

Alexander Clemens Robinson

Earth and Atmospheric Sciences Department
Science and Research Building 1
3507 Cullen Blvd, Rm 312
Houston, Texas 77204-5007
(713) 743-2547
e-mail: acrobinson@uh.edu

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:

Pamir, 2000, 2003, 2009, 2010, 2015
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

GRADUATE STUDENT SUPERVISION

Current Graduate Students:

Dustin Villareal **Ph.D.**

Yipeng Li **Ph.D.**

Former Graduate Students:

- 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: Cartographic Technician at National Park Service
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
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: 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*

PhD committees served on:

- | | |
|--------------------|---|
| Kurt Sundell | (principle advisor: Joel Saylor) |
| Eric Slotsve | (principle advisor: John Casey) |
| Andrew Kerekgyarto | (principle advisor: Tom Lapen) |
| Deborah Bradley | (principle advisor: Tom Lapen) |
| Ryan Jeffcoat | (principle advisor: Tom Lapen) |
| Matthew Cannon | (principle advisor: Michael Murphy) |
| Yidou Liu | (principle advisor: Michael Murphy) |
| Jiango Yu | (principle advisor: Guiquan Wang) |
| Lily Schaffer | (principle advisor: Al Brandon) |
| Veronica Sanchez | Spring 2011 (principle advisor: Michael Murphy) |
| Mary Sue Bell | Fall 2007 (principle advisor: Jonathan Snow) |

MS committees served on:

- | | |
|--------------------|--|
| Dongje Lee | (principle advisor: Guiquan Wang) |
| Yanet Cuddus | Spring 2015 (principle advisor: Guiquan Wang) |
| Jennifer Campo | Spring 2015 (principle advisor: Julia Wellner) |
| Katherine Tilghman | Fall 2014 (principle advisor: Tom Lapen) |
| Kevin O'Keefe | Spring 2014 (principle advisor: Michael Murphy) |
| Anna Khadeeva | Spring 2014 (principle advisor: Michael Murphy/De-hua Han) |
| An Li | Summer 2013 (principle advisor: Michael Murphy) |
| Robert Raschilla | Spring 2013 (principle advisor: Jolante VanWijk) |
| Xu Wang | Spring 2013 (principle advisor: Aibing Li) |
| Laura Unverzagt | Spring 2012 (principle advisor: Michael Murphy) |
| James Stutz | Spring 2012 (principle advisor: Michael Murphy) |
| Doyle Adams | Spring 2010 (principle advisor: Jolante VanWijk) |

CURRENT EXTERNAL FUNDING:

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

PREVIOUS EXTERNAL FUNDING:

- 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. NSF-EAR Tectonics Division. \$173,357. **PI: Alexander Robinson**, co-PI: Lewis Owen (University of Cincinnati). (Total funding for UH and UC: \$406,407)
- Investigation of the deformation history of the India-Asia suture zone, Lopukangri Rift, south-central Tibet NSF-EAR-Tectonics, \$299,829. PI: Michael Murphy, co-PIs: **Alexander Robinson** and Tom Lapen.

PREVIOUS INTERNAL FUNDING:

- 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

PUBLICATIONS:

*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*

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 Domar 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., Guzowski, 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*

PUBLICATIONS IN PREPARATION:

Hedrick, K., Owen, L.A., Chen, J., **Robinson, A.**, Yuan, X., Yang, Z., Imrecke, D.B., Li, W., Caffee, M., Schoenbohm, L., Quaternary history and landscape evolution of a high-altitude intermountain basin, Waqia Valley, Chinese Pamir; *Quaternary Science Reviews*.

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.

MEETING ABSTRACTS:

- 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.
- *Imrecke, D.B., **Robinson, A.C.**, Chen, J., Wenqiao, L., Xiaodong, Y., Zhaode, Y., Owen, L., Hedrick, K., 2011, The Margin of a Gneiss Dome: Development of the Waqia Half-Graben, Southeast Pamir. 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
- Zhuang, G., Hourigan, J.K., Johnstone, S., Ritts, B.D., Kent-Corson, M., **Robinson, A.C.**, 2010, Sedimentary and Thermochronologic Constraints on the Cenozoic Tectonics of Northern 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.
- Robinson, A.C.**, Ducea, M., Gehrels, G., 2009, Isotopic Constraints on the Tectonic Architecture of the Eastern Pamir. AGU Fall meeting.
- Robinson, A.C.**, 2009, Absence of Quaternary slip on the northern Karakoram fault: Implications for its evolution and role in the Himalayan-Tibetan orogen. 2009 Himalayan Karakoram Tibetan workshop.
- Robinson, A.C.**, 2008, Evolution of the Karakoram Fault: Propagation and Abandonment along an Intercontinental Strike-Slip Fault. GSA Fall meeting.
- Robinson, A.C.**, Cowgill, E., 2007, No Evidence for Neotectonic Activity Along the Inferred Northern End of the Karakoram Fault. AGU Fall meeting.
- Robinson, A.C.**, A. Yin, C.E. Manning, T.M. Harrison, and X.-F. Wang, 2006, Large-scale underthrusting at the western end of the Indo-Asian collision zone: Evidence from the eastern margin of the Pamir. GSA Annual meeting.
- Robinson, A.C.**, A. Yin, and O. Lovera, 2005, Thermokinematic Modeling of the Effect of Footwall Erosion on Cooling Age Patterns in Detachment Fault Settings. AGU Fall meeting.
- Robinson, A.C.** and A. Yin, 2004, Shortening calculations at the western end of the Indo-Asian collision zone: Implications for the evolution of the Tibetan orogenic belt. AGU Fall meeting.
- Robinson, A.C.**, A. Yin, C.E. Manning, T.M. Harrison, and X.-F. Wang, 2003 Oligocene-Middle Miocene crustal thickening and Late Miocene exhumation along the Eastern Pamir, China. GSA Annual meeting.
- Robinson, A.C.**, A. Yin, C. Menold, X. Chen, and X.-F. Wang, 2002, Tertiary Shortening along the Eastern Portion of the North Qaidam Thrust System. AGU Fall meeting.
- Menold, C., C.E. Manning, A. Yin, **A.C. Robinson**, X. Chen, 2002, Tectonic evolution of the North Qaidam UHP complex, Western China. AGU Fall meeting.
- Yin, A., **A.C. Robinson**, and C.E. Manning, 2001, Oroclinal bending and slab-break-off causing coeval east-west extension and east-west contraction in the Pamir-Nanga Parbat syntaxis in the past 10 m.y. AGU Fall meeting.
- Robinson, A.C.**, A. Yin, C.E. Manning, T.M. Harrison, H. Wu, M.Y. Xiong, and X.-F. Wang, 2001, Geochronologic, Thermochronologic, and Thermobarometric Constraints on the Tectonic Evolution of the Northeastern Pamir. AGU Fall meeting.
- Harrison, T.M., Catlos, E.J., Gilley, L.D., and **Robinson, A.C.**, 2001, U-Th-Pb ages of metamorphic monazite; what do they mean? 16th annual Himalaya-Karakoram-Tibet Workshop.

Robinson, A.C., A. Yin, C.E. Manning, T.M. Harrison, H. Wu, M.Y. Xiong, and X.-F. Wang, 2000, Tectonic History of the Kongur Shan Detachment System, Eastern Pamir. AGU Fall meeting.

Robinson, A.C., A. Yin, and C.E. Manning, 2000, Petrologic and Geochronologic Studies of the Kongur Shan Detachment System, Central Pamir. 15th annual Himalaya-Karakoram-Tibet Workshop.

Creasy, John W., Engelman, Matthew R., **Robinson, A.C.**, Shyka, Pauline M., 1998, Geology of the Sebago Batholith, southwestern Maine. GSA Northeastern Section meeting.

Robinson, A.C., J.D. Eusden, and R.D. Tucker, 1997, Timing of metamorphism and deformation in the Presidential Range, NH, based on new U-Pb ages. GSA Northeastern Section meeting.

**Students for whom which I was principle advisor*

INVITED TALKS:

Louisiana State University: Fall 2012

University of Arizona: Fall 2012

University of Houston: Spring 2010

University of Kansas: Fall 2007

University of Houston: Spring 2006

University of Tennessee, Knoxville: Spring 2006

University of California, Davis: Fall 2005

University of Arizona: Fall 2005

UNIVERSITY COMMITTEES SERVED ON:

2014-Present: Sustainability Committee

DEPARTMENT COMMITTEES SERVED ON:

2012-Present: Field Camp Co-Director

2015-Present: Student Research Day Committee

2006-Present: Materials committee (chair, 2010-present)

2013-2014: Geophysics Search Committee

2010-2011: Structural Geology Search Committee

2007-2009; 2011-present: PhD Candidacy Committee

2007-2008: Geodynamics Search Committee

2006-2009: Stable Isotope Search Committee

SESSION CONVENER:

2011 American Geophysical Union fall meeting: "From the Pamirs to Tibet: along strike geological and geodynamic variations." Co-conveners: Barbara Carrapa-University of Arizona, Ed Sobel-University of Potsdam, Rebecca Bendick-University of Montana

2009 American Geophysical Union fall meeting: "Tectonics of the western Himalayan-Tibetan orogen." Co-conveners: Clare Warren-Open University, John Cottle-UCSB, Lindsay Schoenbohm-University of Toronto

2008 Geological Society of America fall meeting: "Spatial and Temporal Evolution of Transform Faults." Co-conveners: Michael Murphy-UH, John Dewey-UH, Gary Axen-New Mexico Tech

STUDENT PRESENTATION JUDGE:

AGU Fall Meeting Outstanding Student Paper Award: 2012, 2011, 2010, 2009

UH Earth and Atmospheric Sciences Student Research Day: 2012, 2011, 2010, 2009