**Douglas Kip Solomon**
**University of Utah, February 2024**

**Education**

UNIVERSITY OF WATERLOO — WATERLOO, ONTARIO

1988-1992 Ph. D. Earth Sciences; Thesis topic: The use of tritium and helium isotopes to determine groundwater recharge to unconfined aquifers.

UNIVERSITY OF UTAH — SALT LAKE CITY, UTAH

1983-1985 M. S. Geology, GPA 3.9/4.0; Thesis: Seasonal variations in soil carbon dioxide and groundwater chemistry in a montane region.

1979-1983 B. S. Geological Engineering, Magna Cum Laude, GPA 3.5/4.0; Senior Thesis; Hydrologic history and chemistry of Lake Turkana, East Africa.

**Honors**

Appointed Francis Brown Presidential Endowed Chair, 2022-2025.
Recipient University of Utah Distinguished Research Award, 2022.
Outstanding Faculty Research Award, Dept. Geology and Geophysics, University of Utah, 2020-21.
Named 2016 Heilbrun Lecturer, The Richard Lende Neurosurgery Conference.
Named 2009 Adrian Smith Lecturer in Geochemistry, University of Waterloo, CA
Appointed OCE Distinguished Visiting Scientist, CSIRO Division of Land and Water, Australia, 2008.
Elected as a Fellow of the Geological Society of America, 2008.
Elected Chair of Hydrogeology Division of GSA, 2006.
Named 2005 Darcy Lecturer by National Ground Water Association.
2002 Conservation Partner Award, The Nature Conservancy, May 2002.
Outstanding Faculty Teaching Award, College of Mines and Earth Sciences, University of Utah, 2001-02.
Outstanding Faculty Research Award, Dept. Geology and Geophysics, University of Utah, 1997-98.
Outstanding Faculty Teaching Award, Dept. Geology and Geophysics, University of Utah, 1996-97.
East Tennessee Chapter of the Society for Technical Communication. Award of Achievement for the paper "A validation of the 3H/3He method for determining groundwater recharge", 1994.
University of Waterloo: Alumni Gold Award, outstanding Ph. D. thesis 1992.
University of Waterloo: Pearson Medal for outstanding Ph. D. thesis Earth Sci.
University of Utah: State Normal Scholarship, Geology departmental scholarship.

**Experience**

2009-2013 CHAIR, Department of Geology and Geophysics — UNIVERSITY OF UTAH

2003-present PROFESSOR — UNIVERSITY OF UTAH
Teach courses in groundwater hydrology, solute transport, environmental geology, and general geology. Active research program emphasizing the use of tracers for evaluating hydrologic processes.

**Experience Cont.**

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| 1997-2003 | ASSOCIATE PROFESSOR | UNIVERSITY OF UTAH |
| 1993-1997 | ASSISTANT PROFESSOR | UNIVERSITY OF UTAH |
| 1992-1993 | GROUNDWATER GROUP LEADER | OAK RIDGE NATIONAL LAB |

Technical oversight of nine principal investigators and supervision of three technicians. Technical lead for the Oak Ridge Reservation Hydrology and Geology Study.

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| 1985-1992 | RESEARCH STAFF | OAK RIDGE NATIONAL LAB |

Design of groundwater monitoring system. Research on the geochemistry and dynamics of water flow through unlined waste-filled trenches. Chairman of national committee on basic research needs in environmental restoration.

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| 1984-1985 | HYDROLOGIST | U. S. G. S. |

Field work including pumping tests, head measurements, surveying, and water quality sampling. 3-D finite difference flow model of Salt Lake Valley.

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| 1981-1983 | RESEARCH ASSISTANT | UNIVERSITY OF UTAH |

Instrumental analytical chemistry including XRF, XRD, AA, GC. Analysis of surface and pore waters.

THESIS RESEARCH

Developed new technique using tritium and helium isotopes for determining the spatial distribution of recharge to unconfined aquifers.

Modeling gaseous transport in porous media. Design of sampling apparatus for monitoring soil gas under 3 meters of snow. Field work including soil and groundwater sampling.

**Professional Activities**

Representative of United States at the International Atomic Energy Agency Cooperative Research Program on Tritium and Noble Gases for Pollution Vulnerability and Assessment of Shallow Aquifers, 2023.

Session Chair, International Symposium on Isotope Hydrology, Vienna Austria, 2023

Session chair, Goldschmidt 2022

Session Co-chair, Goldschmidt 2020

Expert Mission, Review historical isotope/hydrochemical baseline data sets on Manila, Philippines, July 2018

**Professional**

Guest Editor, GeoFuilds, 2018

Expert Mission, Isotopic Methods for Dating Groundwater, Mendoza Argentina, October 2017, United Nations, International Atomic Energy Agency.

Expert Mission, Determining the Fossil Groundwater Dynamics in Selected Depressions by Using Isotopes Techniques, Mongolia, May 2017. United Nations, International Atomic Energy Agency.

Expert Mission, Regional Training Course on the Assessment of Groundwater by Using Isotopes and Related Techniques, Xi'an, China, November 2016. United Nations.International Atomic Energy Agency.

Appointed to Birdsall-Dreiss Distinguished Lectureship Committee, 2013.

Taught Short Course: Shallow Groundwater Dating, Association of Environmental and Engineering Geologists, Sept. 2012.

Invited participant, International Workshop on Tracer Applications of Noble Gas Radionuclides (TANGR2012), June 2012.

Invited participant, International CZO Workshop, Nov. 2011.

Invited participant, NSF All Hands CZO Workshop, May 2011.

Invited participant, DOE Workshop on Basic Research Needs in Geosciences, Feb., 2007, Bethesda MA.

Appointed to Ad Hoc Committee on Allied and Associated Societies, Geological Society of America, 2007.

Representative of United States at the International Atomic Energy Agency Cooperative Research Program on Baseflow, 2006.

Chair, Hydrogeology Division of the Geological Society of America, 2006.

Elected Chair, Hydrogeology Division of the Geological Society of America, 2005 (for 2006.)

Elected Vice Chair, Hydrogeology Division of the Geological Society of America, 2004, (for 2005.)

Chair, topical session, Dissolved Gases as Indicators of Geochemical and Hydrogeologic Process, 2004 GSA Annual Meeting, Denver, Nov. 2004.

Appointed Darcy Lecturer for 2005 by the National Ground Water Association

**Professional**

Elected as 2nd Vice Chair, Hydrogeology Division of the Geological Society of America, 2003

Appointed to National Research Council Committee on Improving Practices for Regulating and Managing Low-Activity Radioactive Waste, Feb. 2003.

Member American Geophysical Union.

Geological Society of America, Hydrogeology Division Program Chair

Editorial Board, Ground Water, 1997-2001

Adjunct Faculty, Dept. of Geological Sciences, University of Tennessee

Adjunct Faculty, Dept. of Earth Sciences, University of Waterloo

Chair, GSA theme session, Advances in Dating Young Ground Water, October, 1993

Chair, AGU theme session, Surgical Strikes: Low-Cost Applications of Isotopes for Solving Environmental Problems

Member, AGU Water Quality Committee, 1993-1997.

**Presentations**

Cosmogenic Production of 3He During Ultra-Low-Level Tritium Measurements by $^{3}$He-ingrowth, International Symposium on Isotope Hydrology, Vienna, 2023.

Vapor-Phase Transport of Tritium Near a Nuclear Power Plant, Goldschmidt, 2023.

Cosmogenic Production of $^{3}$He During Low-Level Tritium Measurements by $^{3}$He-ingrowth, Goldschmidt, 2022.

Noble Gas, Tritium, and CFC Tracers in a Perennial Firn Aquifer, Southeast Greenland, Goldschmidt, 2020.

Application of Environmental Tracers to Water Resources in Arid and Semi-Arid Regions, Invited speaker, Texas A&M, January 2019

Environmental Tracers: Historical Perspectives and Future Trends, Goldschmidt, Boston MA, August, 2018.

Can Groundwater Feed the World? Its All About Time, GCSC seminar, University of Utah, January, 2018.

Environmental Tracers in Arid and Semi-Arid Basins: Historical Perspectives and Future Trends, Invited speaker, GSA Annual Meeting, Oct. 2017.

Characterizing Unconfined Aquifers Using Seeps and Springs, Invited speaker, GSA Annual Meeting, Sept. 25, 2016

**Presentations** Transit Times in a Shallow Aquifer from Tracer Measurements in the Aquifer and a Gaining Stream, Ohio State University, Sept. 15, 2016.

Transit Times in a Shallow Aquifer from Tracer Measurements in the Aquifer and a Gaining Stream, CSIRO-Perth, Australia, May 23, 2016

Transit Times in a Shallow Aquifer from Tracer Measurements in the Aquifer and a Gaining Stream, Flinders University, Australia, May 20, 2016.

Inert Gas Tracers in Ground Water: Darcy Lecture Revisited, NGWA Summit, April 25, 2016.

Water in the West: Will the Well Run Dry?, Heilbrun Lecturer, The Richard Lende Neurosurgery Conference, Jan. 30, 2016.

Tritium-$^{3}$He Dating And Noble Gas Techniques In Water Resources Management: Recharge, Infiltration Conditions And Groundwater Balance, Invited Speaker, International Symposium on Isotope Hydrology, Vienna, May, 2015.

Determining Groundwater Transit Times Using SF6 In Streams International Symposium on Isotope Hydrology, Vienna, May, 2015.

Evaluation of Streambed and Reach Mass Balance Approaches for Mean Groundwater Residence Times, International Atomic Energy Agency, CRP, February 19, 2014.

Evaluating Geochemical and Hydrologic Presses using Environmental Tracers, Geological Survey of Slovenia, February 14, 2014.

Adding Time to Geochemical and Hydrologic Presses using Environmental Tracers, Distinguished Lecture Series, Penn State, May 10, 2013.

Adding Time to Geochemical and Hydrologic Processes using Environmental Tracers. University of Nevada Reno Hydrologic Seminar, March 2013.

The importance of a conceptual framework for interpreting tracer data, Invited Keynote, Goldschmidt 2012, Montreal CN, June 2012.

Evaluation of Sampling Devices for Groundwater Age Dating in Streams, IAEA CRP meeting, Invited Keynote, June 2012.

Adding Time to Geochemical and Hydrological Processes Using Environmental Tracers. Invited Talk, Brigham Young University, Sept. 2011.

Total Dissolved Gas Pressure in Groundwater: An Overview and Selected Case Studies, Invited Keynote, GSA Annual Meeting, 2011.

**Presentations**

Groundwater Surface Water Interactions: Historical Context and the Transit Time Distribution as a Unifying Theoretical Framework, Invited Keynote CZO All Hands Meeting, Tucson, May 2011.

Gases in Managed Aquifer Recharge, D. K. Solomon and V. M. Heilweil, Goldschmidt 2010, Knoxville TN. Invited Keynote, June, 2010.

Evaluation of Seepage Collectors for Determining Mean Groundwater Transit Times, International Atomic Energy Agency, Vienna, Nov. 2010.

Dating baseflow, Vienna, Austria, Sept., 2009.

Adrian Smith Lecture in Geochemistry, University of Waterloo, March 2009.

CSIRO Science Seminar, Adelaide Australia, Nov. 2008.

Invited Keynote speaker at International Workshop on Groundwater Dating Using Environmental Tracers, March 5-7, 2008, Leipzig, Germany.

Invited presentation to State of Utah, Radiation Control Board, December 7, 2007 Public Lecture, St. George Lecture Series sponsored by The Southern Utah Chapter of the University of Utah Alumni, And The Desert Shall Blossom: Sustainability of Groundwater Resources, Nov. 6 2007, St. George Utah.

Contributed presentation GSA Annual Meeting, Excess Air During Aquifer Storage And Recovery In An Arid Basin, October 30, 2007.

Natural Science Insider Tour, Water in Western US., June 13, 2007, University of Utah.

Delegate representing the United State at the Research Coordination Meeting on Isotope Age and Composition of Streamflow as Indicators of Groundwater Sustainability, Vienna, Austria, Oct. 1-5, 2007.

Spring Disting. Seminar Series, Oregon St. Univ, Tracers in Hydrology, April, 2007.

Water Forum Speakers Series, Duke University, September 8, 2006.

GSA Fall Meeting, 3H/3He dating of baseflow, October 2006.

Congressional Briefing on Moab Mill Tailings, March 15, 2005, Washington DC.

Darcy Lecture, NGWA Expo Atlanta Georgia, December 15, 2005.

Darcy Lecture, Stanford, November 30, 2005.

Darcy Lecture, Louisiana State, November 16, 2005.

Darcy Lecture, University of Arkansas, November 15, 2005.

**Presentations** Darcy Lecture, Queen's University of Belfast, November 4, 2005.

Darcy Lecture, The Geological Society of London, November 2, 2005.

Darcy Lecture, Columbia University, October 28, 2005.

Darcy Lecture, Geological Society of America Salt Lake City, October 18, 2005.

Darcy Lecture, University of Buffalo, October 13, 2005.

Darcy Lecture, SUNY Geneseo, October 12, 2005.

Darcy Lecture, University of Toronto, September 29, 2005.

Darcy Lecture, University of Waterloo, September 28, 2005.

Darcy Lecture, International Association of Hydrogeologist Saskatoon, September 20, 2005.

Darcy Lecture, Michigan State University, September15, 2005.

Darcy Lecture, University of Wisconsin Madison, September 14, 2005.

Darcy Lecture, Virginia Tech, September 9, 2005.

Darcy Lecture, University of Kentucky, September 8, 2005.

Darcy Lecture, University of Tennessee, September 7, 2005.

Darcy Lecture, Colorado State University, August 31, 2005.

Darcy Lecture, USGS Reston, July 13, 2005.

Darcy Lecture, Israel Geological Survey, Jerusalem, 2005.

Darcy Lecture, Ben Gurion University of the Negev, June 8, 2005.

Darcy Lecture, Hebrew University of Jerusalem, June 7, 2005.

Darcy Lecture, Carleton College, May 26, 2005.

Darcy Lecture, Boise State University, May 10, 2005.

Darcy Lecture, University of Maryland Baltimore County, May 4, 2005.

Darcy Lecture, University of Nevada at Reno, April 27, 2005.

**Presentations** Darcy Lecture, Baylor University, April 21, 2005.

Darcy Lecture, University of Texas at Austin, April 20, 2005.

Darcy Lecture, Ground Water Summit, San Antonio, April 18, 2005.

Short Course: Environmental Tracers, University of Copenhagen, April 6-10, 2005.

Darcy Lecture, University of Copenhagen, April 8, 2005.

Darcy Lecture, University of British Columbia, March 17, 2005.

Darcy Lecture, University of Kansas, February 18, 2005.

Darcy Lecture, University of Nebraska, February 16, 2005.

Darcy Lecture, New Mexico Tech, February 7, 2005.

Darcy Lecture, Northern Arizona University, January 27, 2005.

Darcy Lecture, University of Arizona, January 26, 2005.

Darcy Lecture, Florida International University, January 21, 2005.

Darcy Lecture, University of Central Florida, January 19, 2005.

Groundwater Dating of Baseflow, International Atomic Energy Agency, Vienna, Austria, Dec. 2004.

Trapped Gases Beneath a Recently Completed Reservoir: Using Artificial Recharge as an Analogue to Natural Processes, GSA Annual Meeting, Nov., 2004.

Western Water Issues, Panel discussion, Utah Science Center, November, 2004.

Nobel Gas Tracers in Groundwater, Hacettepe U., Ankara Turkey, May 2004.

Lecture, Direction National de Hdrografia, Montevideo, Uruguay, Datacion de Aqua Subterrenea, August, 2002.

Distinguished Lecture, International Atomic Energy Association, Groundwater Models for Interpreting CFC Ages, Dec. 2001.

Distinguished Lecture, Washington State University, Groundwater Flow in the Wasatch Mountains, Feb. 2001.

Division of Natural Resources, Hydrology of the Matheson Preserve, Dec. 2000.

University of Memphis, Groundwater Dating Systematics, Dec., 2000.

**Presentations** Grand County Commission, Tools for Evaluating Regional Groundwater Flow Systems, November, 2000.

GSA National Meeting, 1999, In-Situ Measurements Excess Air in Groundwater.

Ministry of Environment, Canada, Smithville Workshop on Site Characterization and Remediation Alternatives, 1999, Environmental Isotopes for Characterizing Fractured Rock Systems.

Isotope Short Course, University of Utah, 1999, Groundwater Dating.

Dept. Geology and Geophysics, University of Utah, Distinguished Lecture, 1998, Origin and Ownership of Mine Discharge: Salt Lake City Vs. Silver Fork Pipeline Corp., joint with Bill Parry and Craig Forster.

GSA Annual Meeting, 1997, Groundwater dating in a mountainous terrain
USGS, Water Resources Division, 1998, The Age of Groundwater in Mountainous Terrain".

International Atomic Energy Agency, 1997, Potential of Isotope Methods for Water Resources Management in Major Urban Areas.

Utah State University: Innovative Method for Site Characterization, 1996
CSIRO - Perth: Tracers of Flow and Transport Processes, 1996.

State of Utah, Division of Water Quality: Using Dissolved Gases in Groundwater Regulations, 1996.

University Nevada, Reno: Dating Shallow Groundwater, 1996.

Western Pacific Geophysics Meeting: Helium-4 Accumulation In Shallow Groundwater, 1996.

University of Utah, Dept. Geology and Geophysics: Salinization of the Murry/Darling River System, Australia, 1996.

University of Utah Law School: Groundwater Contamination, 1995.

University of Utah, Dept. Geography: Dating Groundwater: Application to Detecting Groundwater Recharge and Contamination, 1995.

GSL Chapter Health Physics Society: Groundwater in the Salt Lake Valley, 1995.

University Nebraska Lincoln: New Approaches to Site Characterization Using Groundwater Ages and Dissolved Gas Tracers, 1994.

**Presentations** AGU spring meeting: Estimating Groundwater Recharge Using Chlorofluorocarbons, 1994.

Penrose Conference (Keynote Speaker): Application of Isotopes to Hydrogeological Investigations in Fractured Unlithified Aquitards, 1994.

Ground Water Protection Council summer meeting: The Use of Ground Water Dating in Water Quality Investigations, 1994.

**Grants** State of Utah: Groundwater Recharge to Great Salt Lake, 07/01/2023 - 06/30/2024, $71,500.00

North Carolina State University: NCSTATE COLLABORATIVE PFAS, 07/15/2022 - 12/31/2024, $33,360.03.

National Science Foundation: RAPID: Quantifying timescales of groundwater recharge and discharge in seasonally snow-covered headwater catchments, Co-PI with PB Brooks, 1/2022 to 12/2022, $49,843

National Park Service: A Quantitative Multi-Tracer Test of Stream Loss from Snake Creek within Great Basin National Park, 7/30/2020 – 6/30/2021, $34,389.

National Science Foundation: Collaborative research: Evaluation Of Watershed-Scale Groundwater Transit Time Distribution From Field Sampling And Numerical Simulations, 6/1/2018 – 5/30/2021, Funding to DKS: **$215,079**

Misc. Grants to Noble Gas Lab, 2020-21: $268,569.

Misc. Grants to Noble Gas Lab, 2019-20: $330,608.

Misc. Grants to Noble Gas Lab, 2018-19: $286,932.

Misc. Grants to Noble Gas Lab, 2017-18: $303,679.

Misc. Grants to Noble Gas Lab, 2016-17: $272,238.

Utah Division of Water Rights, Evaluation of Groundwater Discharge from Spanish Valley, 1/1/2015 – 12/31/2017, $59,316.

PNNL - BATTELLE (2015), 02/10/2015 - 03/31/2016, $2,720.00.

GOLDER - CANADA (2015). 03/01/2015 - 09/30/2015. $11,000.03.

UMASS - WATER SAMPLING PROJECT, 04/01/2015 - 06/30/2015, $29,230.00.

UMETCO HOT SPRINGS. CH2M HILL LTD, 04/15/2016 - 04/15/2017, $26,683.31

Brown and Caldwell, Groundwater Dating Yerington NV, 8/1/2014  8/1/2015, $60,000.

**Grants**

Sandia National Laboratory, Measuring Dissolved Noble Gases From Fresh Rock-Core Samples, Which Have Been Preserved In Helium-Tight Canisters, From An ENH, 5/6/2014 – 9/30/2014, $16,720.

Sandia National Laboratory, Shale Hydrocarbon Samples for Noble Gas Analyses, 5/7/2014 – 9/30/2015, $21,450.

National Science Foundation: Collaborative research: The Greenland firn aquifer impacts on ice sheet hydrology: characterizing volume, flow, and discharge, 9/1/2014 – 8/31/2017, Total: $725,187, Funding to Utah: $327,754.

U. S. Geological Survey, CESU, 7/1/2013 – 6/30/2014, $65,000.

Analysis of Gas Samples, Sandia National Laboratory, 8/12/2012 – 8/6/2013, $13,500.

Yerington Project 2013. Brown and Caldwell, 06/28/2012 - 03/28/2014. $219,800.00.

Young Groundwater, State of Minnesota, 02/24/2011 - 07/31/2014. Total project budget to date: $24,849.00.

National Science Foundation: Collaborative Research: Evaluating how the sampling integration scale affects field estimates of groundwater transit time and nitrogen fluxes, 2011-2015, funding to Utah: $230,998

Environmental Protection Agency, Aquifer Risk Assessment Framework (ARAF); Integrated Design, Modeling, and Monitoring of Geologic Sequestration of Anthropogenic Carbon Dioxide to Safeguard Sources of Drinking Water, Multiple PI's: B. J. McPherson, D. K. Solomon, M. D. Deo, and R. Goel, $899,567, Nov. 2012.

U. S. Geological Survey: CESU -Application of environmental tracers in ground- and surface-water investigations and custom analysis of trace elements in water, $66,658.00, 2008-2010

National Park Service: Groundwater Age Dating Near Arches National Park, 2008, $15,023.00

Division of Radiation Control: Evaluation of Solute Sources at a Uranium Processing Site, 2007-08 $51,082.00

Moly Corp: Effects of Weathering on the Stability of Rock Piles, 2007-08, $100,000.00

Brown and Caldwell: Tritium and Noble Gas Analyses, 2007, $33,269.00

U.S. Geological Survey: Analysis of Dissolved Gases, 2007, $42,557.00

**Grants**

Collaborative Research: Multi-Tracer Investigation of Interbasin Groundwater Transfer in the Lowland Rain Forest of Costa Rica (with North Carolina State Univ.) National Science Foundation, 5-1-05 to 4-30-06, $16,765.

Collection and Analysis of Noble Gases in Groundwater, International Atomic Energy Agency, $24,963, Mar. 2004 – Mar. 2005.

Exchange-Corrected CFC Dating of Stream Flow, National Science Foundation, $230,030, 2003-06.

Analysis of Dissolved Gases, U. S. Geological Survey, $260,311, 2003-07.

Analysis of Tritium and Isotopes, U. S. Geological Survey, $18,400, 2001-03.

Hydrologic Connection Between the Moab Mill Tailings and the Matheson Wetland Preserve, Utah Dept. of Environmental Quality, Division of Radiation Control, Dept. of Natural Resources, $24,465, 2003-04.

Duck Creek/Mammoth Creek Areas Groundwater Study, Southwest Utah Public Health Dept., $45,000, 2001-03.

Investigation of Protocols to Enhance Contaminant Detection by Limited Monitoring Wells at CAFO Sewage Lagoons, Utah Department of Environmental Quality, joint with W. P. Johnson, $50,000, 2001-04.

Hydrologic Investigation of the Matheson Wetland, Utah Dept. of Natural Resources, $46,936, 2001-03.

Hydrologic Investigation of the Matheson Wetland, The Nature Conservancy, $4,000, 1999-01.

Development of a Dissolved Gas Sampling Method for Acid Mine Discharge, $4,950, Mineral Lease Fund, 1999-00.

Evaluation of a Leachate Interception System and Subsurface Migration of Acid Mine Discharge, Kennecott Utah Copper Corp., $105,000, 1999-00.

Collaborative Research: Radiogenic Helium as a Chronologic Tracer for Young Groundwater, National Science Foundation, $187,860, 1997-99.

Purchase of a Noble Gas Mass Spectrometer, (co-PI with Thure Cerling), National Science Foundation $270,000 for 2 years. Matching equipment support was also obtained from the University of Utah, $229,825 for 2 years. Total support is $499,825.

Groundwater Flow and Capture Zone Dynamics in Fractured Carbonate Aquifers (collaborative with the University of Waterloo), USEPA (administered through the Smithville Phase IV Bedrock Remediation Program), $40,000 for three years.

**Grants**

Evaluation of Acid Mine Drainage In Carbonate-Rich Aquifers, Mineral Lease Fund; $5600.00, Aug. 1995 to Jul. 1996.

Noble Gas Non Reactive Tracer Study, Martin Marietta Energy Systems; $13,896, Sept. 1994 to May 1995.

Noble Gas Tracers of Hydrology; Oak Ridge National Laboratory, with Thure Cerling; $183,997, Sept. 1993 to Sept. 1995.

Carbon-14 dating of pollen in fractured aquifers; University of Utah Faculty Research Grant, $4,792.00, June 1994 to June, 1995

Determination of Groundwater Ages Sandwich Groundwater Study, Massachusetts Military Reservation, Cape Cod; Hazardous Waste Remedial Action Program; $150,00, April, 1992 to November, 1993.

A Validation of the $^{3}H/^{3}He$ Dating Method; Exploratory Studies Program, ORNL; $60,000., Dec. 1990 to Dec. 1991.

**Service**

Faculty Affairs Committee (2022-present)

Space Committee (2022-present)

Environmental Science Program Committee (2021-present)

Geological Engineering Committee (2000-present)

Safety Committee, Geology and Geophysics (2021-2023)

Undergraduate Affairs, Geology and Geophysics (2021-2023)

Distinguished Lecture Committee Chair, (2021-2023)

Taught International Short Course: Interregional Training Course on Water Resources Assessment using Isotope Hydrology, Kingston Jamaica, Oct. 2019.

Taught International Short Course: National Training Course on Principles of Hydrogeoogy and Isotopic Methods for Dating Groundwater, Kingston Jamaica, June, 2019.

Expert Mission, Evaluation of Groundwater Flow at Complejo Minero Fabril, San Rafael, Argentina, United Nations, International Atomic Energy Agency, March 2019.

Taught International Short Course: Groundwater Dating, Azul Argentina, Oct. 2018.

Expert Mission, Review historical isotope/hydrochemical baseline data sets on Manila, Philippines, United Nations, International Atomic Energy Agency, July 2018.

**Service**

Guest Editor, Geofluids, 2018

Faculty Search Committee, Geology and Geophysics (2020-2021)

Graduate Affairs Committee, Geology and Geophysics (2018-19)

Space Committee, Geology and Geophysics (2017-19)

Finance Analysis, University of Utah (2018-19) (University Committee reporting to Dan Reed)

Awards Committee, Geology and Geophysics (2017-19)

Taught International Short Course: Isotopic Methods for Dating Groundwater, Mendoza Argentina, Oct. 2017

Expert Mission, Determining the Fossil Groundwater Dynamics in Selected Depressions by Using Isotopes Techniques, Mongolia, United Nations, International Atomic Energy Agency, May 2017.

Expert Mission, Regional Training Course on the Assessment of Groundwater by Using Isotopes and Related Techniques, Xi'an, China, United Nations, International Atomic Energy Agency, Nov. 2016.

Space Committee, Geology and Geophysics, 2016-2017.

Name Committee, CMES, 2016-2017.

United States Representative at International Atomic Energy Agency Research Coordination Meeting on Estimation of Groundwater Recharge and Discharge by Using the Tritium-Helium-3 Dating Method, 2013-16.

Distinguished Lecture Committee, Geology and Geophysics, 2013-2014.

University Sustainability Committee, University of Utah, 2013-2014.

Space Committee, Geology and Geophysics, 2013-2014.

Ad hoc RPT committee, Mining Engineering, 2013-2014

Graduate Affairs Committee, Geology and Geophysics, 2013-2014

Chair, Department of Geology and Geophysics, University of Utah, 2009-2013.

Program Review, Department of Geosciences, Weber State University, February to April, 2008

Acting Dean, College of Mines and Earth Sciences, June-July, 2007

**Service**

University Campus Planning and Advisory Committee, 2004 to 2007

University Research Committee, 2001 to 2004

Frontiers of Science Committee, 2003 to present

Geology and Geophysics Computer Committee, 2003

Geological Engineering Committee, 2001 to present

Dept. Geology and Geophysics Distinguished Lecture Series, Fall Semester, 2001

Red Butte Canyon Committee, 2000 to present

INSCC Building Executive Committee, 1997 to present

Expert Mission for IAEA to Argentina and Paraguay, 2003

Acting Dean, College of Mines and Earth Sciences, Jan. 11th to Mar. 12th, 2002

Expert Mission for IAEA to Uruguay, 2002

Computer Committee, Dept. Geology and Geophysics, University of Utah, 1999-00

Merit Review Committee, Dept. Geology and Geophysics, University of Utah, 1999-00

Appointed to a National Research Council Committee on Conceptual Models in Fractured Unsaturated Zones, 1998-99

Chair, Graduate Affairs Committee of Geology and Geophysics, 1998-99

Acting Dean, College of Mines and Earth Sciences, 1 month in 1998, 2 months in 1999, 2 months in 2001

Ad Hoc reviews for Water Resources Research, Journal of Hydrology, and Applied Geochemistry

Appointed to a joint State and EPA Technical Review Committee to oversee hydrogeologic investigations near the Bingham Canyon mine, 1997

Participated in a "water think tank" sponsored by USU tasked with developing a water plan for the State of Utah, 1997

Provided expert testimony for Salt Lake City Pubic Utilities at a trial regarding the residence time of water discharging from tunnels in Big Cottonwood Canyon, 1997

**Service**

Appointed by the Director General to represent the United States in an Advisory Group at the International Atomic Energy Agency regarding "Potential of Isotope Methods for Water Resources Management in Major Urban Areas", 1997
College of Mines Convocation Committee, 1994 to present

Summer Research Opportunity Program, student supervisor, 1995

Academic Standards Committee of the Environmental Engineering Degree Program, 1995 to present.

Graduate Affairs Committee of Geology and Geophysics, 1995 to 1997

**Students**

Sam Carter, MS, University of Utah, Thesis Topic: Conceptual Understanding of Groundwater Discharge into Great Salt Lake.

Eric Humphreys, MS, Ph.D University of Utah, Thesis Topic: Groundwater-Surface Water Interactions: Spatial Variations in Seepage and Transit Times.

Olivia Miller, MS, University of Utah, Thesis Topic: Sr isotopes in dust and tree rings. Ph.D. Dissertation Topic: Greenland Firn Aquifer

Kendall Fitzgerald, MS, University of Utah, Thesis Topic: Evaluating perched aquifers using dissolved gas tracers.

Nora Nelson, MS, University of Utah, Thesis Topic: Water Resources of Spanish Valley, Utah.

Brittany Dame, MS, University of Utah, Thesis Topic: Development of a passive sampler array for detecting volcanic unrest.

Jennifer Georgek, MS, University of Utah, Thesis Topic: Sustainability of baseflow using environmental tracers.

Stewart Gubler, MS, University of Utah, Thesis Topic: Evaluating hyporheic flow using stable isotopes and noble gases.

John Solder, MS, University of Utah, Thesis Topic: Evaluating how the sampling integration scale affects field estimates of groundwater transit time

Stan Smith, MS, University of Utah, Thesis Topic: Helium in Quartz for Assessing Caprock Permeability.

Becky Hollingshaus, MS, University of Utah, Thesis Topic: A blanket seepage meter to evaluate groundwater surface water interactions

T. Grant Hurst, MS, University of Utah, Thesis: Stable Isotope Fingerprints and Age Dates Of Groundwater to Examine Potential Solute Sources at A Uranium Processing Mill Near Blanding, Utah

**Students**

Jasmine Caton, MS, University of Utah, Thesis Topic: Paleoclimate record in tufa

Mellissa Masbruch, Ph.D. University of Utah, Thesis topic: Heat and noble gas tracers in groundwater

Tom Marston, MS, University of Utah, Thesis topic: Environmental tracers in waste rock; Questa Mine, NM.

Payton Gardner, MS, University of Utah, Thesis Topic: Groundwater-surface water interactions

Stephen Hill, M.S. University of Utah, Thesis Topic: Tufa formation in Red Butte Canyon

Bert Stolp, Ph.D. University of Utah, Using streams as integrators of groundwater travel times

Anne Parry, MS, University of Utah, Thesis Topic: Soil Venting at Hill Air Force Base, Utah Test and Training Range-North, Chemical Pit #4

Hugh Klein, MS, University of Utah, Thesis Topic: Noble gas recharge temperatures in the Synderville Basin

Philip Gardner, MS, University of Utah, Thesis Topic: Evolution of saline groundwater, Spanish Valley, Utah

Aaron Norton, MS, University of Utah, Thesis Topic: Natural and Artificial Recharge in Sand Cove Wash, Washington County, Utah

Erin Crowley, ME, University of Utah, Thesis Topic: Hydrology of the Matheson Wetland

Eli Ludwig, MS, University of Utah, Thesis Topic: Natural Recharge on Navajo Sandstone

Shaun Petersen, MS, University of Utah, Thesis Topic: Diffusion of Helium in Tills

Victor Heilweil, PhD, University of Utah, Dissertation Topic: Recharge in FracturedSandstone in Arid Environments

Andy Manning, PhD, University of Utah, Dissertation Topic: Groundwater Flow in the Wasatch Mountains

Glenn D. Shaw, MS, University of Utah, Thesis Topic: Gas exchange in High Gradient Streams

**Students**

Steve Van der Hoven, PhD, University of Utah, Dissertation Topic: Hydrochemical Study of a Fractured Shale Aquifer

Amy Sheldon, PhD, University of Utah, Dissertation Topic: Radiogenic Helium in Groundwater

Dan Hall, MS, University of Utah, Thesis Topic: Use of Multiple Dissolved-Gas Tracer to Estimate Fracture Spacings

Christopher Wilkowske, MS, University of Utah, Thesis Topic: Use of CFCs and SF6 as Hydrologic Tracers.

Steven B. Jones, MS, University of Tennessee, Thesis: Characterizing the Hydrogeologic System of the Valley and Ridge Province Using Natural Seeps and Springs Near Oak Ridge, Tennessee, 1995

Robin G. Shropshire, MS, University of Waterloo, Thesis: Dual-Tracers: A tool for Studying Matrix Diffusion and Fracture Parameters, 1995

**Peer-Reviewed Publications**

**GS** h-Index = 46, total citations = 8036 (Jan. 2024) Google Scholar Name: D Kip Solomon. orcid.org/0000-0001-6370-7124
Web of Science h-Index = 38, sum of times cited = 4611
https://www.webofscience.com/wos/author/record/C-7951-2016
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