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EDUCATION

Ph.D., Geology, Harvard University (1976)
M.A., Geology, Harvard University (1974)
B.A. (*magna cum laude*), Geology, Smith College (1969)

POSITIONS HELD

Consulting Geologist for the Massachusetts Water Resources Authority's Metropolitan Water Tunnel Program (2021 to present)
Research Affiliate, MIT Department of Earth, Atmospheric and Planetary Sciences (until October, 2022)
Professor *Emerita*, Department of Geosciences, Wellesley College (2008 to present)
Professor, Department of Geosciences (1992-2007)
Associate Professor of Geology, Wellesley College (1982-1992)
Assistant Professor of Geology, Wellesley College (1976-1981)

HONORS

Fellow of the Geological Society of America (2008)
Pinanski Prize for excellence in teaching, Wellesley College (1987)

SELECTED PAPERS

- Thompson, M.D.**, Crowley, J.L., and Ramezani, J., 2025, New dimensions of Ediacaran magmatism in the southeastern New England Avalon zone, USA, *in* Atlantic Geoscience Special Series "In recognition of the geological career of Sandra M. Barr," Atlantic Geosciences, v. 61, p. 225-251. [https://doi.org/10.1130/2022.2554\(03\)](https://doi.org/10.1130/2022.2554(03)).
- Thompson, M.D.**, Barr, S.M. and Pollock, J.C., 2022, Evolving views of West Avalonia: Perspectives from southeastern New England, USA, *in* Kuiper, Y.D., Murphy, J.B., Nance, R.D., and **Thompson, M.D.**, eds., Geological Society of America Special Paper 554, *New Developments in the Appalachian-Caledonian-Variscan orogen*, p. 47-72. [https://doi.org/10.1130/2022.2554\(03\)](https://doi.org/10.1130/2022.2554(03)).
- van Staal, C.R. Barr, S.M, McCausland, P.J.M., **Thompson, M.D.**, and White, C.E., 2021, Tonian-Ediacaran tectonomagmatic evolution of West Avalonia and its Ediacaran-early Cambridge interactions with Ganderia: An example of complex terrane transfer due to arc-arc collision? *in* Murphy, J.B., Strachan, R.A., and Quesada, C., eds., *Pannotia to Pangaea: Neoproterozoic and Paleozoic orogenic cycles in the circum-Atlantic region*: Geological Society of London Special Publication 503, doi.org/10.1144/SP503-2020-23
- Thompson, M.D.**, and Crowley, J.L., 2020, Avalonian arc-to-platform transition in southeastern New England: U-Pb geochronology and stratigraphy of Ediacaran Cambridge "argillite", Boston Basin, USA: *American Journal of Science*, v. 320, p. 405-449.

- Thompson, M.D.**, Ramezani, J., and Grunow, A.M., 2018, Within-plate setting of Paleozoic alkalic suites in southeastern New England, USA: Constraints from chemical abrasion-TIMS U-Pb geochronology and paleomagnetism: *Journal of Geology*, v. 1126, p. 41-61.
- Kuiper, Y.D., **Thompson, M.D.**, Barr, S.M., White, C.W., Hepburn, J.C. and Crowley, J.L., 2018, Detrital zircon evidence of Paleoproterozoic West African crust along the eastern North American continental margin, Georges Bank, offshore Massachusetts, USA: *Geology*, v. 45, p. 812-814, doi:10.1130/G39203.1
- Thompson, M.D.**, Ramezani, J., and Crowley, J.L., 2014, U-Pb zircon geochronology of Roxbury Conglomerate, Boston Basin, Massachusetts: Tectono-stratigraphic implications for Avalonia in and beyond SE New England: *American Journal of Science*, v. 314, p. 1009-1040.
- Thompson, M.D.**, Barr, S.M., and Grunow, A.M., 2012, Avalonian perspectives on Neoproterozoic paleogeography: Evidence from Sm-Nd isotope geochemistry and detrital zircon geochronology in SE New England USA: *Geological Society of America Bulletin*, v. 124, p. 517-531.
- Thompson, M.D.**, Ramezani, J., Barr, S.M., and Hermes, O.D., 2010, High precision U-Pb zircon dates for Ediacaran granitoid rocks in SE New England: revised magmatic chronology and correlation with other Avalonian terranes *in* Tollo, R.P., Bartholomew, M.J., Hibbard, J.P. and Karabinos, P.M., eds., *From Rodinia to Pangea: The lithotectonic record of the Appalachian region*: Geological Society of America Memoir 206, p. 231-250.
- Thompson, M.D.**, Grunow, A.M., and Ramezani, J., 2010, Cambro-Ordovician paleogeography of the Southeastern New England Avalon Zone: Implications for Gondwana break-up: *Geological Society of America Bulletin*, v. 122, p. 76-88.
- Thompson, M.D.**, Grunow, A.M., and Ramezani, J., 2007, Late Neoproterozoic paleogeography of the Southeastern New England Avalon Zone: Insights from U-Pb geochronology and paleomagnetism: *Geological Society of America Bulletin*, v. 119, p. 681-696.
- Thompson, M.D.**, and Bowring, S.A., 2000, Age of the Squantum "Tillite," Boston Basin, Massachusetts: U-Pb zircon constraints on terminal Neoproterozoic glaciation: *American Journal of Science*, v. 300, p. 630-655.

RECENT ABSTRACTS

- Thompson, M.D.**, Crowley, J.L., and Ramezani, J., 2026, Tectonostratigraphy of southeastern New England: Affinities within and beyond West Avalonia: *Geological Association of Canada-MAC*
- Thompson, M.D.**, Crowley, J.L., and Ramezani, J., 2026, Tectonostratigraphic Implications of Early Ediacaran Sedimentary sequence in the Boston Basin, eastern Massachusetts. <https://gsameetings.secureplatform.com/ne26/solicitations/103009/sessiongallery/schedule/items/96020/application/12303>
- Thompson, M.D.**, and Crowley, J.L., 2024, West Avalonian affinity of plutons in southeastern-most New England, USA: *Geological Society of America Abstracts with Programs*, v. 56, no. 1. doi: 10.1130/abs/2024NE-396880
- Thompson, M.D.**, 2022, Geochronological updates on undifferentiated gabbros and diorites in southeastern New England, USA: *Geological Society of America Abstracts with Programs*, v. 54, no. 3, p. ?? doi: 10.1130/abs/2022NE-373617
- Turner, H., Baughman, J.S., Ault, A.A., and **Thompson, M.D.**, 2021, Burial and exhumation of the New England Avalon terrane coincident with Alleghanian orogenesis and continental breakup documented with zircon and apatite (U-Th)/He thermochronometry: AGU Fall Meeting, Session T012.

Thompson, M.D., Barr, S.M., and White, C.E., 2021, African affinity of Tonian detrital zircon in Avalonia of southeastern New England, USA?: Geological Society of America Abstracts with Programs, v. 53, no. 1, doi: 10.1130/abs/2021NE-361564

Thompson, M.D., and Crowley, J.L., 2020, Evolving views of Avalonia in southeastern New England: Perspectives from Ediacaran Cambridge "argillite", eastern Massachusetts: Geological Society of America Abstracts with Programs, v. 52, no. 2, doi: 10.1130/abs/2020SE-343449