

Vita
Christopher L. Andronicos

Christopher L. Andronicos

Date of Birth, 12/02/1968

Place of Birth: Albuquerque, New Mexico

Parents: Maria B. Flying Horse and Domingo Montoya

Spouse: Kelly J. McBurnette-Andronicos

Children: Aidan Andronicos 11, Orion Andronicos 15

1. EDUCATION

Ph.D. Princeton University, Geology degree received December 1999, Advisor L. S. Hollister; Ph.D. dissertation, *Tectonic Evolution of the Coast Plutonic Complex.*; emphasis in process of ductile deformation, pluton emplacement, structural geology, and tectonics.

B.S. University of New Mexico, Geology degree received May 1995, emphasis in structural geology and petrology.

2. CORNELL ACADEMIC APPOINTMENTS

Assoc. Professor, July 2005 to present -- Cornell University. Teaching structural geology, general geology and metamorphic petrology courses at graduate and undergraduate levels.

3. PROFESSIONAL EMPLOYMENT PRIOR TO CORNELL UNIVERSITY

Asst. Professor, Sept. 1999 to July 2005 -- University of Texas at El Paso. Teaching structural geology, general geology and metamorphic petrology courses at graduate and undergraduate levels. Awarded tenure May 2005.

Harold W. Dodds Honorary Fellow, Princeton University, Princeton, New Jersey, September 1998 - May 1999: Field and laboratory study of the structural geology and tectonics of western British Columbia. Directed Undergraduate Senior Thesis project by Benjamin Farrow, Thesis topic focused on remote sensing investigation of Ice Stream B, Ross Ice Shelf, Antarctica. Taught undergraduate laboratories focused on igneous and metamorphic petrology.

National Science Foundation Minority Graduate Research Fellow, Princeton University, Princeton, New Jersey, September 1995 - August 1998: Field and Laboratory research on the structural geology and tectonics of western British Columbia and high grade gneisses of the Italian Alps.

Geotechnical Engineer, Vineyard and Associates, Albuquerque, New Mexico, January 1995 - July 1995. Conducted Phase I and Phase II environmental site assessments, produced soil engineering reports, geologic maps, and provided recommendations for foundation design and remediation of damaged buildings and structures.

Field Geologist, New Mexico Bureau of Mines and Mineral Resources, State Map Program, May 1994 - August 1994. Produced 1:24,000 scale geological maps of the bedrock geology of the Placitas and Sandia Crest Quadrangles, New Mexico.

Field Assistant, University of New Mexico, Albuquerque, New Mexico, May 1992 - April 1994 (non-continuous basis) assisted Dr. Jeffery Grambling and Dr. Karl Karlstrom during field based research in the southern Rocky mountains of Colorado and New Mexico. Assisted in the production of geological maps, production of petrographic thin sections, and the collection of samples for $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology.

Assistant Curator, University of New Mexico Geology Museum, October 1992 - December 1993. Preserved and catalogued extensive collection of rocks, minerals, invertebrate fossils and thesis collections. Maintained Dbase database for all geology department mineral and rock collections.

4. REVIEWED PUBLICATIONS

Journal Articles, Special Papers and Monograph Chapters

Work Completed While Affiliated With Cornell

Wolf, D. E.*, **Andronicos, C. L.**, Vervort, J., Mansfield, M.*, and Chardon, D., (in revision), Application of Lu/Hf garnet dating to unravel the relationships between deformation, metamorphism and plutonism: An example from the Prince Rupert area, British Columbia, Tectonophysics.

Chang, J. M.*, and **Andronicos, C. L.**, (2009), Constraints on the depth of generation and emplacement of a magmatic epidote-bearing quartz diorite pluton in the Coast Plutonic Complex, British Columbia, Terra Nova.

Gehrels, G. E., Russmore, M. E., Woodsworth, G. J., Crawford, M., **Andronicos, C.L.**, and 11 others, (2009), U-Th-Pb geochronology of the Coast Mountains Batholith in north-coastal British Columbia: constraints on age, petrogenesis, and tectonic evolution, Geological Society of America Bulletin, 121, p. 1341-1361.

Andronicos, C. L., Phipps Morgan, J. , Chang, J. M.*, and Wolf, D. E.*, (2008), Melt-filled hybrid fractures in the oceanic mantle: Melt enhanced deformation during along-axis flow beneath a propagating spreading ridge axis, doi:10.1016/j.epsl.2008.06.035.

Depine, G. V.*, **Andronicos, C. L.**, and Phipps Morgan, J., (2008), Near-isothermal conditions in the middle and lower crust induced by melt migration, Nature, 425, doi:10.1038/nature06689.

Hamblock, J. M.*, **Andronicos, C. L.**, Miller, K. C., Barnes, C. G., Ren, M-H., Averill, M. G., and Anthony, E. Y., (2007), A composite geologic and seismic profile beneath the southern Rio Grande rift, New Mexico, based on xenolith mineralogy, temperature, and pressure, Tectonophysics, 442, 14-48.

Andronicos, C. L., Velasco, A. A., and Hurtado, J. M., (2007), Large-scale deformation in the India-Asia collision constrained by earthquakes, Terra Nova 9, 105-120, doi: 10.1111/j.1365-3121.2006.00714.x.

Miller, K. C., Carrick, T. M., Martínez-Sussmann, C., Levine, R., **Andronicos, C. L.**, and Langford, R. P., (2007). Effectiveness of a Summer Experience for Inspiring

- Interest in Geoscience Among Hispanic-American High School Students, *Journal of Geoscience Education*, v. 55, p. 596-603.
- Hollister, L. S., and **Andronicos, C. L.**, (2006), Formation of new continental crust in Western British Columbia during transpression and transtension, *Earth and Planetary Science Letters*, 249, 29-38.
- Keller, G. R., Karlstrom, K. E., Williams, M. L., Miller, K. C., **Andronicos, C. L.**, Lavander, A., Snelson, C.*, and Prodehl, C., (2005), The Dynamic Nature of the Continental Moho: Crustal Evolution in the Southern Rocky Mountain Region as an Example, *Geophysical Monograph Series*, Volume 154, 482 pages, hardbound, 2005, ISBN 0-87590-419-X.
- Quezada, O. A.*, G. R. Keller, and **Andronicos, C. L.**, (2005), A seismic reflection, gravity and remote sensing study of the southeastern Sangre de Cristo Mountains, New Mexico, *Geophysical Monograph Series*, Volume 154, 482 pages, hardbound, 2005, ISBN 0-87590-419-X.
- Andronicos, C.L.**, Chardon, D., Gehrels, G., Hollister, L.S., and Woodsworth, G.J., (2003), Strain partitioning in an obliquely convergent orogen, plutonism, and synorogenic collapse: the Coast Mountains Batholith, British Columbia, Canada, *Tectonics*, 22, doi:10.1029/2001TC001312.
- Hollister, L. S. and **Andronicos, C. L.** (2000) The central gneiss complex, Coast orogen, British Columbia, *GSA Special Paper* 343, 45-59.
- Andronicos, C.L.**, Hollister, L.S., Davidson, C., and Chardon, D., (1999), Kinematics and tectonic significance of transpressive structures within the Coast Plutonic Complex, British Columbia, *Jour. Struct. Geol.*, 21, p. 229-243.
- Chardon, D. H., and **Andronicos, C. L.**, and Hollister, L. S., (1999), Large-scale transpressive shear zone patterns and displacements within magmatic arcs: The Coast Plutonic Complex, British Columbia, *Tectonics*, 18, 278-292.
- Hollister, L.S. and **Andronicos, C. L.**, (1997), A Candidate for the Baja British Columbia Fault System in the Coast Plutonic Complex, *GSA Today*, 7, 1-7.
- Kirby, E. K., Karlstrom, K.E., **Andronicos, C. L.**, Dallmeyer, R.D., (1995), Tectonic Setting of the Sandia Pluton: An orogenic 1.4 Ga granite in New Mexico, *Tectonics*, 14, no. 1, p. 185-201.

Reviewed Conference Papers

- Kirby, E. K., Karlstrom, K. E., and **Andronicos, C. L.**, (1995), Structural and thermal setting during emplacement of the Sandia Pluton, New Mexico Geological Society Guidebook, 46th Field Conference, p. 219-225.
- Tervino, L.*, Keller, G. R., and **Andronicos, C. L.**, (2004), Rootless Mountains and Gravity Lows in the Sangre De Cristo Mountains, Southern Colorado-Northern New Mexico, New Mexico Geological Society Guidebook, 55th Field Conference.
- Quezada, O. A. *, **Andronicos, C. L.**, and Keller, G. R., 2004, Structure of the Sangre De Cristo Mountains between Taos and Mora based on an integrated Geophysical analysis, New Mexico Geological Society Guidebook, 55th Field Conference.

* Indicates Student Co-author

5. CONFERENCE ABSTRACTS (SINCE 2005)

- [§]**Andronicos, C. L.**, 2008, Magmatism and the localization of strain along vertical boundaries in magmatic arcs, Northeastern Section - 43rd Annual Meeting, Geological Society of America - 43rd Annual Meeting, Geological Society of America.
- Wolf, D. E.* , and **Andronicos, C. L.**, 2008, Emplacement history of the Ecstall pluton from structural kinematics and metamorphism; Prince Rupert area, British Columbia, Northeastern Section - 43rd Annual Meeting, Geological Society of America.
- Andronicos, C. L.**, Phipps-Morgan, J. P., Hamblock, J. M.* , and Wolf, D. E.* , 2007, Melt-filled hybrid fractures in the sub-oceanic mantle of the Oman ophiolite, Geological Society of America *Abstracts with Programs*, Vol. 39, No. 6, p. 226.
- [§]**Andronicos, C. L.**, and Ducea, M., 2007, Magmatic arc construction: Constraints from the structure of the Coast plutonic complex, *Eos Trans. AGU*, 88 (52), Fall Meet. Suppl.
- Depine, G. V.* , **Andronicos, C. L.**, and Hamblock, J. M., 2007, Geology of the Kitlope Lake Area, Coast Mountains, British Columbia, Geological Society of America *Abstracts with Programs*, Vol. 39, No. 6, p. 388.
- [§]Depine, G. V.* , **Andronicos, C. L.**, and Phipps Morgan, J., 2007, Continental-Arc Geotherms, How Much do we Understand Their Shape? *Eos Trans. AGU*, 88 (52), Fall Meet. Suppl.
- Hamblock, J. M.* , **Andronicos, C. L.**, Miller, K. C., Barnes, C., Ren M., Averill, M. and Anthony, E. Y., 2007, A composite geologic and seismic profile of the lithosphere beneath the Potrillo volcanic field, southern Rio Grande rift, New Mexico, Geological Society of America *Abstracts with Programs*, Vol. 39, No. 6, p. 363.
- Hamblock, J. M. and **Andronicos, C. L.**, 2007, Constraints on the Depth of Generation and Emplacement of Magma in the Coast Plutonic Complex, British Columbia, From Magmatic Epidote Textures, *Eos Trans. AGU*, 88 (52), Fall Meet. Suppl.
- Gehrels, G., Rusmore, M., Woodsworth, G., Crawford, M., Patchett, J., Ducea, M., **Andronicos, C.**, Hollister, L., Klepeis, K., and Mahoney, B., 2007, Jurassic to Eocene magmatic history of the Coast Mountains batholith in north-coastal British Columbia, Geological Society of America *Abstracts with Programs*, Vol. 39, No. 6, p. 525.
- Ducea, M., and **Andronicos, C. L.**, 2007, Coast Mountains Batholith: The Anatomy Of A Cordilleran Arc, *Eos Trans. AGU*, 88 (52), Fall Meet. Suppl.
- Cervera, S., Hurtado, J. M., Clauge, J., and **Andronicos, C. L.**, 2006, The Quaternary Deformational History of the East Potrillo Fault, Dona Ana County, New Mexico, *Eos Trans. AGU*, 87(52), Fall Meet. Suppl.
- Depine, G. V., Andronicos, C. L., and Phipps Morgan, J., 2006, Generation of Granulites Constrained by Thermal Modeling, *Eos Trans. AGU*, 87(52), Fall Meet. Suppl.
- Hamblock, J. M.* , **Andronicos, C. L.**, Miller, K. C., Barnes, C., Ren M., Averill, M. and Anthony, E. Y., 2006, A Composite Geologic and Seismic Profile Beneath the Southern Rio Grande Rift, New Mexico, Based on Xenolith Mineralogy, Temperature, and Pressure, *Eos Trans. AGU*, 87(52), Fall Meet. Suppl.

- Hamblock, J. M.*, **Andronicos, C. L.**, and Hurtado, J. M., 2006, Structural geology and petrology of Mount Gamsby, Coast plutonic complex, British Columbia, Geological Society of America *Abstracts with Programs*, Vol. 38, No. 7, p. 276.
- Wu, K.*, and **Andronicos, C. L.**, 2006, Paleoproterozoic regional metamorphism in the Needle Mountains, Colorado, Geological Society of America *Abstracts with Programs*, Vol. 38, No. 7, p. 384.
- Hollister, L. S., and **Andronicos, C. L.**, 2006, Formation of new continental crust in western British Columbia during transpression and transtension, based on data from the 1993-2000 ACREETE CD project, Geological Society of America *Abstracts with Programs*, Vol. 38, No. 7, p. 209.
- §**Andronicos, C. L.**, Velasco, A. A., and Hurtado, J. M., 2005, An example of science aided by cyberinfrastructure - Geodynamics of the Himalaya, SACNAS National Conference.
- Rohert, J.*, Hurtado, J. M., and **Andronicos, C. L.**, 2005, Structural styles and strain orientations in the Bishop Cap Hills of south-central New Mexico, Geological Society of America *Abstracts with Programs*, Vol. 37, No. 7, p. 213.
- Miller, K. C., Velasco, A. A., **Andronicos, C. L.**, Langford, R. P., and Carrick, T. L., 2005, Providing the Pathway to Success for Graduate Education: Undergraduate Research, *Eos Trans. AGU*, 86(52), Fall Meet. Suppl.
- Cervera, S.*, Hurtado, J. M., and **Andronicos, C. L.**, 2005 TI: Geometry of Quaternary Fault Scarps in the East Potrillo Mountains, Dona Ana County, New Mexico, *Eos Trans. AGU*, 86(52), Fall Meet. Suppl.

§Invited talks

*indicates student co-author

6. PUBLIC LECTURES

- Melt Transport in the Earth's Lithosphere, Princeton University, Feb. 9, 2009
- Melt Transport Processes in the Oman Ophiolite, Dickinson College, Oct. 20, 2008
- Sultan Qaboos University, Muscat Oman, February, 2008, Title: Melt-filled hybrid fractures in the sub-oceanic mantle: An unrecognized melt migration mechanism beneath mid-ocean spreading ridges
- University of Massachusetts Amherst, Amherst Massachusetts, September 2007, Title: Melt transport in the lithosphere with examples from New Mexico, Oman and British Columbia
- Halai 2007 Finds and Findings, October 2007, Cornell University, with John Coleman and Emil Nankov
- Buffalo Geological Society Annual Awards Banquet, May 2007, Title: Magma transport in the continental crust and oceanic mantle
- Syracuse University, February 2007, Title: Deep crustal deformation in magmatic arcs, examples from the Coast Plutonic Complex

7. COURSES TAUGHT

- EAS 210, Introduction to Field Methods
- EAS 111, To Know the Earth
- EAS 622, Advanced Structural Geology I

EAS 304, Interior of the Earth
EAS 101, Introduction to Geology
EAS 693, Special Topics in Geological Sciences: Metamorphic Petrology
EAS 425, Explosive Volcanism and Impact
EAS 624, Advanced Structural Geology II

8. GRADUATE FIELD MEMBERSHIPS

Graduate Field of Geological Sciences

9. STUDENTS ADVISED

Degree Completed:

Gabriela Depine, PhD Summer 2009, currently Shell International, Huston Texas

Current Cornell Students:

David Wolf, PhD student

Robert Alexander Hunter, PhD student

Post-Doctoral Scholars

Julie M. Hamblock-Chang January to June 2007

Students at the University of Texas at El Paso whom I advised and whose degree completion I continued to oversee while affiliated with Cornell

Kaiwen Wu, PhD, 2007, Proterozoic Tectonic Evolution of The Needle Mountains, Colorado: Integrated Structural And Petrologic Analysis of Crustal Formation and Evolution

Julie M. Hamblock, 2006, PhD, Understanding the Composition, Origin, and Evolution of the Continental Crust: Case Studies in the Southern Rio Grande Rift, New Mexico, and the Coast Plutonic Complex, British Columbia, Canada: University of Texas at El Paso

Dana Carciumaru, 2005, PhD, Structural geology and tectonics on the northern Chihuahua trough: University of Texas at El Paso

Mitch Schraman, 2006, MS, Structural Constraints on Laramide Shortening and Rio Grand Rift Extensions in the Central Franklin Mountains, El Paso County, Texas: University of Texas at El Paso

Josh Rohert, 2006, MS, Structural geology of the Bishop Cap Hills in south-central New Mexico: University of Texas at El Paso

In addition to the above students, I advised 5 MS thesis prior to coming to Cornell

10. EXTRAMURAL FUNDING

Current Support:

National Science Foundation

Collaborative Research: Batholiths Generation And Evolution Of Crust In Continental Magmatic Arcs

2003-2009

Principal Investigator

With Co-PIs Mihai Ducea, George Gehrels, George Zandt, Jon Patchett (University of Arizona), John Hole (Virginia Tech), Margi Russmore (Occidental College), Kate Miller, Jose Hurtado (University of Texas at El Paso), Ken Dueker (University of Wyoming), Kelly Russell, Ron Clowes, Lori Kennedy, (University of British Columbia), George Spence (University of Victoria)

Total award \$1,342,555, of which I directly supervised \$653,028.00

Institute for the Social Sciences at Cornell University

Beyond Diversity: Re-Situating Pluralism, \$5,000, co-PI, Karim-Ali Kasam PI

Past Support:

National Science Foundation

Deciphering the Tectonic History of Slowly Cooled Precambrian Polymetamorphic Terranes in the American Southwest, C. L. Andronicos, (PI), \$26,607

ITR Collaborative Research: GEON: A Research Project to Create Cyberinfrastructure for the Geosciences: G. R. Keller, (PI), Ann Q. Gates (Co-PI), V.Y. Kreinovich (Co-PI), and C.L. Andronicos (Co-PI), \$892,437

Collaborative Research: Lithospheric Structure and Evolution of the Rocky Mountains: Phase 2, K. C. Miller (PI), G.R. Keller (Co-PI) and C.L. Andronicos, (Co-PI), \$62,996

Building Pathways into the Geosciences for an Hispanic Community of Learners in El Paso, K. C. Miller (PI), C.L. Andronicos, (Co-PI), and R. P. Langford, (Co-PI), \$380,900

MRI: Acquisition of laser ablation for ICP-MS and electron microprobe upgrade, for geological and environmental research and research training, N. E. Pingitore (PI), C. L. Andronicos, (Co-PI), J. L. Gardea-Torresdey, (Co-PI), \$60,000

University Research Institute, University of Texas at El Paso

Testing models of Proterozoic Tectonics in Northern New Mexico, (PI) \$4,908

11. HONORS AND AWARDS

Zellman Warhaft Commitment to Diversity Award, Cornell University, 2008
James and Mary Tien Excellence in Teaching Award, Cornell University, 2007
Center for Effective Teaching and Learning Fellow, University of Texas at El Paso, 2000-2003
Harold W. Dodds Honorific Fellowship, Princeton University, 1994-1995
National Science Foundation Minority Graduate Research Fellowship, Princeton University, 1995-1998

12. PROFESSIONAL ORGANIZATIONS

Geological Society of America
American Geophysical Union
Society for Advancement of Chicanos and Native Americans

13. SERVICE AND OUTREACH

National Geological Organizations
National Science Foundation Solid Earth Committee of Visitors 2008
Associate Editor Tectonics 2004-2007
GSA Committee on Membership 2004-2007
Organizer of Special Session at AGU Fall meeting 2007

National Organizations Promoting Diversity
Life Member Society for Advancement of Chicanos and Native Americans

Cornell Service: Department of Earth & Atmospheric Sciences
INSTOC Steering Committee, 2008
Member, Undergraduate Curriculum Committee, 2005
Member, Ad Hoc Committee for EAS Strategic Plan, 2005

Cornell Service: University and College Promotion of Diversity
Member, Search Committee for Director of the American Indian Program 2008
Member, Search Committee for Assistant Professor in Natural Resources and the American Indian Program 2007
Faculty Fellow, Akwe:kon Program House

Director 2007 Catalyst Program, Cornell University: The Catalyst Program is designed to introduce high school students from under represented groups to engineering and science. I designed a project focused on the feasibility of developing natural gas in the greater Ithaca area. The program integrated information on economics, geology, environment and engineering. The students compiled information and made a recommendation on the feasibility of drilling for natural gas in the Ithaca area. There were 25 participants in the program.