**Curriculum Vitae**
**Brent David Turrin**

**Personal**
Born: 18 November 1955, Walnut Creek, California
Married, four children

**Education**

* Ph.D. University of California, Berkeley 1996
* M.S. Stanford University, California, 1984
* B.A. University of California, Berkeley 1980
* A.A. Diablo Valley College, California, 1976

**Career experience**

* Associate Research Professor Rutgers University 01/00 to present
* Senior Staff Associate at Lamont-Doherty Earth Observatory 03/97 to 01/05
* Adjunct Research Associate, Berkeley Geochronology Center, 01/85 to 04/97
* Computer network and internet technical consultant 10/95 to 02/97
* Research Geologist, U.S. Geological Survey 10/88 to 10/95
* Operational Geologist, U.S. Geological Survey 10/85 to 10/88
* Physical Science Technician, U.S. Geological Survey 10/83 to 09/85
* Research and Teaching Assistant, Stanford University 10/80 to 06/83
* Geologic Field Assistant, U.S. Geological Survey 06/79 to 10/80
* Lab Technician, University of Calif., Berkeley 10/78 to 09/80

**Membership in professional societies.**

* American Geophysical Union 12/83-present
* American Association for the Advancement of Science (AAAS) 6/89-present

**Honors, awards, recognition, elected membership**

* Sigma Gamma Epsilon Honorary Society of Earth Scientists (1980), Charter Member of Stanford University Chapter.
* Finalist, Science Category Computerworld Smithsonian Awards for the advanced computer technologies developed for fully computer-automated 40Ar/39Ar single-crystal laser-fusion microprobe and a resistance furnace dating systems, co-developed at the Berkeley Geochronology Center, 1993

**Grants and Fellowships**

* NASA 18-EW18\_2-0050 Role Collaborator; PI-Cyrena Goodrich; Physical and Compositional Structure of Heterogeneous Asteroid 2008 TC3 from New Samples of the Almahata Sitta Meteorite
* NASA 16-EW16\_2-0212 Role Role Collaborator; PI-Cyrena Goodrich; Petrologic, Oxygen and Chromium Isotope, and Ar-Ar Studies of Non-Ureilitic Materials in Polymict Ureilites: Implications for Mixing of Materials in the Early Solar System and Differentiation of an Ancient, Carbon-Rich Asteroid-LPI
* NASA 15-EW15\_2-0063 Role Collaborator; PI-Cyrena Goodrich; Nature and Origin of Asteroid 2008 TC3 from Petrologic, Oxygen Isotope, and Other Studies of New Samples from the Almahata Sitta Meteorite Fall
* NSF EAR 1057650 PI Collaborative Research: Development of 40Ar/39Ar Intercalibration Pipettes
* NASA 12-COS12-0059 Role Co-I; PI-Gregory Herzog Studies of Ar-39/Ar-40 Dating and Cosmogenic Nuclides in Extraterrestrial Materials

**PhD and Post-Doctral Students Advised**

* Zakiya Chikwendu current MS student
* Sean Kinney PhD 2021 Columbia University (Outside member of PhD committee)
* Chris Rowen MS, 2021, (Thesis Committee, Advised and supervised student in the Rutgers 40Ar/39Ar lab)
* Jacob. Setera PhD 2020, (PhD Committee, Advised and supervised student in the Rutgers 40Ar/39Ar lab)
* Sara. Mana PhD 2013, (Advised and supervised student in the Rutgers 40Ar/39Ar lab)
* Jisun Park Post-Doc. 2012 (Supervised student in the Rutgers 40Ar/39Ar lab)
* Pablo Ruiz Cubillo PhD 2012 (PhD Committee, Advised and supervised student in the Rutgers 40Ar/39Ar lab)
* Normala Shankar PhD 2011, Chemistry (PhD Committee, Advised and supervised student in the Rutgers 40Ar/39Ar lab))
* Fara N Lindsay Post-Doc. 2010 (Supervised student in the Rutgers 40Ar/39Ar lab)
* Ian Saginor PhD 2008 (Advised and supervised student in the Rutgers 40Ar/39Ar lab)
* Godwim.F.Mollel 2007 PhD (Advised and supervised student in the Rutgers 40Ar/39Ar lab)
* Godwim.F.Mollel 2002 MS, (Advised and supervised student in the Rutgers 40Ar/39Ar lab)

**Committees/scientific review panels**

* Technical consultant for Los Alamos National Lab Nuclear Chemistry Group on a helium noble-gas extraction system.1987-1988
* Organizing Committee, Abstract/Editorial Committee, and Science Program Committee for the 8th International Conference on Cosmochronology and Geochronology (ICOG-8) June 1994.
* Technical reviewer for the Nuclear Regulatory Commission (NRC) NUREG report on "Guidelines for Quaternary geochronology methods as applied to the assessment of seismic hazards". May 1994
* Editorial committee for Ocean Drilling Program Leg-173 paleomagnetic studies Sites 1065, 1067, 1068, 1069, and 1070. Oct. 1997.
* Chair, Geophysical site survey study group, Lake Vostok Workshop, Lake Vostok: A Couriosity or a Focus for Interdisciplinary Study?: National Science Foundation Final Report, Nov. 1998.

**Lectureships, Symposia, Invited Conferences**

06/84--Invited by University of California, Berkeley, Geology Department to present class lecture and field trip on the Quaternary deposits in Saline and Eureka Valley, California

04/85--Co-convener GSA Penrose Conference on "Geomorphic and Stratigraphic indicators of Quaternary-Neogene Climatic change in Arid and Semiarid Environment", Lake Havasu, Arizona

11/85--field trip co-leader--Quaternary Geology of the eastern Mojave Desert, Geological Society of America, Annual Meeting, Reno, Nevada

01/86--Invited lecture and field trip co-leader by NASA (Jet Propulsion Laboratory) to present geochronology of subalkaline-alkaline basaltic rocks in the southwestern USA

06/87--Geological Society of America, Cordilleran Section Meeting, Hilo, Hawaii. Chair, session on volcanism and xenoliths

06/89--Invited by the Institute of Human Origins, Berkeley Geochronology Center to present techniques of 40Ar/39Ar dating on young (Pleistocene) basaltic volcanic rocks

12/89--Invited by the USGS Committee for the Advancement of Science in the Yucca Mountain Project (CASY) to present a paper in Menlo Park, CA and in Denver, CO (04/90) "Geochronology of the Lathrop Wells Volcanic Center, Nevada"

10/90--Invited speaker GSA Penrose Conference on "Surface Exposure Dating Techniques", Mammoth, California

03/91--Invited participant Nuclear Waste Technical Review Board on the assessment of the volcanic hazard studies at the proposed repository at Yucca Mountain, Nevada

09/91--Invited lecture University of California, Berkeley, "40Ar/39Ar dating of Quaternary basaltic rocks from the Lathrop Wells volcanic center, Nevada"

12/91--Invited lecture Lawrence Livermore National Laboratory, "40Ar/39Ar dating of Quaternary basaltic rocks from the Lathrop Wells volcanic center, Nevada and the Cima volcanic field, California: Implications to geomorphic age assignments of cinder cones"

04/92--Invited lecture University of California, Berkeley, "40Ar/39Ar dating of Franciscan Terranes: Age of uplift of Franciscan terranes in the San Francisco Bay Area"

09/92--Invited participant Nuclear Waste Technical Review Board on the assessment of the volcanic hazard studies at the proposed repository at Yucca Mountain, Nevada

12/92--Invited lecture USGS Branch of Igneous and Geothermal Processes "Recent Advances in 40Ar/39Ar dating of Quaternary Rocks using a Resistance Furnace"

11/93--Invited lecture University of California, Davis "40Ar/39Ar dating and paleomagnetic studies of Quaternary basaltic rocks"

03/94--Invited participant in Nuclear Regulatory Commission (NRC) sponsored workshop on "Quaternary geochronology as applied to seismic hazard assessments"

06/94--Invited participant International Union of Geology and Stratigraphy (IUGS) subcommission on geochronology conference on "Absolute Age Dating Standards" G.S. Odin, Chairman and A.J. Hurford, Sectetary.

02/95--Invited participant Volcanic Hazard Analyses Elicitation; DOE/Geomatrix Inc.

01/96--Invited lecture University of California, Berkeley "Development and Application of 40Ar/39Ar Laser-Fusion Dating and 40Ar/39Ar Step-Heating Dating of Quaternary Basaltic Volcanic Rocks: A Comparision of Conventional K-Ar Dating and 40Ar/39Ar Methods".

01/96--Invited lecture Lamont-Doherty Earth Observatory, Columbia Univ. "The State of 40Ar/39Ar of Late Pliestocene Volcanic Rocks".

01/96--Invited lecture Lamont-Doherty Earth Observatory, Columbia Univ. "Science and Journalism: Yucca Mountain a case study".

01/97--Invited lecture Lamont-Doherty Earth Observatory, Columbia Univ. "Science and Journalism: Yucca Mountain a case study".

08/98--Invited participant, Ocean Drill Program, Leg-173 post cruise meeting"40Ar/39Ar Thermo-chronology of the Ocean-Continent Transition".

11/98--Invited participant, Lake Vostok Workshop. "Lake Vostok: A Curiosity or a Focus for Interdisciplinary Study?".

01/99--Invited lecture Lamont-Doherty Earth Observatory, Columbia Univ. "Science and Journalism: Yucca Mountain a case study".

06/99--International Workshop for a Climatic, Biotic, and Tectonic, Pole-to-Pole Coring Transect of Triassic-Jurassic Pangea

11/04--Invited lecture Hydrogeology of Newark Basin – A Regional Workshop Rutgers University Inn and Conference Center. "Introduction to T/3He dating of groundwater: Sampling and measurement methods (No dates No Rates)".

01/07--Invited participant Transformation of Oceanic Plateaus into Continents (TROPICS) NSF Earth Scope workshop.

12/15--Primary-convener, EARTHTIME: Progress and Updates II, AGU Fall Meeting

02/17—Invited lecture SUNY Stoneybrook. “Applying 40Ar/39Ar Dating and Paleomagnetic Studies As a High Precision Chrono-Stratigraphic Tool: Mass Dependent Isotope Fractionation of Ar in Natural Systems, Implications to 40Ar/39Ar Dating: Is It Time for a Paradigm Shift?”

**Publications (2017 to present)**

88) Valentine GA, Cortes JA, Widom E, Smith EI, Rasoazanamparany C, Johnsen R, Briner JP, Harp AG, Turrin B (2017) Lunar Crater Volcanic Field (Reveille and Pancake Ranges, Basin and Range Province, Nevada, USA). Geosphere, vol. 13, issue 2 391-438.

89) Ricardo A. ASTINI, C. E. C., Juan C. CANDIANI, Dennis KENT, Carl SWISHER y Brent D. TURRIN (2017). "AGLOMERADOS VOLCÁNICOS Y CONGLOMERADOS VOLCANOGÉNICOS ESTRATIFICADOS DEL MIOCENO TEMPRANO EN LA BASE DE LAS SERIES CENOZOICAS DEL CAMPO DE TALAMPAYA: INTERPRETACIÓN ESTRATIGRÁFICA Y SIGNIFICADO GEOLÓGICO." Revista de la Asociación Geológica Argentina **74**: 423-448.

90) Kuntz, M.A., Champion, D.E., Turrin, B.R., Gans, P.B., Covington, H.R., and VanSistine, D.P., 2018, Geologic map of the north half of the Lake Walcott 30'×60' quadrangle, Idaho: U.S. Geological Survey Scientific Investigations Report 3405, pamphlet 25 p., scale 1:100,000, <https://doi.org/10.3133/sim3405>.

91) Zoheir, B., et al. (2018). "Ediacaran (~ 600 Ma) orogenic gold in Egypt: age of the Atalla gold mineralization and its geological significance." International Geology Review 61(7): 779-794.

92) Ashley, G. M., et al. (2018). "Fara N. Lindsay (1961-2017)." Meteoritics & Planetary Science 53(3): 547-548.

93) Schaller, M. F., Turrin, B. D., Fung, M.K., Katz, M. E., & Swisher, C. C. (2019). "Initial 40Ar‐39Ar Ages of the Paleocene‐Eocene Boundary Impact Spherules." Geophysical Research Letters 46(15): 9091-9102.

94) Arya UDRY, Z. E. W., Rachel R. RAHIB, Francis M. MCCUBBIN, Kathleen E. VANDER KAADEN, Timothy J. MCCOY, Karen ZIEGLER, Juliane GROSS, Christopher DEFELICE, Logan COMBS, and Brent D. TURRIN (2019). "Reclassification of four aubrites as enstatite chondrite impact melts: Potential geochemical analogs for Mercury." Meteoritics & Planetary Science: 1-26.

95) Jacob B. Setera, Jill A. VanTongeren, Brent D. Turrin, Carl C. Swisher; Rapid cooling of the Rustenburg Layered Suite of the Bushveld Complex (South Africa): Insights from biotite 40Ar/39Ar geochronology. Geology 2020; 48 (8): 834–838. doi: <https://doi.org/10.1130/G46865.1>

96) Setera, J. B., et al. (2020). "40Ar/ 39Ar Thermochronology for Submilligram Samples Using a Ta Platform Microfurnace, With Illustrations From the Bushveld Complex." Geochemistry, Geophysics, Geosystems 21(10).

97) Schaen, A. J., et al. (2020). "Interpreting and reporting 40Ar/39Ar geochronologic data." GSA Bulletin 133(3-4): 461-487.

98) Lindsay, F. N., et al. (2021). "40Ar/39Ar ages of Northwest Africa 7034 and Northwest Africa 7533." Meteoritics & Planetary Science 56(3): 515-545.

99) Strauss, B. E., et al. (2021). "Constraining the Decline of the Lunar Dynamo Field at ≈3.1 Ga Through Paleomagnetic Analyses of Apollo 12 Mare Basalts." Journal of Geophysical Research: Planets 126(3).

100) Cohen, B., Herzog, G. F., Jaret, S. J., Simon, J. I., Swindle, T. D., Suarez, S. E., … Moriarty, D. P., (2021). Geochronology as a Framework for Inner Solar System History and Evolution. Bulletin of the AAS, 53(4). <https://doi.org/10.3847/25c2cfeb.1b2670e3>.

101) David R. Gaylord, Tammy M. Rittenour, Paul K. Link, Brent D. Turrin, Mel A. Kuntz, (2021) Ghost-dune hollows of the eastern Snake River Plain, Idaho: Their genesis, evolution, and relevance to Martian ghost-dune pits; Geology 49(8): 899–904. doi: <https://doi.org/10.1130/G48645.1>.

102) Wilbur, Z.E., Udry, A., McCubbin, F.M., vander Kaaden, K.E., DeFelice, C., Ziegler, K., Ross, D.K., McCoy, T.J., Gross, J., Barnes, J.J., Dygert, N., Zeigler, R.A., Turrin, B.D. and McCoy, C. (2022), The effects of highly reduced magmatism revealed through aubrites. Meteorit Planet Sci, 57: 1387-1420. <https://doi.org/10.1111/maps.13823>.

103) 40Ar/39Ar ages of L4, H5, EL6 and feldspathic ureilitic clasts from the Almahata Sitta polymict ureilite (asteroid 2008 TC3), Meteoritics & Planetary Science (in press).

104) Setera ,J.B., VanTongeren, J. A., Turrin1, B. D., Swisher III, C. C., (2022) A Low-temperature hydrothermal cutoff: Plagioclase 40Ar/39Ar thermochronology of the Rustenburg Layered Suite, Bushveld Complex: Contributions to Mineralogy and Petrology (in press).

Full publication lists available on request.