- Robinson, A.C.** , 2009, Geologic offsets across the northern Karakorum fault: Implications for its role and terrane correlations in the western Himalayan-Tibetan orogen, *Earth and Planetary Science Letters*, v. 279, p. 123-130.
- Robinson, A.C.**, Yin, A., Manning, C.E., Harrison, M.T., Zhang, S.-H., Wang, X.-F., 2007, Cenozoic evolution of the eastern Pamir region and implications for strain-accommodation mechanisms at the western end of the Himalayan-Tibetan orogen during the Indo-Asian collision, *Geological Society of America Bulletin*, v. 119, p. 882-896.

**Robinson, A.C.**, Yin, A., Manning, C.E., Harrison, M.T., Zhang, S.-H., Wang, X.-F., 2004, Tectonic evolution of the northeastern Pamir: Constraints from the northern portion of the Cenozoic Kongur Shan extensional system, western China, *Geological Society of America Bulletin*, v. 116, p. 953-973.

Guo, Z.-J., Yin, A., **Robinson, A.**, Jia, C.Z., 2004, Geochronology and geochemistry of deep-drill-core samples from the basement of the central Tarim basin, *Journal of Asian Earth Sciences*, v. 25, p. 45-56.

Eusden, J.D., Guzofski, C.A., **Robinson, A.C.**, Tucker, R.D., 2000, Timing of the Acadian Orogeny in Northern New Hampshire, *The Journal of Geology*, v. 108, p. 219-232.

*\*Students for whom which I was principle advisor*

#### **OPEN-FILE REPORTS:**

Poppe, L.J., **Robinson, A.C.**, Blackwood, D., Lewis, R.S., Cohen-DiGiacomo, M.L., 1998, The distribution of surficial sediments in New Haven Harbor, Connecticut, and the New Haven dumping grounds, north-central Long Island Sound: U.S. Geological Survey Open-File Report 98-217, 27 p.

#### **GEOLOGIC MAPS:**

Creasy, John W. and **Robinson, Alexander C.**, 1997, Bedrock geology of the Gray 7.5-minute quadrangle, Cumberland County, Maine: Maine Geological Survey (Department of Conservation), Open-File Report 97-3, 9 p., map, scale 1:24,000.

#### **RECENT MEETING ABSTRACTS:**

\*Villarreal, **Robinson**, Worthington, Chapman, Carrapa, Oimahmadov, McDonald, Gadoev, 2017, Sedimentological Evidence For Early Mesozoic Crustal Suturing Of The Pamir. GSA Fall Meeting.

\*Li, **Robinson**, Lapen, Richter, 2017, Metamorphic P-T-t Paths Record The Lower Crustal Reworking Of The Muztaghata Dome, Northeastern Pamir. GSA Fall Meeting.

\*Villarreal, **Robinson**, Oimahmadov, McDonald, Carrapa, Gadoev, 2016, Assessing Pre-Cenozoic Shortening of the Southern Pamir. GSA Fall Meeting.

Chapman, **Robinson**, Carrapa, Kapp, Worthington, \*Villarreal, Gadoev, Oimahmadov, 2016, Decoupled Upper and Lower Crustal Deformation Mechanisms in the Pamir Mountains: Implications for Lower Crustal Flow in Orogenic Plateaus. AGU Fall Meeting

Chen, Schoenbohm, Owen, Li, Yuan, Li, Robinson, Sobel, Caffee, 2016, Late Quaternary arc-parallel extension of the Kongur Extensional System (KES), Chinese Pamir. AGU Fall Meeting

\*Imrecke, D.B., **Robinson, A.C.**, 2015, Zircon U-Pb and Hf Isotopes Provide Insights into Triassic Magmatism in the Chinese Pamir. AGU Fall Meeting.

\*Villarreal, D. Robinson, A.C., Oimahmadov, I., McDonald, B., Carrapa, B., Gadoev, M., 2015, Assessing Pre-Cenozoic Shortening of the Southern Pamir. AGU Fall Meeting.

Chapman, J.B., **Robinson, A.C.**, Worthington, J., Carrapa, B., Kapp, P., Gadoev, M., Oimahmadov, I., 2015 Mesozoic Shortening And Syn-Tectonic Sedimentation In The Southern Pamir: Implications For Gneiss-Dome Metamorphism And Crustal Thickening. GSA Fall Meeting.

**Robinson, A.C.**, Dustin Villarreal, Eric Bungee, 2014, Reassessing the Timing and Magnitude of Upper Crustal Shortening in the Pamir, DARIUS Symposium.

**Robinson, A.C.**, Owen, L., Hedrick, K.A., Blisniuk, K., Sharp, W., Chen, J., Schoenbohm, L., Imrecke, D.B., Yuan, Z., Li, W., 2012, Evidence against Late Quaternary activity along the Northern Karakoram Fault. AGU Fall Meeting.

\*Imrecke, D.B., **Robinson, A.C.**, Lapen, T.J., Chen, J., Wenqiao, L., Xiaodong, Y., Zhaode, Y., 2012, Lithologic correlations across the eastern North Pamir suggest regionally extensive thrust nappe. AGU Fall Meeting.

**Robinson, A.C.**, Lapen, T., 2011, Detrital zircon constraints on the crustal architecture of the eastern Pamir: Similarities and differences with the Tibetan Plateau. AGU Fall Meeting.

Hedrick, K., Owen, L.A., **Robinson, A.**, Chen, J., Schoenbohm, L., Caffee, M., 2011. Glacial chronology along the Karakoram fault of the Himalayan Pamir-Karakoram mountains. Abstract volume of XVIII INQUA Congress in Bern session 82, ID 3020

**Robinson, A.C.**, Imrecke, D.B., Heizler, M., Chen, J., Wenqiao, L., Xiaodong, Y., Zhaode, Y., 2010, Miocene West Directed Back Thrusting in the Southeast Pamir, China. AGU Fall Meeting.

\*Imrecke, D.B., **Robinson, A.C.**, Chen, J., Wenqiao, L., Xiaodong, Y., Zhaode, Y., Owen, L., Hedrick, K., 2010, Neogene basin development in the Waqia valley, SE Pamir, China. AGU Fall Meeting.

Sanchez, V., Murphy, M.A., **Robinson, A.C.**, Lapen, T. J., Heizler, M. T., Taylor, M.H., 2010, Onset of oblique extension in south-central Tibet by 15 Ma: implications for diachronous extension of the Tibetan Plateau. AGU Fall Meeting

\*Imrecke, D.B., **Robinson, A.C.**, Murphy, M.A., 2010, Control by pre-existing structures on the southeast directed propagation and termination of the Chalk Draw Fault, Trans-Pecos Texas. GSA Fall Meeting.

Owen, L.A., Caffee, M.W., Davis, N., Dortch, J., Finkel, R.C., Hedrick, K., **Robinson, A.C.**, Schoenbohm, L., Seong, Y.B., 2010, Style and timing of glaciation along the Karakoram Fault. 2010 Himalayan Karakoram Tibetan workshop.

\*Students for whom which I was principle advisor

## GRADUATE STUDENT SUPERVISION

### Current Graduate Students:

Dustin Villarreal **Ph.D.**

Yipeng Li **Ph.D.**

### Former Graduate Students:

Dylan Hampshire **M.S.** Fall 2017

Thesis title: *Constraining Peak Metamorphism in the Shala-Tala Thrust Hanging Wall of the Northeastern Pamir via Zircon U-Pb Depth Profile Geochronology and REE Analysis*

Michael Stevens **M.S.** Fall 2014 Current: Geoscientist at CB&I

Thesis title: *Sm-Nd in Garnet and U/Pb in Zircon Geochronology to Constrain the Age of Peak Metamorphism in the Northeastern Pamir*

Eileen Guthrie **M.S.** Fall 2014 Current: Bureau of Ocean Energy Management

Thesis title: *Constraining the Kinematics of the Helena Salient, Montana*

Eric Bunge **M.S.** Summer 2014 Current: GeoTech at ExxonMobile Exploration

Thesis title: *Forward Modeling of Post Jurassic Shortening in the Southeast Pamir Mountains, Tajikistan*

Dan Imrecke **Ph.D.** Fall 2013 Current: Assistant Professor at the University of Houston Clearlake

Thesis title: *Tectonic evolution of the Southeast Pamir*

**M.S.** Spring 2010

Thesis title: *The Chalk Draw Fault of Trans-Pecos Texas: An Investigation into the Structure and Style of Deformation as a Result of Extension*

Serdar Bektas **M.S.** Fall 2013 Current: Seismic Interpreter at Turkish Petroleum Corporation

Thesis title: *Detrital zircon investigation into the Late Proterozoic to Early Paleozoic tectonic history of the Qing Shan region of the Nan Shan, northeast Tibet*

Hana Kabazi **M.S.** Summer 2013 Current: Associate Consultant G&G at Halliburton

Thesis title: *Microstructural and Metamorphic analysis of the Malton Gneiss Dome, southern Canadian Cordillera*

Hongge Kan **M.S.** Fall 2012 Current: Petrophysicist at Schlumberger China Petroleum Institute

Thesis title: *Kinematic Analysis of Laramide Deformation in North-Central New Mexico*

Paul Davis **M.S.** Spring 2010 Current: Geologist/Sales Tech at Blueback Reservoir, Houston, TX

Thesis title: *Kinematics of the Nacimiento and Gallina Uplifts in North-Central New Mexico in Relation to the Laramide Tectonic Evolution*

### Former Undergraduate Student Supervision:

Brian MacDonald

### **CURRENT EXTERNAL FUNDING:**

- NSF-EAR-Tectonics 1450899: Collaborative Research: Mesozoic deformation in the Pamir: Assessing along-strike variability in the pre-Cenozoic evolution of the Tibetan orogen, \$244,901. **PI: Alexander Robinson**, co-PI: Barbara Carrapa (University of Arizona) (Total funding for UH and UA: \$576,292). 02/01/2015 - 01/31/2018

### **PREVIOUS EXTERNAL FUNDING:**

- NSF-EAR Tectonics 0911598: Collaborative Research: Continuation and termination the Karakorum and Karakax faults in Western Tibet: Implications for the role of regional strike-slip faults in orogenic belts.. \$173,357. **PI: Alexander Robinson**, co-PI: Lewis Owen (University of Cincinnati). (Total funding for UH and UC: \$406,407) 08/01/2009 - 07/31/2013
- NSF-EAR-Tectonics 0711527: Investigation of the deformation history of the India-Asia suture zone, Lopukangri Rift, south-central Tibet, \$299,829. PI: Michael Murphy, co-PIs: **Alexander Robinson** and Tom Lapen. 08/01/2007 - 07/31/2010

### **PREVIOUS INTERNAL FUNDING:**

- Evaluating the Reliability of Monazite as a Geochronometer. University of Houston Small Grants Program. \$3,000. February, 2016 – October, 2016
- Testing the Role of Orogen Parallel Flow in the Core of the Canadian Cordillera. University of Houston Small Grants Program. \$2,950. February, 2011 – August, 2011
- Testing models for the role of strike-slip faults in intercontinental collision zones. University of Houston Grants to Enhance and Advance Research (GEAR). \$24,856. July, 2009 – August, 2010
- Isotopic terrane characterization at the western end of the Himalayan-Tibetan orogen: Implications for crustal deformation beneath the Pamir. University of Houston New Faculty Research Program. \$6,000. February, 2007 – August, 2007
- Timing of shortening at the western end of the Himalayan-Tibetan orogen: Implications for continental subduction during the Cenozoic Indo-Asian collision. University of Houston Small Grants Program. \$3,000. February, 2007 – August, 2007