**SCOTT D. SAMSON**

Department of Earth & Environmental Sciences

Syracuse University

Syracuse, NY 13244-1070

***Education:*** Ph.D. (Geochemistry) University of Arizona, May 1990, Advisor: P. Jonathan Patchett

 M.S. (Geology) University of Minnesota, December 1986, Advisor: E.C. Alexander

 B.S. (Geology) Oregon State University, March 1984

***Experience****:* Professor of Earth Sciences, Syracuse University, 2004 – present

 Fellow Forensic and National Security Sciences Institute (2014 – present)

Jessie Page Heroy Professor/Department Chairman, 2002 – 2007

Associate Professor of Earth Sciences, 1997 − 2004

 Assistant Professor of Geology, Syracuse University, 1990 − 1997

***Awards:*** Best Speaker Award, Geological Society of America, 1987

 Elected Fellow of the Geological Society of America, 2001

 William Wasserstrom Award for Graduate Teaching, 2012

 Ranked in the top 95% of the world’s scientific researchers by Research Gate

***Teaching Experience***

**UNDERGRADUATE ONLY COURSES** (one course taught every year)

EAR 101 ***(***Dynamic Earth); EAR 106 (Environmental Geology); EAR 390 (Analytical Techniques in Geology)

**Undergraduate + graduate courses** (Taught once per year)

EAR 400/600 (Advanced topics in Geochemistry/topic varies each year)

EAR 455/655 – Geochemical patterns of major events on Earth (co-taught with Dr. Linda Ivany)

EAR 417/617 (Inorganic Geochemistry); EAR 400/600 Isotope geochemistry & Geochronology

***Analytical Experience***

I have extensive experience with the following instruments: Thermal ionization mass spectrometers (TIMS), laser ablation inductively coupled plasma mass spectrometers (LA-ICPMS), sensitive high resolution ion microprobe (SHRIMP), electron microprobe analyzer (EMP), X-ray fluorescence spectrometers (XRF). I have 30 years of experience in isotope geochemistry and ultraclean laboratory protocols.

***Editorial Experience:*** Editorial Board of GEOLOGY (1991−1994), Reviewer for following journals: Geology, GSA Bull; Canadian J. Earth Sci; J. Geol. Soc. London; Geochimica et Cosmochimica; Precambrian Res.; J. Geology; Amer. J. Science; Nature; Tectonophysics; Earth Planet. Sci. Letters; Tectonics; Chemical Geology; J. African Earth Sciences; J. Australian Earth Sci.; Geol. Magazine; Contrib. Mineralogy Petrology, G-cube, Rapid Comm. Mass Spectrometry

***Professional Affiliations:*** Geochemical Society, American Geophysical Union, Geological Society of America

***International Associations:*** Host Scientist for Fulbright Scholar, Dr. Abderahim Essaifi, School of Sciences, Caddi Ayyad

 University, Marrakech, Morocco, 2002

***Sponsored Research Support from:*** National Science Foundation (19 grants), U.S. Geological Survey (2 grants) National Geographic Society (1 grant) as follows:

***Sponsored Research Support***

**National Science Foundation – Current grants**

($221,171) Collaborative research: Double-double dating of detrital monazite and detrital zircon: quantifying sediment recycling in tectonic studies 6/2016 – 7/2021

($332,267) Seasonality, summer cooling, and calibrating the approach of the icehouse in late Eocene Antarctica 4/2016 – 3/2021

**National Science Foundation - Expired grants**

($942,852) MRI: Acquisition of an electron microprobe 8/2016 – 7/2017

($138,975) Collaborative Research: Use and Abuse of Zircon Thermometry - Integrating Modeling, Trace Element Chemistry and Isotopes to Maximize the Use, Limit the Abuse 4/2015 - 3/2019

($149,806) Collaborative Research: Identifying the Limitations and Expanding the Utility of Detrital Mineral U-Pb Geochronology to Tectonic Studies 2/2006 – 12/2011

($181,798) Collaborative research: Automated sequencing of the fossil record: Improved Methods and insights from Mohawkian (Ordovician) geochronology, tephrochronology, and biostratigraphy 8/05 – 7/09

($128,333) Upgrading the Syracuse University Earth Sciences JEOL 6300 SEM 9/05 – 8/06

($2,484,400) Investigating the meaningfulness of preservice programs across the continuum of teaching (IMPPACT) in science education (co-PI with John Tillotson, Dept. Science Teaching) 6/5 – 5/09

($239,070) Chronology and tectonic evolution of the southern Anti-Atlas orogen, Morocco 7/01-6/04

($109,812) Paleogeography of the Carolina terrane: Constraints from detrital zircon ages 1/00-12/02

($120,000) Technician support (Phase II): Radiogenic Isotope, Stable Isotope, and XRF laboratories at Syracuse University 12/99-11/01

($189,455) Magmatic and deformational history of the Cadomian orogenic belt, North Armorican Massif 7/99-6/01

 ($303,071) Collaborative Research: Structure of the crust and upper mantle beneath the Tibet plateau interior (INDEPTH III) 9/97-8/2000 (Co-Pi with K.D. Nelson)

 ($181,750) Origin and evolution of the Cadomia terrane: Systematic characterization of basement 2/97-1/99

 ($150,000) Technician support: Radiogenic Isotope, Stable Isotope, and XRF laboratories at Syracuse University 9/96-8/99

 ($99,885) Tectonic setting and magmatic evolution of eastern Laurentia in late Paleozoic time: constraints from high precision U-Pb dating of Alleghanian granites 1/95-12/97

 ($100,270) Structural and isotopic characterization of the Milton belt, axial zone of the southern Appalachians 6/95-5/97

($83,500) Acquisition of an X-ray fluorescence emission spectrometer and ancillary apparatus 1/93

($73,200) Collaborative Research: Structural analysis, U-Pb geochronologic, and Nd isotopic characterization of the Carolina Slate belt and Milton belt, southern Appalachians" 1/93-12/94

 ($58,859) Collaborative Research: Integrated biostratigraphy and K-bentonite chronostratigraphy

in the northern Appalachian basin: Geochemical and geochronologic constraints" 6/92-5/94

**National Geographic Society – Expired grants**

($18,000) Remote Sensing and geochronologic study of the Anti-Atlas Mountains, Morocco

(co-PI with Dr. K. Hefferan, University of Wisconsin) 11/00-12/01

**U.S. Geological Survey - Expired grants**

($59,222) U-Pb Ages of Detrital Zircon From Cambrian Sedimentary Rocks Along the Eastern Margin of the USA: Determining Depositional Ages,Constraining Provenance, and Testing the Great Unconformity Hypothesis 7/09 – 6/11

($20,790) Testing the Great Unconformity hypothesis by determining U-Pb ages of detrital zircon from Cambrian sedimentary rocks along the eastern margin of the USA 1/12/12 – 1/1/2013

**Peer-reviewed Publications (Published)**

**Book chapters (reverse chronological order)**

3. Bickford, M.E., Satkoski, A.M., Samson, S.D., Wooden, J.L., Bauer, R.L., Schmitz, M.D., Mueller, P.A. and Kamenov, G.D.,

2019, Paleoarcehan gneisses in the Minnesota River Valley and northern Michigan, USA. In, Earth’s oldest rocks, https://doi.org/10.1016/B978-0-444-63901-1.00027-7

2. Linnemann, U., D’Lemos, R.S., Drost, K., Jeffries, T., Gerdes, A., Romer, R.L., Samson, S.D, and Strachan, R.A., 2008,

Cadomian tectonics. *In*: McCann, T. (ed.) *The geology of Central Europe. Volume 1: Precambrian and Paleozoic*. Geological Society, London, 103-154.

1. Patchett, P.J and Samson, S.D., 2003, Ages and growth of the continental crust from radiogenic isotopes, pp. 321-348. In *The*

*Crust* (ed. R.L. Rudnick) Vol. 3 *Treatise on Geochemistry* (eds. H.D. Holland and K.K. Turekian) Elsevier-Pergamon,

Oxford.

**Peer-reviewed Journals (reverse chronological order) *(****\* indicates student or post-doctoral author****)***

98. \*Zotto, S., Moecher, D., and Samson, S.D., *in review*, Detrital monazite and zircon provenance analysis for lower Pennsylvanian clastic sequences, central Appalachian basin: the critical role of recycling in Appalachian sourced Laurentian pancontinental river systems: Journal of Geology

97. \*Makovsky, K., Samson, S.D., Moecher, Amidon, W., *in review*, Timing of Grenville Magmatism in the French Broad Massif, Southern Blue Ridge, North Carolina, USA: New in situ Zircon U-Pb Geochronology and Implications for Timing of Rodinian Orogenesis in Eastern Laurentia: Precambrian Geology.

96. Moecher, D., Harris, F., Larkin, E., Quinn, R., Walsh, K., Loughry, D., Anderson, E., Samson, S.D., Satkoski, A., 2020, Zircon U-Pb Geochronology and Nd-Pb Isotope Geochemistry of Blue Ridge Basement in the Eastern Great Smoky Mountains, U.S.A.: Implications for the Proterozoic Tectonic Evolution of the Southeastern Laurentian Margin: American Journal of Science

95. \*Zotto, S.,Moecher, D., Thigpen, R., Samson, S.D., 2020, Persistence of Grenville dominance in Laurentian detrital zircon age systematics explained b sedimentary recycling: Evidence from detrital zircon double-dating and detrital monazite textures and geochronology: Geology

94. \*Triantafyllou, A., Berger, J., Baele, JM., Mattielli, N., Ducea, M., Sterckx, S., Samson, S.D., Hodel, F., Ennih, N., 2020, Episodic magmatism during the growth of a Neoproterozoic oceanic arc (Anti-Atlas, Morocco)” Precambrian Research, v. 339.

93. Martin, A., Kadel-Harder, I., Owens, B., Kitajima, K., Samson, S.D., Verma, S., 2019, Five hundred million years of punctuated addition of juvenile crust during extension in the Goochland terrane, central Appalachian Piedmont province: International Geology Review.

# 92. Maneiro, K., Baxter, E. Samson, S.D., Marschall, H., Hietpas, J., 2019, Detrital garnet geochronology: Application in tributaries of the French Broad River, Southern Appalachian Mountains, USA: Geology, v.47, 1189-1192.

91. Moecher, D., Kelly, E.M., Hietpas, J. and Samson, S.D., 2019, Proof of Recycling in Clastic Sedimentary Systems from Textural Analysis and Geochronology of Detrital Monazite: Implications for Detrital Mineral Provenance Analysis: Geological Society of America Bulletin, 131, 1115-1132, <https://doi.org/10.1130/B31947.1>

90. Schmitz, M.D.,Southwick, D.L., Bickford, M.E., Mueller, P.A. and Samson, S.D., 2018, Neoarchean and

Paleoproterozoic events in the Minnesota River Valley subprovince, with implications for southern Superior

craton evolution and correlation: Precambrian Research, 316, 206-226.

89. Samson, S.D., Moecher, D. and Satkoski, A., 2018, Inherited, enriched, heated or recycled? Examining potential causes of Earth’s most zircon fertile magmatic episode: Lithos (Invited Review), 314-315, 350-359, <https://doi.org/10.1016/j.lithos.2018.06.015>

88. \*Bonich, M., Samson, S.D., and Fedo, C., 2017, Incongruity of detrital zircon ages of granitic bedrock and its derived alluvium: An example from the Stepladder Mountains, SE California: Journal of Geology, 125, 337-350, <https://doi.org/10.1086/691146>

87. \*O’Sullivan, G., Chew, D. and Samson, S.D., 2016, Detecting magma-poor orogens in the detrital record: Geology, 44, 871-874

86. Inglis, J., Hefferan, K., Samson, S.D., Admou, H. and Saquaque, A., 2016, Determining age of Pan African metamorphism using Sm-Nd garnet-whole rock geochronology and phase equilibria modeling in the Tasriwine ophiolite, Sirwa, Anti-Atlas Morocco: Journal of African Earth Sciences, <http://dx.doi.org/10.1016/j.jafrearsci.2016.06.021>

85. \*Levy, Z., Siegel, D., Glaser, P., Samson, S.D., Dasgupta, S., 2016, Peat porewaters have contrasting geochemical fingerprints for groundwater recharge and discharge due to matrix diffusion in a large, northern bog-fen complex: Journal of Hydrology, 541, 941-951.

84. \*Sell, B., Samson, S.D., Mitchell, C., McLaughlin, P., Koenig, A. and Leslie, S., 2015, Stratigraphic correlations using trace elements in apatite from Late Ordovician (Sandbian-Katian) K-bentonites of eastern North America: Geological Society of America Bulletin, doi: 10.1130/B31194.1

83. Moecher, D.P., McDowell, S.M., Samson, S.D., and Miller, C.F., 2014, Ti-in-zircon thermometry and crystallization modeling support “hot” Grenville granite hypothesis: Geology, 42, 267-270.

82. Hefferan, K., Abderrahmane Soulaimani, A., Samson, S.D., Admou, H., Inglis, J., Saquaque, A., Latifa, C., Heywood, N., 2014, A reconsideration of Pan African orogenic cycle in the Anti-Atlas Mountains, Morocco: Journal of African Earth Sciences, 98, 34-36, doi: <https://doi.org/10.1016/j.jafrearsci.2014.03.007>

 81. Essaifi, A., Samson, S.D., Goodenough, K., 2014, Geochemical and Sr–Nd isotopic constraints on the petrogenesis

 and geodynamic significance of the Jebilet magmatism (Variscan Belt, Morocco): Geological Magazine, 151,

666-691, doi: 10.1017/S0016756813000654

80. \*Hietpas, J., Samson, S.D., Speir, J. and Moecher, D.P., 2013, Assessing detrital garnet chemical composition as a

quantitative provenance tool: a multivariate statistical approach: Journal of Sedimentary Research, 83, 1181-1197

79. \*Satkoski, A.M., Wilkinson, B.H., Hieptas, J. and Samson, S.D., 2013, Likeness among detrital zircon populations – An

approach to the comparison of age frequency data in time and space: Geological Society of America Bulletin, doi:

10.1130/B30888.1

78. Owens, B., Samson, S.D., and King, S.E., 2013, Geochemistry of the Arvonia Formation, Chopawamsic Terrane, Virginia: Implications for Source Area Weathering and Provenance: American Journal of Science, 313, 242-266.

77. Agbossoumondé, Y., Attoh, K., Samson, S.D., and Nude, P., 2013, Geochemical Characteristics and U-Pb Zircon

 Ages of Granitoids from the Pan-African Dahomeyide Orogen, West Africa: J. African Earth Sci., 79, 1-9.

76. \*Satkoski, A.M., Bickford, M.E., Samson, S.D., Bauer, R., Mueller, P. and Kamenov, G., 2013, Geochemical and Hf-

 Nd isotopic constraints on the crustal evolution of Archean rocks from the Minnesota River Valley, USA:

 Precambrian Research, 224, 36-50.

75.\*Sossa, J., Ivany, L., Schlossnagle , T., Samson, S.D., and Schellenberg, S., 2012, The fidelity of oxygen and strontium

 isotope values from shallow shelf settings: Implications for temperature and age reconstructions: Palaeogeography,

 Palaeoclimatology, Palaeoecology, [342–343](http://www.sciencedirect.com/science/journal/00310182/342/supp/C), 27–39, doi:10.1016/j.palaeo.2012.04.021

[74. Azzolina](https://exchange.syr.edu/owa/redir.aspx?C=da678b26ab604704ab9d12eaf6d5b446&URL=https%3a%2f%2fwww.researchgate.net%2fpublication%2fresearcher%2f77298276_Nicholas_A_Azzolina%2f), N.A, [Siegel](https://exchange.syr.edu/owa/redir.aspx?C=da678b26ab604704ab9d12eaf6d5b446&URL=https%3a%2f%2fwww.researchgate.net%2fpublication%2fresearcher%2f79121948_Donald_I_Siegel%2f), D.I., [Brower](https://exchange.syr.edu/owa/redir.aspx?C=da678b26ab604704ab9d12eaf6d5b446&URL=https%3a%2f%2fwww.researchgate.net%2fpublication%2fresearcher%2f78779161_James_C_Brower%2f), J.C., [Samson](https://exchange.syr.edu/owa/redir.aspx?C=da678b26ab604704ab9d12eaf6d5b446&URL=https%3a%2f%2fwww.researchgate.net%2fpublication%2fresearcher%2f72264862_Scott_D_Samson%2f), S.D., [Otz](https://exchange.syr.edu/owa/redir.aspx?C=da678b26ab604704ab9d12eaf6d5b446&URL=https%3a%2f%2fwww.researchgate.net%2fpublication%2fresearcher%2f78384109_Martin_H_Otz%2f), M.H., [and Otz](https://exchange.syr.edu/owa/redir.aspx?C=da678b26ab604704ab9d12eaf6d5b446&URL=https%3a%2f%2fwww.researchgate.net%2fpublication%2fresearcher%2f77350827_Ines_Otz%2f) , I., 2012, Can the HGM classification of

small, non-peat forming wetlands distinguish wetlands from surface water geochemistry?: [Wetlands](https://exchange.syr.edu/owa/redir.aspx?C=da678b26ab604704ab9d12eaf6d5b446&URL=https%3a%2f%2fwww.researchgate.net%2fpublication%2fjournal%2f0277-5212_Wetlands), 27, 884-893.

73. Barr, S., Hamilton, M., Samson, S.D., Satkoski, A., and White, C., 2012, Provenance variations in northern Appalachian

Avalonia based on detrital zircon age patterns in Ediacaran and Cambrian sedimentary rocks, New Brunswick and

Nova Scotia, Canada, Canadian Journal of Earth Sciences, 49, 533-546, doi:10.1139/E11-070

72. \*Chakraborty, S., Moecher, D.P., Samson, S.D., 2012 , Provenance of the lower Ocoee Supergroup. eastern Great Smoky

 Mountains: Geological Society of America Bulletin, 124, 1278-1292.

71. Ratschbacher L., Krumrei I., Blumenwitz M., Staiger M., Gloaguen R., Samson S.D., Edwards M.A., Appel E., 2011:

Rifting and strike-slip shear in central Tibet and the geometry, age, and kinematics of upper crustal extension in

Tibet. In: Gloaguen, R. & Ratschbacher, L. (eds). Growth and Collapse of the Tibetan Plateau. Geol. Soc. London

Spec. Publ., vol. 353, 127-163. doi: 10.1144/SP353.8

70. \*Hietpas, J., Samson, S.D., and Moecher, D.M., 2011, A direct comparison of the ages of detrital monazite versus detrital

zircon in Appalachian foreland basin sandstones: Searching for the record of Phanerozoic orogenic events: Earth and Planetary Science Letters, 310, 488-497, doi:10.1016/j.epsl.2011.08.033

69. \*Sell, B.K. and Samson, S.D., 2011, Apatite phenocryst compositions demonstrate a miscorrelation between the Millbrig

and Kinnekulle K-bentonites of North America and Scandinavia: Geology, 39, 303–306; doi: 10.1130/G31425.1

68. Johnson, E., Sutherland, C., Logan, M., Samson, S.D. and Feely, M., 2011, Emplacement conditions of a porphyritic

felsite dyke and timing of motion along the Coolin Fault at Ben Levy, co. Galway: Irish Journal of Earth Sciences,

29, 1-13, doi: 10.3318/IJES.2011.29.1

67. \*Keating-Bitonti, C., Ivany,L., Affek, H., Douglas, P. and Samson, S.D., 2011, Warm, not super-hot, temperatures in the

Early Eocene subtropics: Geology, 39, 771–774, doi:10.1130/G32054.1.

66. \*Sell, B.K and Samson, S.D., 2011, A tephrochronologic method based on apatite trace-element chemistry: Quaternary

Research, 76, 157-166, doi: 10.1016/j.yqres.2011.03.007

65. \*Fisher, C.M., Hanchar, J.M., Samson, S.D., Blichert-Toft, Vervoort, J.D., Dhuime, B., 2011*,* Synthetic zircon doped

With hafnium and rare earth elements for use as reference material for hafnium isotopic analyses: Chemical Geology

286, 32 – 47, doi: 10.1016/j.chemgeo.2011.04.013

64. Moecher, D.M., Hietpas, J., Samson, S.D., Chakraborty, S., 2011, Insights into southern Appalachian tectonics from

ages of detrital monazite and zircon in Modern Alluvium: Geosphere, 7, 494-512, doi: 10.1130/GES00615.1

63. \*Hietpas, J. Samson, S.D., Moecher, D., and Chakraborty, S., 2011, Enhancing tectonic and provenance information from

 detrital zircon studies: assessing terrane-scale sampling and grain-scale characterization: Journal of the Geological

 Society, London, 168, 309-318, doi: 10.1144/0016-76492009-163

62. \*Hietpas, J., Samson, S.D., Moecher, D.M., and Schmitt, A.K., 2010, Recovering tectonic events from the sedimentary

 record: detrital monazite plays in high fidelity: Geology, 38, 167-170.

61. \*Satkoski, A., Barr, S. and Samson, S.D., 2010, Provenance of Late Neoproterozoic and Cambrian sediments in

Avalonia: Constraints from detrital zircon ages and Sm-Nd isotopic compositions in southern New Brunswick,

Canada: Journal of Geology, 188, 187-200.

60. **Hibbard, J.P**., Pollock, J.C., Brennan, M., Samson, S.D., and Secor, D.T., 2009, Significance of new Ediacaran fossils and

U-Pb zircon ages from the Albemarle Group, Carolina terrane of North Carolina; Journal of Geology, 117, 487-498.

59. \*Carey, A., Samson, S.D., and Sell, B., 2009, Utility and limitations of apatite phenocryst chemistry

 for continent-scale correlation of Ordovician K-bentonites: Journal of Geology, 117, 1-14.

58. \*Azzolina,N.A., Siegel, D.I. ,Brower, J.C., Samson, S.D., Otz, M.H. and Otz. I., 2007, Can the HGM

Classification of Small Non-Peat Forming Wetlands Distinguish Wetlands From Surface Water

Geochemistry: Wetlands, 27, 884-893.

57. Ivany, L., Simaeys, S.V., Domack, E.W., and Samson, S.D., 2006, Evidence for an earliest Oligocene ice sheet on the

Antarctic Peninsula: Geology, 34, 377-380.

56. D’Lemos, R.S., Samson, S.D., and Inglis, J.D., 2006, A newly discovered orogenic event in Morocco: Neoproterozoic

ages for supposed ‘Eburnian’ basement of the Bou Azzer inlier, Anti-Atlas Mountains: Precambrian Research,

147, 75-78.

55. Moecher, D.P. and Samson, S.D., 2006, Differential zircon fertility of source terranes and natural bias in the detrital zircon

record: Implications for sedimentary provenance analysis: Earth and Planetary Science Letters, 247, 252-266.

54. \*Becker, T.P., Thomas, W.A., Samson, S.D. and Gehrels, G.E., 2005, Detrital zircon evidence of Laurentian crustal

 dominance in the Lower Pennsylvania deposits of the Alleghanian clastic wedge in eastern North America: J. of

 Sedimentology, 182, 59-86.

53. \*Inglis, J.D., D’Lemos, R.S., Samson, S.D. and Admou, H., 2005; Geochronological Constraints on Late Precambrian

 intrusion, metamorphism, and tectonism in the Anti-Atlas Mountains: Journal of Geology, 113, 439 – 450.

52. Samson, S.D., D’Lemos, R.S., Miller, B.V. and Hamilton, M., 2005, Neoproterozoic Paleogeography of the Cadomia

 and Avalon terranes: constraints from detrital zircon U-Pb ages: J. Geological Society, London, 162, 65-71.

51. \*Inglis, J.D., D’Lemos, R.S., Samson, S.D. and Miller, B.V., 2004, Timing of Cadomian deformation and magmatism

 within La Hague, NW France: Journal of the Geological Society, London, 161, 1-12.

50. \*Inglis, J.D., Samson, S.D., D’Lemos, R.S., and Hamilton, M., 2004, U-Pb geochronological constraints on the

 tectonothermal evolution of the Paleoproterozoic basement of Cadomia, La Hague, NW France: Precambrian

Research, 134, 293-315.

49. Samson, S.D., Inglis, J.D., D’Lemos, R.S., Admou, H., Blichert-Toft, J. and Hefferan, K., 2004, Geochronological,

 geochemical, and Nd-Hf isotopic constraints on the origin of Neoproterozoic plagiogranites in the Tasriwine

ophiolite, Anti-Atlas orogen, Morocco: Precambrian Research, 135, 133-147.

48. \*Inglis, J.D., Maclean, J., Samson, S.D., D’Lemos, R.S., Admou, H. and Hefferan, K., 2004, A precise U-Pb

 zircon age for the Bleida Granodiorite, Anti-Atlas, Morocco: consequences for the timing of deformation and

 terrane assembly in the eastern Anti-Atlas: Journal of African Earth Sciences, 39, 277-283.

47. Owens, B.E. and Samson, S.D., 2004, Nd isotopic constraints on the magmatic history of the Goochland terrane,

 easternmost Grenvillian crust in the southern Appalachians: In *Proterozoic tectonic evolution of the Grenville*

*orogen in North America* (eds. Tolo, R.P., Corriveau, L., McLelland, J., and Bartholomew, M.J.)Geological Society of America Memoir 197, 601-608.

46. \*Thomas, W.A., Becker, T.P., Samson, S.D. and Hamilton, M.A., 2004, Detrital zircon evidence of a recycled orogenic

 foreland provenance for Alleghanian clastic-wedge sandstones: The Journal of Geology, 112, 23-37.

45. Moecher, D.P., Samson, S.D., Miller, C.F., 2004, Precise time and conditions of peak Taconian granulite facies

 metamorphism in the southern Appalachian orogen, USA, with implications for zircon behavior during crustal melting

 events: The Journal of Geology, 112, 289-304.

44. Patchett, P.J and Samson, S.D., 2003, Ages and growth of the continental crust from radiogenic isotopes, pp. 321-348. In

*The Crust* (ed. R.L. Rudnick) Vol. 3 *Treatise on Geochemistry* (eds. H.D. Holland and K.K. Turekian) Elsevier-

Pergamon, Oxford.

43. Samson, S.D., D’Lemos, R.S. and Blichert-Toft, J., 2003, U-Pb geochronology and Hf-Nd isotope compositions

 of the oldest Neoproterozoic crust within the Cadomian Orogen: new evidence for a unique juvenile terrane: Earth

 and Planetary Science Letters, 208, 165-180.

42. Hefferan, K., Admou, H., Hilal, R., Karson, J., Saquaque, A., Samson, S., and Kornprobst, J., 2002. Proterozoic

 blueschist-bearing mélange in the Anti-Atlas Mountains, Morocco: Precambrian Research, 118, 179-184.

41. \*Nagy, E.A., Samson, S.D., and D’Lemos, R.S., 2001, U-Pb geochronologic constraints on the timing of

 Brioverian sedimentation and regional deformation within the St. Brieuc region of the Neoproterozoic Cadomian

 orogen, northern France: Precambrian Research, 116 (1-2), 1-17.

40. D’Lemos, R.S., Miller, B.V.M., and Samson, S.D., 2001, Precise U-Pb zircon ages from Alderney, Channel

 Islands: growing evidence for discrete Neoproterozoic magmatic episodes in northern Cadomia: Geological

 Magazine, 138, 719-726.

39. Barr, S.M, Hamilton, M.A., white, C.E. and Samson, S.D., 2001, A late Neoproterozoic age for the Caledonia

 Mountain Pluton, a high Ti-V layered gabbro in the Caledonia (Avalon) terrane, southern New Brunswick:

 Atlantic Geology, 36, 157-166.

38. \*Miller, B.V., Samson, S.D.,and D’Lemos, R.S., 2001, U-Pb geochronological constraints on the timing of

 plutonism, volcanism, and sedimentation, Jersey, Channel Islands, UK: Journal of the Geological Society,

 London, 158, 243-252.

37. \*Coler, D.G., Wortman, G.L., Samson, S.D., Hibbard, Stern, R., 2000, U-Pb geochronologic, Nd isotopic and

 geochemical evidence for the correlation of the Chopawamsic and Milton terranes, Piedmont Zone, southern Appalachian Orogen, Journal of Geology, 108, 363-380.

36. Samson, S.D. and Barr, S.M and White, C.E., 2000, Nd isotopic characteristics of terranes within the Avalon

 Zone, southern New Brunswick: Canadian Journal of Earth Sciences, 37, 1039-1052.

35. \*Wortman, G.L., Samson, S.D., and Hibbard, J.P., 2000, Precise U-Pb zircon constraints on the earliest magmatic

 history of the Carolina terrane: Journal of Geology.

34. \*Miller, B.V., Samson, S.D., and D’Lemos, R.S., 1999, Time span of plutonism, fabric development, and

 cooling in a Neoproterozoic magmatic arc segment: U-Pb age constraints from syn-tectonic plutons, Sark, Channel Islands, U.K.: Tectonophysics, 312, 79-95.

33. Samson, S.D. and D’Lemos, R.S., 1999, Precise late Neoproterozoic U−Pb zircon age of the syn-

 tectonic Perelle quartz diorite, Guernsey, Channel Islands, UK: Journal of the Geological Society,

 London, 156, 47-54.

32. Karabinos, P., Samson, S.D., Hepburn, J.C. and Stoll, H., 1998, Taconian orogeny in the New England

 Appalachians: Collision between Laurentia and the Shelburne Falls arc: Geology, 26, 215-218.

31. Samson, S.D. and D’Lemos, R.S., 1998, U-Pb geochronology and Sm-Nd isotopic composition of

 Proterozoic gneisses, Channel Islands, U.K: Journal of the Geological Society, London, 155, 609-618.

30. \*Changde, W., Nelson, K.D., Wortman, G.L., Samson, S.D., Yonjun, Y., Jixiang, Li, Kidd, W.S.F., and

 Edwards, M., 1998, Yadong cross-structure and south Tibet detachment in the East-Central Himalaya

 (89°-90°E): Tectonics, 17, 28-45.

29. Hibbard, J.P., Shell, G.S., Bradley, P.J., Samson, S.D. and Wortman, G.L., 1998, The Hyco Shear Zone:

 the northern extension of the central piedmont suture in North Carolina and southern Virginia: American

 Journal of Science, 298, 85-107.

28. \*Wortman, G.L., Samson, S.D., and Hibbard, J.P., 1998 Precise timing constraints on the kinematic development of the

 Hyco Shear Zone, southern Appalachians: American Journal of Science, 298, 108-130.

27. \*Coler, D.G., Samson, S.D. and Speer, J.A., 1997, Nd and Sr isotopic constraints on the source of Alleghanian

 granites in the Raleigh Metamorphic belt and Eastern slate belt, southern Appalachians: Chemical Geology,

 134, 257-275.

26. Samson, S.D., 1996, 40Ar-39Ar and Nd-Sr isotopic characteristics of mid-Ordovician North American K-

 bentonites: A test of early Paleozoic Laurentia-Gondwana interactions: Tectonics, 15, 1084-1092.

25. \*Andersen, B. and Samson, S.D., 1996, Temporal changes in the Nd isotopic composition of sedimentary rocks in

 the Sevier and Taconic foreland basins: Increasing influence of juvenile sources: Geology, 23, 983-986.

24. \*Wortman, G., Samson, S.D., and Hibbard, J.P., 1996, Discrimination of the Milton and Carolina slate belts,

 southern Appalachians: A Nd isotopic approach: Journal of Geology, 104, 239-247.

23. Samson, S.D., Coler, D.G., and Speer, J.A., 1995, Geochemical and Nd-Sr-Pb isotopic composition of

 Alleghanian granites in the southern Appalachians: Origin, tectonic setting, and source characterization: Earth

 and Planetary Science Letters, 134, 359-376.

22. Hibbard, J.P. and Samson, S.D., 1995, Orogenesis exotic to the Iapetan cycle in the southern Appalachians,

 in Hibbard, J., van Staal, C.R., and Cawood, P., eds., New Perspectives in the Appalachian-Caledonian

 Orogen, Geological Association of Canada Special Paper 41, 191-205.

21. Samson, S.D., 1995, Is the Carolina terrane part of Avalon? in Hibbard, J.P., van Staal, C.R., and Cawood, P.,

 eds., New Perspectives in the Appalachian-Caledonian Orogen , Geological Association of Canada

 Special Paper 41, 253-264.

20. Samson, S.D., Hibbard, J.P. and Wortman, G.L., 1995, Nd isotopic evidence for juvenile crust in the Carolina

 terrane, southern Appalachians: Contributions to Mineralogy and Petrology, 121, 171-184.

19. Samson, S.D., Matthews, S.V.L., Mitchell, C.E., Goldman, D., 1995, Tephrochronology of highly altered ash

 beds: The use of trace element and strontium isotope geochemistry of apatite phenocrysts to correlate K-

 bentonites: Geochimica et Cosmochimica Acta, 59, 2527-2536.

18. Mitchell, C.E., Goldman, D., Delano, J.W., Samson, S.D., Bergstrom, S.M., 1994, Temporal and spatial

 distribution of biozones and facies relative to geochemically correlated K-bentonites in the Middle Ordovician

 Taconic Foredeep: Geology, 22, 715-718.

17. Isachsen, C.E., Bowring, S.A., Landing, E., Samson, S.D., 1994, New constraint on the division of Cambrian

 time: Geology, 22, 496-498.

16. Gehrels, G.E., McClelland, W.C., Samson, S.D., Patchett, P.J., and Orchard, M.J., 1992, Geology of the western flank of the Coast Mountains between Cape Fanshaw and Taku Inlet, southeastern Alaska: Tectonics, 11, 567-585.

15. McClelland, W.C., Gehrels, G.E., Samson, S.D., Patchett, P.J., 1992, Structural and geochronologic relations

 along the western flank of the Coast Mountains batholith: Stikine River to Cape Fanshaw, central southeastern

 Alaska: Journal of Structural Geology, 14, 475-489.

14. McClelland, W.C., Gehrels, G.E., Samson, S.D., Patchett, P.J., 1991, Protolith relations of the Gravina belt

 and Yukon-Tanana terrane in central southeastern Alaska: Journal of Geology, 100, 107-123.

13. Samson, S.D. and Patchett, P.J., 1991, The Canadian Cordillera as a modern analog of Proterozoic crustal

 growth: Australian Journal of Earth Sciences, 38, 595-611.

12. Gehrels, G.E., McClelland, W.C., Samson, S.D., and Patchett, P.J., 1991, U-Pb geochronology of detrital

 zircons from a continental margin assemblage in the northern Coast Mountains, southeast Alaska: Canadian

 Journal of Earth Sciences, 28, 1285-1300.

11. Samson, S.D., Patchett, P.J., McClelland, W.C., and Gehrels, G.E., 1991, Nd and Sr isotopic constraints on the

 petrogenesis of the west side of the northern Coast Mountains batholith, Alaskan and Canadian Cordillera:

 Canadian Journal of Earth Sciences, 28, 939-946.

10. Gehrels, G.E., McClelland, W.C., Samson, S.D., and Patchett, P.J., 1991, U-Pb geochronology of Late

 Cretaceous and early Tertiary plutons in the northern Coast Mountains batholith: Canadian Journal of Earth

 Sciences, 28, 899-911.

9. Gehrels, G.E., McClelland, W.C., Samson, S.D., Jackson, J.L., and Patchett, P.J., 1991, U-Pb geochronology

 of two pre-Tertiary plutons in the Coast Mountains batholith near Ketchikan, southeastern Alaska: Canadian

 Journal of Earth Sciences, 28, 894-898.

8. Samson, S.D., Patchett, P.J., McClelland, W.C. and Geherls, G.E., 1991, Nd isotopic characterization of metamorphic

rocks in the Coast Mountains, Alaskan and Canadian Cordillera: Ancient crust trapped between juvenile terranes:

Tectonics, 10, 770-780.

7. Samson, S.D., Patchett, P.J., Roddick, J.C., and Parrish, R.R., 1990, Reply to Discussion of Origin and tectonic

 setting of Ordovician bentonites in North America: Isotopic and age constraints: Geological Society of

 America Bulletin, 102, 1441.

6. Gehrels, G.E., McClelland, W.C., Samson, S.D., Patchett, P.J., and Jackson, J.L., 1990, Ancient continental

 margin assemblage in the northern Coast Mountains, SE Alaska and NW Canada: Geology, 18, 208-211.

5. Samson, S.D., Patchett, P.J., Gehrels, G.E., and Anderson, R.G., 1990, Nd and Sr isotopic characterization of

 the Wrangellia terrane and implications for crustal growth of the Canadian Cordillera: Journal of Geology,

 98, 749-762.

4. Samson, S.D., McClelland, W.C., Patchett, P.J., Gehrels, G.E., and Anderson, R.G., 1989, Evidence from

 neodymium isotopes for mantle contributions to Phanerozoic crustal genesis in the Canadian

 Cordillera: Nature, 37, 705-709.

3. Samson, S.D., Patchett, P.J., Roddick, J.C., and Parrish, R.R., 1989, Origin and tectonic setting of Ordovician

 bentonites in North America: Isotopic and age constraints: Geol. Soc. America Bull. 101, 1175-1181.

2. Samson, S.D., Kyle, P.R., and Alexander, E.C., Jr., 1988, Correlation of North American bentonites by using

 apatite chemistry: Geology, 6, 444-447.

1. Samson, S.D. and Alexander, E.C., Jr., 1987, Calibration of the interlaboratory 40Ar-39Ar dating

 standard, MMhb-1: Chemical Geology (Isotope Geoscience Section), 66, 27-34.

***ABSTRACTS (Read/presented at Professional Meetings)*** *\* indicates student author*

1. Samson, S.D. and Alexander, E. Calvin, Jr., 1986, Inter­laboratory calibration of the 40Ar-39Ar

 dating standard, MMhb-1. Sixth International Conference on Geochronology, Cosmochronology

 and Isotope Geology, Terra Cognita, 6, No.2, 171.

2. Alexander, E. Calvin., Jr., Milske, J.A., Davis, M.A. and Samson, S.D., 1986, Isotopic

 investigation of the Mount Simon Aquifer, Minnesota. Sixth International Conference on Geo

 ­ chronology, Cosmochronology and Isotope Geology, Terra Cognita, 6, No.2, 265.

3. Samson, S.D., Alexander, E. Calvin, Jr. and Kyle, Philip R., 1987, Chemistry, mineralogy, and

 correlation of Ordovician bentonites. Geological Society of America Abstracts with Programs,

 19, 241.

4. Samson, S.D., McClelland, W.C., Gehrels, G.E., Patchett, P.J., and Anderson, R.G., 1987, Nd

 isotopes and the origin of the accreted Alexander and Stikine terranes in the Canadian Cordillera:

 EOS, 68, 1548.

5. Samson, S.D., McClelland, W.C., Gehrels, G.E., and Patchett, P.J., 1988, The Alexander

 terrane, Nd and Sr isotopic evidence for a primitive magmatic history. Geological Society of

 America Abstracts with Programs, 20, 227.

6. Samson, S.D., Patchett, P.J., Roddick, J.C., and Parrish, R.R., 1988, Nd and Sr isotopic and

 U-Pb age constraints on the origin and tectonic setting of Ordovician Bentonites in North

 America: Geological Society of America Abstracts with Programs, 20, 305.

7. Parrish, Judith T., and Samson, S.D., 1988, Possible paleoclimatic constraints on the positions of

 Laurentia, southern Britain, and Baltica in the Ordovician: Geological Society of America

 Abstracts with Programs, 20, 192.

8. Kunk, M.J., Samson, S.D., and Roddick, J.C., 1988, 40Ar-39Ar age spectrum dating of biotite and

 sanidine and U/Pb dating of zircon of mid-Ordovician bentonites from Sweden: A comparison

 with results from eastern North America: Fifth International Symposium on the Ordovician

 System, Program and Abstracts, 49.

9. McClelland, W.C., Samson, S.D., Gehrels, G.E., Patchett, P.J., and Anovitz, L.M., 1989, Structural

 evolution of the Taku terrane, central southeastern Alaska: Geological Society of America

 Abstracts with Programs, 21, 83.

10. Gehrels, G.E., McClelland, W.C., Samson, S.D., and Patchett, P.J., 1989, Nisling terrane, a

 Proterozoic-Lower Paleozoic (?) continental margin assemblage, in and adjacent to the northern

 Coast Mountains Batholith: Geological Society of America Abstracts with Programs, 21, 83.

11. Samson, S.D., McClelland, W.C., Patchett, P.J., and Gehrels, G.E., 1989, Nd isotopic evidence for ancient

 continental material between juvenile terranes of the Canadian Cordillera, EOS, 70, 485.

12. Gehrels, G.E., McClelland, W.C., Samson, S.D. and Patchett, P.J., 1989, Structural evolution of

 the northern Coast Mountains Batholith, southeastern Alaska: EOS, 70, 1308.

13. Samson, S.D., Patchett, P.J., Gehrels, G.E. and Anderson, R.G., 1989, Nd and Sr isotopes in the

 Wrangellia terrane: implications for Phanerozoic crustal growth, EOS, 70, 1389.

14. Gehrels, G.E., McClelland, W.C., Samson, S.D. and Patchett, P.J., 1990, U-Pb geochronology of

 detrital zircons from the Yukon Crystalline terrane along the west flank of the northern Coast

 Mountains Batholith: GAC/MAC, 15, A44.

15. Gehrels, G.E., McClelland, W.C., Samson, S.D. and Patchett, P.J., 1990, Geologic and structural

 relations along the west flank of the northern Coast Mountains Batholith between Cape Fanshaw

 and Taku Inlet: GAC/MAC, 15, A44.

16. McClelland, W.C., Gehrels, G.E., Samson, S.D. and Patchett, P.J., 1990, Geologic and structural

 relations along the west flank of the northern Coast Mountains Batholith: Stikine River to Cape

 Fanshaw, central S.E. Alaska: GAC/MAC, 15, A86.

17. Samson, S.D., Patchett, P.J., McClelland, W.C. and Gehrels, G.E., 1990, A detailed Nd isotopic

 investigation of the Taku and Yukon Crystalline terranes, S.E. Alaska: Ancient continental

 material between juvenile crust of the Canadian Cordillera: GAC/MAC, 15, A177.

18. Patchett, P.J. and Samson, S.D., 1990, Proterozoic crustal growth and its modern analog in the

 Canadian Cordillera: Seventh International Conference on Geo­chronology, Cosmochronology and

 Isotope Geology, Geological Society of Australia Abstracts, No.27, 76.

19. Samson, S.D. and Patchett, P.J., 1990, Phanerozoic crustal growth in the Alaskan and Canadian

 Cordillera: Seventh International Conference on Geo­chronology, Cosmochronology and Isotope

 Geology, Geological Society of Australia Abstracts, No.27, 87.

20. Samson, S.D. and Gehrels, G.E., 1991, Evolved crust between juvenile Cordilleran terranes: Nd and

 Sr and U-Pb isotopes from the northern Coast Mountains Batholith, Alaska: EOS, 72, 302.

21. Samson, S.D., Wortman, G., and Hibbard, J., 1992, Nd isotopic composition of the northern

 Carolina Slate Belt and Milton Belt, southern Appalachians: Geological Society of America

 Abstracts with Programs, 24, 62.

22. Samson, S.D., Wortman, G., and Hibbard, J., 1992, Nd isotopic composition of the Carolina

 terrane: Evidence of juvenile Phanerozoic crust in the southern Appalachians: EOS, 73, 369.

23. Mitchell, C.E., Goldman, D., Bergstrom, S.M., Samson, S.D., 1992, Chronostratigraphy of the

 Trenton Group and Utica Shale, Pt.I: Preliminary revision of lithofacies and age relationships:

 Geological Society of America Abstracts with Programs.

24. Delano, J.W., Tice, S., Mitchell, C.E., Goldman, D., Samson, S.D., 1992, Chronostratigraphy of

 the Trenton Group and Utica Shale, Pt.II: Stratigraphic correlations using Ordovician glasses in

 K-bentonites: Geological Society of America Abstracts with Programs.

25. Samson, S.D. and Landing, E., 1992, U-Pb zircon geochronology of Precambrian-Cambrian volcanics from the

 Avalon terrane, New Brunswick: Geological Society of America Abstracts with Programs.

26. Landing, E. and Samson, S.D., 1992, Duration of the early Cambrian and uppermost Precambrian

 through lower Cambrian sequence stratigraphy in Avalon: Geological Society of America

 Abstracts with Programs, 24, A51.

27. Samson, Scott D. and Speer, J.A., 1993, Nd isotope geochemistry of Alleghanian granitoid plutons

 in the southern Appalachians: EOS, 74, 335.

28. Delano, J.W., Tice, S., Mitchell, C.E., Goldman, D. & Samson, S.D., 1993, Geochemical fingerprinting

 of volcanic glass from K-bentonites in the Utica Shale & Trenton Group, New York State: Strati-

 graphic and structural implications: Geological Society of America, Abstracts with Programs, A75.

29. Samson, Scott D., Matthews, S., Goldman, D., Mitchell, C.E. & Delano, J.W., 1993, Use of Sr and

 Pb isotope geochemistry of apatite phenocrysts to discriminate Ordovician K-bentonites in the Utica

 Shale: Geological Society of America, Abstracts with Programs, A75.

30. Samson, Scott D., 1994, Geochemistry and 143Nd/144Nd ratios of Ordovician K-bentonites from the Taconic

 Foreland basin: comparison with northern Appalachian Ordovician Island Arc volcanics: Geological Society

 of America, NE Section meeting.

31. \*Coler, D.G., Samson, S.D., & Speer, J.A., 1994, Detailed Sm-Nd isotopic study of the Rolesville Batholith,

 N.C.: Evidence for variable source compositions of an Alleghanian granite: Geological Society of America,

 SE Section meeting.

32. Samson, Scott D. & Andersen, C.B., 1994, Increasing influence of exotic terranes as sources of shales from the

 Sevier and Taconic Foreland Basins?: Evidence from Nd isotopes: Geological Society of America, SE

 Section.

33. \*Acaster, M., Samson, S.D., Mitchell, C.E. & Delano, J.W., 1994, U-Pb zircon chronostratigraphy of Taconic

 Foreland Basin bentonites and basement ages of their volcanic source: Geological Society of America, NE

 Section meeting.

34. \*Wortman, G., Samson, S.D., Hibbard, J.P., 1994, Nd isotopic character of the northern Carolina slate and

 Milton Belts, north-central, North Carolina and south-central Virginia: Geological Society of America, SE

 Section meeting.

35. Hibbard, J.P., Shell, G., Wilkins, J.K., Samson, S.D. & Wortman, G., 1994, Multiple deformation at the

 western edge of the Carolina Slate Belt, north-central North Carolina: Geological Society of America, SE

 Section meeting.

36. Samson, Scott D., 1994, Phanerozoic crustal growth: the importance of juvenile terranes in the

 Appalachians and Cordilleran orogens: Eighth Int'l Conference on Geochronology, Cosmochronology,

 and Isotope Geochemistry (ICOG 8), U.S. Geol. Survey Circular 1107, p.277.

37. \*Coler, D.G., Samson, S.D. & Speer, J.A., 1994, Nd and Pb isotopes of Alleghanian granites from the Goochland

terrane, southern Appalachians: evidence for a juvenile source component: ICOG 8, U.S.Geol. Survey Circular

1107, p. 64.

38. Samson, S.D., 1994, The Carolina terrane: Is it part of Avalon?: Geological Association of Canada,

 NUNA Conference in honor of Hank Williams, Gander, Newfoundland, p. 25.

39. \*Coler, D.G., Samson, S.D., & Speer, J.A., 1995, K-feldspar Pb isotopic composition of Alleghanian

 granites in the Raleigh belt, N.C.: Geological Society of America, v.27, 45.

40. \*Wortman, G.L., Samson, S.D., Hibbard, J.P., 1995, U-Pb zircon geochronology of the Milton and Carolina

 slate belts, southern Appalachians: Geological Society of America, v.27, 98.

41. Samson, S.D., 1995, Alleghanian granites in the southern Appalachians: No geochemical evidence

 for a subduction origin: Geological Society of America, v.27, p.84.

42. Hibbard, J., Wortman, G, Samson, S.D., 1995, The Virgilina orogeny in the Carolina terrane, Geological

 Society of America, v.27, p.62.

43. Samson, S.D., Coler, D.G., and Speer, J.A., 1995, Geochemical and Nd-Sr isotopic composition of

 Alleghanian granites of the southern Appalachians: Origin, tectonic setting, and source

 characterization: Third Hutton Symposium on the Origin of Granites and Related Rocks.

44. Karabinos, P., Samson, S.D., Hepburn, C., Stoll, H., Aleinikoff, J., 1996, The Taconian orogeny in new

 England: collision between laurentia and the shelburne falls arc: Geological Society of America,

 Abstracts with Programs,

45. Samson, S.D. and Tremblay, A., 1996, Nd isotopic composition of volcanic rocks in the Ascot complex,

 Quebec: comparison with other ordovician terranes: Geological Society of America Meeting,

 Abstracts with Programs,

46. Samson, S.D., 1997, Good dates, bad dates, hot dates and blind dates: Examples from the Appalachian orogen:

 Southeastern Section of the Geological Society of America Meeting, Auburn, Alabama.

47. Samson, S.D., Miller, B.V., and D’Lemos, R., 1997, U-Pb geochronological investigation of exposed

basement within the Cadomia terrane, Channel Islands: a test of indirect methods of basement

characterization: 7th International Goldschmidt Conference, Tucson, AZ.

48. D’Lemos, R.S. and Samson, S.D., 1998, Implications of precise U-Pb geochronology for “basement”

gneisses, Channel Islands, U.K., British Teconics Conference, London.

49. Miller, B.V., Samson, S.D. and D’Lemos, R.S., 1998, rapid magmatism, deformation, and cooling of a

 Neoproterozoic arc: U-Pb ages of syn-tectonic plutons, Cadomian orogen, Channel Islands, UK:

 American Geophysical Union, Boston, EOS, 79, S344.

50. Li, J., Miller, B.V., Nelson, K.D. and Samson, S.D., 1998, Two belts of collisional granite in the

 Himalaya? American Geophysical Union, Boston, EOS, 79, S350.

51. Samson, S.D., 1998, Identical Titanite and Zircon U-Pb dates from Alleghanian granites: Further evidence for the

 robustness of the U-Pb titanite ‘clock’, Geol. Soc. America, Abs. Prog, v.30, A-215.

52. \*Coler, D.G., Samson, S.D., and Hibbard, J.P., 1998, New constraints on the age and Nd isotopic composition of the

 Chopawamsic terrane, VA: Geol. Soc. Amer. Abs. Prog., v.30, A-125.

53. \*Wortman, G.L., Samson, S.D., and Hibbard, J.P., 1998, U-Pb zircon timing constraints on the earliest magmatic

 evolution of the Carolina terrane, southern Appalachian orogen: Geol. Soc. Amer. Abs. Prog., v.30, A-124.

54. \*Fowler, B.A., Samson, S.D., and D’Lemos, R.S., 1998, Nd and Pb isotopic compositions of Cadomian granitoids: An

 isotopic comparison with the Avalon terrane: Geol. Soc. America, Abs. Prog., v.30, A-191.

55. Samson, S.D. and Secor, D.T., 1999, Cambrian paleogeography of the Carolina terrane: constrains from U-Pb ages of

 detrital zircons: Geol. Soc. America, Abs. Prog., v.31, A-64.

56. \*Wortman, G.L., Samson, S.D. and Hibbard, J.P., 1999, Widespread pre-650 Ma circum-Atlantic magmatism in the

 Neoproterozoic “Avalonian terranes”: fact or fiction?: Geol. Soc. America, Abs. Prog., v.31, A-78.

57. Samson, S.D., Secor, D.T. and Stern, R., 1999, Provenance and Paleogeography of Neoproterozoic arc terranes:

 constraints from U-Pb ages of detrital zircons: Geol. Soc. America, Abs. Prog.

58. Samson, S.D. and Secor, D.T, 2000. New U-Pb geochronological evidence for a Silurian magmatic event in central South

 Carolina: Geol. Soc. America, Abs. Prog., v.32, A71.

59. D’Lemos, R.S., Samson, S.D., Nagy, E. and Miller, B.V., 2001, Tectonothermal evolution of the Cadomian arc, northwest

 Europe – constraints from U-Pb zircon analyses and comparisons to Avalonia: Geol. Soc. America, v.33, A206.

60. Inglis, J.D., D’Lemos, R.S. and Samson, S.D., 2001, P-T-t-D evolution of the basement to a Cadomian arc, La Hague, NW

 France: Geol. Soc. America, Abs. Prog., v.33, A206.

61. Owens, B.E. and Samson, S.D., 2001, Nd isotopic constrains on the magmatic history of the Goochland terrane,

 easternmost Grenville crust in the southern Appalachians: Geol. Soc. America, Abs. Prog., v.33, A28.

62. Samson, S.D., Secor, D.T. and Hamilton, M.A., 2001, Wandering Carolina: Tracking exotic terranes with detrital zircons:

 Geol. Soc. America, Abs. Prog., v.33, A263.

≥ 40 additional abstracts between 2002-2008

***ABSTRACTS 2009 -2020 (****\* indicates student author****)***

100. \*Dasgupta, T. and Samson, S.D., 2009, Intracrystal variation of Sr and Nd isotopic composition of apatite in granitoids:

implications for the magmatic complexity of ‘simple' granites: NE section Geological Society of America, 23-4.

101. Samson, S.D., Hamilton, M., Barr, S., White, C. and Satkotski, A., 2009, U-Pb Ages From Detrital Zircon in Avalonian

Sedimentary Rocks: Temporal Changes in Provenance Tied to Terrane Migration? EOS, Trans. American

Geophysical Union, 90 (22), U14A-06.

102. \*Sell, B. and Samson, S.D., 2009, Something is miscorrelated in the state of Denmark: the late Ordovician Millbrig and

Kinnekulle k-bentonites: NE section Geological Society of America, 29-2 .

103. Samson, S.D. and Dasgupta, T., 2010, New insights into granitic magma complexity: Nd and Sr isotopic zonation in

 apatite in 300 Ma granites from southeast USA: Volcanic and Magmatic Studies Group, Geological Society London,

 Annual Meeting, Glasgow, Scotland, p.35.

104. \*Hietpas, J., Samson, S.D., and Moecher, D., 2010, Ccomplete identification of sediment donor terranes… careful

 whom you ask: NE/SE combined section Geological Society of America, 74-4.

105. \*Schlossnagle, T., Sessa, J., Ivany, L., and Samson, S.D., 2010, strontium isotope ratios from the early Eocene Gulf

 Coast – influence of salinity and potential for age control: Geological Society of America, 66-3.

106. \*Chakraborty, S., Moecher, D. and Samson, S.D., 2010, Provenance analysis of the Neoproterozoic Ocoee Supergroup,

Eastern Great Smoky Mountains, NC/TN: NE/SE combined section Geological Society of America, 5-6.

107. \*Nath, C., \*Hietpas, J. and Samson,S.D., 2010, assessing detrital garnet crystal chemistry as a provenance tool – an

 example from the French Broad River: NE/SE combined section Geological Society of America, 5-6.

108. Owens, B., King, S. and Samson, S.D., 2010, Geochemistry of the Arvonia Formation, Chopawamsic terrane, Virginia:

implications for source area weathering and provenance: NE/SE combined section Geological Society of America,

 59-8.

109. Moecher, D., Chakraborty, S., and Samson, S.D., 2010, Insights into southern Appalachian metamorphism from ages of

detrital monazite and zircon in modern alluvium and bedrock sources: NE/SE combined section Geological Society

of America, 74-5.

110. Samson, S.D., and Dasgupta, T., 2011, Insights into ancient magma chamber evolution - isotopic evidence: Geological

Society of America, NE Section meeting, Pittsburgh, PA

111. \*Dasgupta, T. and Samson, S.D., 2011, Evidence of syn-crystallization magma evolution in typical and ‘atypical'

 Alleghanian plutons from southern Appalachians: implications for granite petrogenesis and terrane accretionary

history: Geological Society of America, NE Section meeting, Pittsburgh, PA

112. Samson, S.D., Hietpas, J, and Moecher, D., 2011, Age and Nd isotopic composition of detrital monazite crystals:

 Tectonic events recorded in high fidelity: Geological Society of America Annual Meeting, Minneapolis, MN

113. Samson, S.D., Hietpas, J, and Moecher, D., 2011, The good, the bad and the ugly: assessing the utility of detrital

 minerals in provenance analysis: Geological Society of America Annual Meeting, Minneapolis, MN

114. \*Quinn, R., Moecher, D., Samson, S.D., Tohver, E., 2011, The nature and extent of exotic crustal components in

 southern Laurentia: new age and Nd-Pb isotope evidence from Grenville basement gneisses, eastern Great Smoky

Mountains: Geological Society of America Annual Meeting, Minneapolis, MN

115. Hefferan, K., Admou, H., Samson, S.D., Inglis, J., Saquaque, A., and Heywood, N., 2011, Pan African clastic deposits in

Trifya basin, Bou Azzer, Morocco: stratigraphic relations and ore potential: Geological Society of America Annual

Meeting, Minneapolis, MN

116. \*Satkoski, A., Samson, S.D., and Bickford, M., 2011, New geochemical data for archean crust in the Minnesota River

 Valley: Evidence for continental crustal recycling in the paleoArchean?: Geological Society of America Annual

Meeting, Minneapolis, MN

117. \*Hietpas, J., Samson, S.D., and Moecher, 2011, A multivariate statistical analysis of detrital garnet major element

 chemistry as a tool for quantitative sediment provenance: Geological Society of America Annual Meeting,

Minneapolis, MN

118. Southworth, S., Satkoski, A., and Samson, S.D., and Aleinikoff, J., 2011, The Great Paleozoic unconformity:

 Provenance of Neoproterozoic-Cambrian rocks of the Appalachians using detrital zircons: Geological Society of

 America Annual Meeting, Minneapolis, MN

119. Samson, S.D., 2011, Bias in Crustal Growth Models Based on age and Isotopic Composition of Detrital Zircon: The

 role of Zircon Fertility: American Geophysical Union National Meeting, San Francisco, CA

120. Hames, W., Moore, M., Priester, C., Samson, S.D. and Hietpas, J., 2012 [Diversity is a beautiful thing: a test of combined 40Ar/39Ar muscovite, Th/Pb monazite and U/Pb zircon ages in modern stream sediment to characterize the southwestern blue ridge](https://gsa.confex.com/gsa/2012AM/webprogram/Paper212042.html): GSA Annual Meeting, Charlotte, NC, Programs with Abstracts.

121. Hefferan, K., Samson, S.D., Hietpas, J., Admou, H., Saquaque, A. and Heywood, N., 2012, A 604 Ma depositional age for the Tiddiline conglomerate, Bou Azzer inlier, Moroccoa, based on U-Pb dating of detrital zircon: GSA Annual, Charlotte, NC, Programs with Abstracts.

122. Moecher, D. and Samson, S.D., 2012, Insight into zircon crystallization from modeling and inclusion relations in high-Zr Grenville granites: implications for zircon thermometers: GSA Annual Meeting, Charlotte, NC, Programs with Abstracts.

123. \*Quinn, R., Moecher, D.P.1, Satkoski, A.M., Samson, S.D., and Tohver, E., 2012, Nd-Pb isotope systematics and zircon U-Pb geochronology support a native crustal component within Grenville basement, eastern Great Smoky Mountains: GSA Annual Meeting, Charlotte, NC, Programs with Abstracts.

124. \*Satkoski, A., Samson, S.D., Southworth, S. and Wilkinson, B., 2012, D[etrital zircon ages from the Neoproterozoic-Cambrian rift-to drift sequence of the eastern US:](https://gsa.confex.com/gsa/2012AM/webprogram/Paper211327.html) GSA Annual Meeting, Charlotte, NC, Programs with Abstracts.

125. Samson, S.D., Hietpas, J. and Moecher, D., 2012, [Recording orogenesis: multiple minerals, multiple methods](https://gsa.confex.com/gsa/2012AM/webprogram/Paper210251.html): GSA

 Annual Meeting, Charlotte, NC, Programs with Abstracts.

126. Moecher, D., and Samson, S.D., 2012, Insight into zircon crystallization from modeling and inclusion relations in high-

 Zr Grenville granites: implications for zircon thermometers: Geological Society of America, National Meeting,

 Charlotte.

127. Samson, S.D., Satkoski, A. and Moecher, D., 2012, Zircon, zircon everywhere: What caused the zircon superfertility of Grenville magmas?: Goldschmidt Geochemistry Conference, Montreal, Canada.

128. Tomascak, P., Solar, G., and Samson, S.D., 2013, Age distinctions among granites and migmatites in southwestern

 Maine: NE section Geological Society of America.

120. \*Bonich, M., Samson, S.D., and Fedo, C., 2013: When sedimentary geochemistry and geochronology fail as proxies in

provenance analysis: welcome to the Stepladder effect: Geological Society of America, National Meeting, Denver.

130. \*Salerno, R., and Samson, S.D., 2013, Assessing the utility of detrital monazite ages from major rivers requires

 identifying and separating monazite   -  not so simple!: Geological Society of America, National Meeting, Denver.

131. \*Satkotski, A., Wilkinson, B., Hietpas, J. and Samson, S.D., 2013, Likeness among detrital zircon populations -  an

 Approach to the comparison of age frequency data in time and space: Geological Society of America, National

 Meeting, Denver.

132. Moecher, D., McDowell, S., Samson, S.D., and Miller, C., 2013, Crystallization modeling and Ti-in-zircon thermometry

support the “hot” Grenville granite hypothesis: Geological Society of America, National Meeting, Denver.

133. Samson, S.D., 2013, We know where the sediment comes from – someone should tell the zircons: Geological Society of

America, National Meeting, Denver.

134. \*Satkoski, A., Willkinson, B., Hietaps, J. and Samson, S.D., 2013, Likeness among detrital zircon populations-  an approach to the comparison of age frequency data in time and space: Geological Society of America, National Meeting, Denver, paper 324-4.

135. \*Bonich, M., Samson, S.D., and Fedo, C., 2013, When sedimentary geochemistry and geochronology fail as proxies in provenance analysis: welcome to the “stepladder effect”: Geological Society of America, National Meeting, Denver, paper 252-12.

136. \*Salerno, R. and Samson, S.D., 2013, Assessing the utility of detrital monazite ages from major rivers requires identifying and separating monazite   -   not so simple!: Geological Society of America, National Meeting, Denver, paper 252-13.

137. Hefferan, K. and Samson, S.D., 2014, Three stage pan african orogenic cycle in Morocco: transition from island arc to Gondwanan continental arc system: Geological Society of America

138. \*Bonich, M., Samson, S.D., and Fedo, C., 2014, Locally Derived Sediment, Yet Chemically and Chronologically Unique – Overcoming the "Stepladder Effect" in Provenance Studies: American Geophysical Union paper EP11-C03.

139. Samson, S.D., 2015, The World According to Zircon – Monazite and Apatite Disagree: Goldschmidt Abstracts

140. \*O’Sullivan, G., Chew, D. and Samson, S.D., 2015, Detecting Magma-Poor Orogens in the Detrital Record: Advantages of the U-Pb Apatite System over Zircon: Goldschmidt Abstracts

141. \*Eccles-Maneiro, K, Baxter, E., Samson, S.D. and Marschall, H., 2015, Detrital Garnet Geochronology as a Complement to Detrital Zircon and Monazite Ages from the French Broad River, Southern Appalachians: Goldschmidt Abstracts

142. \*Centeno, C., Samson, S.D. and Salerno, R., 2015, Detrital monazite ages: A tectonic reconstruction tool for past orogenic events? : Geological Society of America

143. Samson, S.D., 2015, One of these things is not like the others: Geological Society of America, NE Section

144. \*Salerno, R. and Samson, S.D., 2015, Detrital monazite ages from Mississippi River alluvium – displays further utility as a successful provenance indicator: Geological Society of America

145. Moecher, D., Samson, S.D., Hietpas, J. and Kelly, E., 2015, Detrital monazite geochronology and textures prove sediment recycling in appalachian clastic systems: Geological Society of America

146. \*Bonich, M., Samson, S.D., Flowers, R , Metcalf, J. and Fedo, C., 2015, Isotopic-thermochronologic characterization of apatite as a new proxy for provenance analysis: Geological Society of America

147. Schwartz, J., Decker, M., Wiesenfeld, J., Klepeis, K., Samson, S.D., Stowell, H.,  and Tulloch, A., 2016, Construction of the Median Batholith, Fiordland, New Zealand: Geological Society of America

148. Samson,S.D. and Moecher, D., 2016, [What caused the ‘Grenville curse’ of detrital zircon studies? Potential mechanisms driving earth’s most zircon-fertile magmatic event](https://gsa.confex.com/gsa/2016AM/webprogram/Paper281955.html): Geological Society of America, Abstracts with Programs #200-1.

149. \*Bonich, M., Samson, S.D., Metcalf, J. and Flowers, R., 2016, Thermochronological and isotopic characterization of single apatite crystals: from magma source to exhumation: Geological Society of America

150. Moecher, D., Samson, S.D., Hietpas, J.,Kelly, E., 2016, Sedimentary recycling and limits on accuracy of detrital zircon provenance analysis: insights from detrital monazite geochronology and textures: Geological Society of America

151. \*Centeno, C., Samson, S.D. and Chew, D., 2016, Detrital titanite U-Pb geochronology in the Mississippi and the Ohio rivers: a tectonic reconstruction tool for past orogenic events? : Geological Society of America

152. \*Bonich, M., Samson, S.D., Metcalf, J., Flowers, R., 2016, Thermochronological and isotopic characterization of single apatite crystals: from magma source to exhumation: Geological Society of America, Abstracts with Programs, #257-12.

153. Samson, S.D., Moecher, D.P., 2016, What caused the ‘Grenville curse’ of detrital zircon studies? Potential mechanisms driving earth’s most zircon-fertile magmatic event: Geological Society of America, Abstracts with Programs, #200-1.

154. Samson, S.D. and Moecher, D., 2017, Recycled and reused or hot and bothered? Exploring the extreme zircon fertility of Grenville (1.2 – 1.0 ga) granites: Geological Society of America Abstracts with Programs. Vol. 49, No. 6
doi: 10.1130/abs/2017AM-300099

155.Moecher, D., Burk, S. and Samson, S.D., 2017 Testing the “hot granite” hypothesis for high-Zr Grenville granites from eastern Laurentia using zircon thermometers: Geological Society of America Abstracts with Programs. Vol. 49,

No. 6. doi: 10.1130/abs/2017AM-305927

156. Samson, S.D., Burk, S., Moecher, D.P., 2017, Inherited, heated, enriched or recycled? Exploring causes of the

 Extreme zircon fertility of Grenville (1.2 – 1.0 Ga) granites: Goldschmidt International Geochemistry

 Conference, Paris, France.

157. \*Makovsky, K., Samson,S.D. and Moecher, D., 2018, Evaluating zircon thermometry using high-Zr Grenville

 granitoids: Geological Society of America Abstracts with Programs.Vol. 50, No. 2. doi: 10.1130/abs/2018NE-

 311275

158. Moecher, D., Samson, S.D., and Tover, E., 2018, Evolution of the Blue Ridge basement complex in the eastern Great

Smoky mountains: Evidence from zircon U-Pb geochronology and Nd-Pb isotope geochemistry of basement

gneisses: Geological Society of America Abstracts with Programs.Vol. 50, No. 3. doi: 10.1130/abs/2018SE-

312157

159. Zotto, S., Moecher, D. and Samson, S.D., 2018, Testing for sedimentary recycling using detrital monazite and zircon

U-Th/Pb and U-Th/He “double-double dating” in Pennsylvanian sandstones of the central Appalachian basin in

eastern Kentucky: Geological Society of America Abstracts with Programs.Vol. 50, No. 3.

doi: 10.1130/abs/2018SE-312268

160. Makovsky, K., Samson,S.D. and Moecher, D., 2019, Magmatism during Grenville (1.14-1.05 ga) orogenesis: did some of earth's hottest granitoids form by melting of chemically primed crust? evidence from Ti contents and Hf isotopes in zircon: Geological Society of America Abstracts with Programs Vol. 51, No. 1.
doi: 10.1130/abs/2019NE-328423

161. Moecher, D. and Samson, S.D, 2019, Differential source fertility and sedimentary recycling: the Achilles heels of accurate detrital zircon provenance analysis – how detrital monazite and muscovite can help heal the heels: Geological Society of America Abstracts with Programs. Vol. 51, No. 5 doi: 10.1130/abs/2019AM-332070

162. Samson, S.D., Kitross, S. and Moecher, D., 2019, Beyond the Zircon Bar Code: Geochronology, Thermochronology and Isotope Composition of Detrital Monazite and Apatite: Goldschmidt International geochemistry Meeting, Barcellona, Spain

163. Moecher, D., Tohver, E., Samson, S.D., 2020, [The end of an era: how Geon 14 came to a close during Geon 13 with the approach of Amazonia and Rodinian collision – evidence from southeastern Laurentia and SW Amazonia](https://gsa.confex.com/gsa/2020AM/meetingapp.cgi/Paper/356305): Geological Society of America Abstracts with Programs. Vol. 52 No. 6, doi: 10.1130/abs/2020AM-356305