

Professor
Unit Head
Department of Geology
Grand Valley State University

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Education

1999 **Ph.D.** Northern Illinois University, DeKalb, Illinois, USA, Geology
1994 **M.S.** Middle East Technical University, Ankara, Turkey, Geol. Engineering
1991 **B.S.** Middle East Technical University, Ankara, Turkey, Geol. Engineering

Professional Experience

Grand Valley State University

2012 - Present
2005 - 2012
2000 - 2005
1999 - 2000

Department of Geology

Professor
Associate Professor
Assistant Professor
Visiting Assistant Professor

Princeton University

Fall, 2013

Department of Geosciences

Visiting Fellow (Sabbatical Leave)

University of British Columbia

July, 2008
May - June, 2007
Apr. - June, 2006
Sep. - Dec. 2005

Department of Earth & Ocean Sciences

Visiting Scientist
Visiting Scientist
Visiting Scientist
Visiting Scientist (Sabbatical Leave)

Woods Hole Oceanographic Institution

Summer 2004
Summer 2001

Department of Marine Chemistry

Visiting Scientist
Visiting Scientist

Northern Illinois University

1997 - 1999
1996 - 1997
1994 - 1996

Department of Geology & Environmental Geosciences

Instructor
Head Teaching Assistant
Teaching Assistant

Middle East Technical University

1991-1994

Department of Geological Engineering

Teaching Assistant for Micropaleontology
and Field Geology

Awards

PEW Teaching Excellence Award, Grand Valley State University, Feb. 11, **2020**.

20-Year Service Award, Grand Valley State University, Dec. 3, **2019**.

Outstanding Volunteer Award of the Global Environmental Change Focus Group,
American Geophysical Union, Dec 12, **2016**

Distinguished Contribution in a Discipline, *Grand Valley State University*, Feb. 6, **2014**.

Annual Outstanding Faculty Service Award, College of Liberal Arts and Sciences, *Grand Valley State University*, April, **2010**.

Go Fly a Kite Award for scholars whose research is daring in its approach and cutting-edge in nature with long-lasting benefits. *Presented by the Office of Grants Development and Administration, Grand Valley State University*. March 26, **2009**.

Teaching Honor: Last Lecture Series Nomination and Award, *Student-nominated honor for teaching where the nominated professor gives a 40-minute lecture to the student body as if this were the last lecture in the professor's teaching career. Grand Valley State University*. November 29, **2007**.

Michigan Science Olympiad Regional Tournament Award for Leadership and Continuing Service, *Grand Valley State University*. April, **2006**.

Courses Taught at Grand Valley

Exploring the Earth (introductory geology)
Oceans (freshmen ocean science)
Earth History
Environmental Geology
Living with the Great Lakes
Plate Tectonics
Earth Surface Systems and Materials (sophomore level)
Invertebrate Paleontology (senior level elective)
Oceanography (senior level elective)

Graduate Defense Committees Served

Bart de Baere, **University of British Columbia**, Vancouver, British Columbia, dissertation in progress.

Mathieu Richaud, **Northern Illinois University**, DeKalb, Illinois, dissertation defended in 2006.

Undergraduates Mentored in Funded Research

J. Woudstra

B. Adkins

L. Raterink

J. Deloge

N. Noll

R. Mulligan

E. Naughton

M. Wicker

S. Clark

C. Vanderboon

J. Cutting

M. Russo

K. Coveney

J. Newman

A. Brady

B. Ward

A. Vickers

J. Howlett

C. Garnsey

M. Collins

D. Wilcox

V. Voisin

M. Fischer

Peer-Reviewed Scientific Publications

(Excluding conference abstracts)

* denotes undergraduate co-author

Citation information is from the Thomson Reuters Web of Knowledge (February, 2020)

Articles in Preparation

Mekik, A. F. Student misconceptions in freshmen level oceanography and climate science, manuscript in preparation to be submitted to *Journal of Geoscience Education*

Mekik A. F., Carbonate dissolution in deep sea sediments of all water depths: aragonite and calcite dissolution proxies.

Mekik, A. F., Hertzberg, J. and M. Russo*, Can foraminifer-based proxies discriminate between surface ocean $[\text{CO}_3^{2-}]$ and CaCO_3 dissolution in deep sea sediments, manuscript in preparation.

Articles/Journal Volumes Published

Mekik, F. and Winkelstern, I., 2020. Field testing the fidelity of $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$ in reconstructing upper ocean hydrography. *Paleoceanography and Paleoclimatology*, <https://doi.org/10.1029/2020PA003880>.

Costa, Kassandra M.¹; Hayes, Christopher M.²; Anderson, Robert F.^{3,4}; Pavia, Frank J.^{3,4,5}; Bausch, Alexandra^{3,4,6}; Deng, Feifei⁷; Dutay, Jean-Claude⁸; Geibert, Walter⁹; Heinze, Christoph¹⁰; Henderson, Gideon⁷; Hillaire-Marcel, Claude¹¹; Hoffmann, Sharon¹²; Jaccard, Samuel L.¹³; Jacobel, Allison W.^{14,15}; Kienast, Stephanie S.¹⁶; Kipp, Lauren^{3,16}; Lerner, Paul¹⁷; Lippold, Jörg¹⁸; Lund, David¹⁹; Marcantonio, Franco²⁰; McGee, David²¹; McManus, Jerry F.^{3,4}; **Mekik, Figen**²²; Middleton, Jennifer L.³; Missiaen, Lise²³; Not, Christelle²⁴; Pichat, Sylvain^{25,26}; Robinson, Laura F.²⁷; Rowland, George H.²⁷; Roy-Barman, Matthieu⁸; Tagliabue, Alessandro²⁸; Torfstein, Adi^{29,30}; Winckler, Gisela^{3,4}; Zhou, Yuxin^{3,4}, 2020. ²³⁰Th normalization: New insights on an essential tool for quantifying sedimentary fluxes in the modern and Quaternary ocean, *Paleoceanography and Paleoclimatology*. <https://doi.org/10.1029/2019PA003820>.

Rongstad, B., Marchitto, T., Marks, G., Koutavas, T., **Mekik, F.**, and Ravelo, A., 2019. Investigating ENSO-related temperature variability in equatorial Pacific core-tops using Mg/Ca in individual planktic foraminifera, *Paleoceanography and Paleoclimatology*, <https://doi.org/10.1029/2019PA003774>.

Mekik, A. F., 2018. Do proxies agree? $\delta^{18}\text{O}$, $\delta^{13}\text{C}$ and Mg/Ca from tests of *Neogloboquadrina dutertrei* in the eastern equatorial Pacific, *Geochimica et Cosmochimica Acta*. doi: 10.1016/j.gca.2018.03.005
Geochimica et Cosmochimica Acta is an Elsevier journal.
Cited in peer reviewed scientific literature: **0** times

Mekik, A. F. and Anderson, R., 2018. Is the core top modern? Observations from the Eastern Equatorial Pacific, *Quaternary Science Reviews*. 10.1016/j.quascirev.2018.01.020
Quaternary Science Reviews is an Elsevier journal.
Cited in peer reviewed scientific literature: **2** times

Mekik, F. A., 2014. Radiocarbon dating of planktonic foraminifer shells: A cautionary tale, *Paleoceanography*, Vol. 29, doi:10.1002/2013PA002532.
Paleoceanography is a journal of the American Geophysical Union.
Cited in peer reviewed scientific literature: **15** times

- Mekik, F. A.** 2012. Earth Systems. Series Editor, *Nature Education Knowledge Project*.
<http://www.nature.com/scitable/knowledge/earth-systems-40378443>
Scitable and *Nature Education* are on-line educational outreach sites of the *Nature Publishing Group*.
- Mekik, F. A.**, 2012, INVITED Deep Sea Research: Book Review, *EOS*, Vol. 93, No. 17, p. 173.
(April 24, 2012)
EOS is the scientific newspaper of the American Geophysical Union.
- Mekik, A. F.**, R. Anderson, P. Loubere, R. François, and M. Richaud. 2012. The Mystery of the Missing Deglacial Carbonate Preservation Maximum, *Quaternary Science Reviews*, Vol. 39, p. 60-72. doi10.1016/j.quascirev.2012.01.024.
Quaternary Science Reviews is an Elsevier journal.
Cited in peer reviewed scientific literature: **25** times
- Mekik, A. F.**, N. Noll*, and M. Russo*, 2010. Progress Toward a Multi-Basin Calibration for Quantifying Deep Sea Calcite Preservation in the Tropical/Subtropical World Ocean, *Earth and Planetary Sciences Letters* doi: 10.1016/j.epsl.2010.08.024.
Earth and Planetary Science Letters is an Elsevier journal.
Cited in peer reviewed scientific literature: **15** times
- Meric, E., N. Avsar, F. **Mekik**, B. Yokes, I. Barut, D. Ozcan, S. Fikret, F. Yucesoy-Eryilmaz, M. Eryilmaz, F. Dincer, and E. Kam, 2009. Abnormal tests formations observed in the benthic foraminifers from recent sediments of Alibey and Maden Islands (Ayvalik – Balıkesir). *Turkiye Jeoloji Bulteni*, 52/1, 31-84, Z00R14509059662.
Turkiye Jeoloji Bulteni is the journal of the Turkish Geological Society.
Cited in peer reviewed scientific literature: **9** times
- Mekik, A. F.** and L. Raterink*, 2008. Effects of surface ocean conditions on the quantification of deep sea calcite dissolution in the tropical Pacific, *Paleoceanography*, 23, PA1216, doi:10.1029/2007PA001433.
Paleoceanography is a journal of the American Geophysical Union.
Cited in peer reviewed scientific literature: **14** times
- Mekik, A. F.**, R. François, and M. Soon, 2007. A novel approach to dissolution correction of Mg/Ca paleo-thermometry in the tropical Pacific, *Paleoceanography*, 22, PA3217, doi:10.1029/2007PA001504.
Paleoceanography is a journal of the American Geophysical Union.
Cited in peer reviewed scientific literature: **32** times

- Mekik**, A. F., P. Loubere and M. Richaud, 2007. Rain Ratio Variation in the Tropical Ocean: Tests with Surface Sediments in the Eastern Equatorial Pacific. *Deep Sea Research II*, doi:10.1016/j.dsr2.2007.01.010.
Deep Sea Research is an Elsevier journal.
Cited in peer reviewed scientific literature: **14** times
- Mekik** A. F., and R. François, 2006. Tracing deep sea carbonate dissolution: Agreement between the *G. menardii* fragmentation index and elemental ratios (Mg/Ca and Mg/Sr) in planktonic foraminifers. *Paleoceanography*, 21, PA4219, doi:10.1029/2006PA001296.
Paleoceanography is a journal of the American Geophysical Union.
Cited in peer reviewed scientific literature: **19** times
- Loubere, P., A. F. **Mekik**, R. François, and S. Pichat, 2004. Export fluxes of calcite in the eastern equatorial Pacific from the Last Glacial Maximum to present, *Paleoceanography*, 19, doi.10.1029/2003PA000986.
Paleoceanography is a journal of the American Geophysical Union.
Cited in peer reviewed scientific literature: **62** times
- Loubere, P., Z. Liu, M. Richaud, and F. **Mekik**, 2003. Oceanic conditions in the eastern equatorial Pacific during the onset of ENSO in the Holocene, *Quaternary Research*, 60, 142-148.
Quaternary Research is an Elsevier journal.
Cited in peer reviewed scientific literature: **27** times
- Mekik**, A. F., P. Loubere, and D. Archer, 2002. Organic carbon flux and organic carbon to calcite flux ratio recorded in deep sea carbonates: demonstration and a new proxy, *Global Biogeochemical Cycles*. vol. 16, doi.10/1029/2001GB001634.
Global Biogeochemical Cycles is a journal of the American Geophysical Union.
Cited in peer reviewed scientific literature: **40** times
- Carter, E., P. Whalen and F. **Mekik**, 2002. (editors) Micropaleontology of Radiolarians, Proceedings of INTERRAD IX, *Micropaleontology*, vol. 48, Supplement No. 1.
Micropaleontology is a journal of the American Museum of Natural History.
- Mekik**, A. F., 2000. Early Cretaceous Pantanelliidae (Radiolaria) from Northwest Turkey, *Micropaleontology*, Vol. 46, no.1: 1-30.
Micropaleontology is a journal of the American Museum of Natural History.
Cited in peer reviewed scientific literature: **17** times

Mekik, A. F. and Loubere, P., 1999. Hypothetical experiments with quantitative paleo-estimation: extrapolation and the no-analog problem. *Marine Micropaleontology*, vol. 36/4: 225-248.

Marine Micropaleontology is an Elsevier journal.

Cited in peer reviewed scientific literature: **5** times

Mekik, A. F., Ling, H.Y., Özkan-Altiner, S. and Altiner, D., 1999. Preliminary radiolarian biostratigraphy across the Jurassic-Cretaceous Boundary from northwestern Turkey. In De Wever P. & Caulet J.-P. (eds), InterRadIII, Paris/Bierville 8,13 September 1997, *Geodiversitas*, 21 (4): 715-738.

Geodiversitas is a journal of the French National Museum of Natural History.

Cited in peer reviewed scientific literature: **5** times

Invited Talks

(Outside Grand Valley State University)

Northern Illinois University, Department of Geology and Environmental Geoscience, *Colloquium Presentation*: “Quantifying Marine Carbonate Dissolution: A Thorny Problem with Many Surprises”, September 5, 2014

University of Miami, Rosenstiel School of Marine Science, *GEOTOPICS Seminar*: “The Deglacial Carbonate Preservation Maximum Should Be Best Observed in Tropical/Subtropical Cores: So Why is it Missing?” March 5, 2014

Texas A & M University, Department of Oceanography, College Station, Texas, *Colloquium Presentation*: “Does Ocean Carbonate Chemistry Explain the Deglacial Rise in Atmospheric CO₂?” February 17, 2014.

Princeton University, Department of Geosciences, *Paleoceanography and Geochemistry Lab Meeting*: “The World in a Grain of Sand” Princeton, New Jersey, October 4, 2013.

Northwestern University, Department of Earth and Planetary Sciences. Evanston, Illinois. *Colloquium Presentation*: Deglacial Deep Sea Ventilation: A View from the Ocean Bottom, May 8, 2009.

Center for Inquiry, Grand Rapids, Michigan. Global Warming is Your Fault, January 14, 2009.

Columbia University, Lamont Doherty Earth Observatory, Palisades, New York, *Colloquium Presentation*: Deglacial Deep Sea Ventilation Hypothesis: Where is the Carbonate Preservation Maximum? October 27, 2008.

Science Café, Grand Rapids, MI: Sea Level Rise: An Unstoppable Consequence of Global Warming, September 16, 2008.

Dalhousie University, Department of Oceanography, *Colloquium Presentation*: The Great Ocean Carbonate Buffer: Mysteries from the Deeps. March 18, 2008.

- Rutgers University**, Department of Earth and Planetary Sciences: Mg/Ca in surface and thermocline-dwelling planktonic foraminifers: Relative contributions from calcification temperature and post-depositional calcite dissolution. April 11, 2007.
- Chapman Conference** of the American Geophysical Union on the Role of Marine Organic Carbon and Calcite Fluxes in Driving Global Climate Change, Past and Future, Woods Hole, MA: Reconstructing the Rain Ratio in the Eastern Equatorial Pacific.. July 24, 2005.
- 5th Annual Conference on Turkish Stratigraphy and Paleontology**, Urgup, Turkey: Anthropogenic CO₂ Emissions and the Global Carbon Cycle. Sep. 19-27, 2004.

(Within Grand Valley State University)

- College of Liberal Arts and Sciences Faculty Colloquium**, Allendale, Michigan. Mar. 17, 2016.
- College of Liberal Arts and Sciences Faculty Colloquium, Special Colloquium on Climate Change**, Allendale, Michigan. Jan. 19, 2012.
- College of Liberal Arts and Sciences Faculty Colloquium**, Allendale, Michigan. Jan. 20, 2011.
- Annis Water Resources Institute**, Muskegon, Michigan. Special Topics Presentation: Deglacial Deep Sea Ventilation Hypothesis: How are Deep Sea Carbonates Responding?, Nov. 9, 2010.
- Student Environmental Coalition**, Environmental Awareness Week Speaker, April 5, 2010.
- Geo-Club Faculty Speaker** (invitation by students), Geology Department, December 7, 2009.
- Chemistry Summer Journal Club**, June 16, 2009.
- Water Resources Institute**, Muskegon, Michigan. *Colloquium Presentation* Isn't Photosynthesis Enough to Curb Global Warming? Sources, Sinks and Fluxes of CO₂ Through Geologic Time. April 30, 2009.

External Funding

** denotes undergraduate co-author*

- Ward, B. M.* and F. Mekik, 2015. Multiproxy Approach for Testing the Deglacial Global Alkalinization Hypothesis. \$2,500 **NASA Michigan Space Grant Consortium**. *Awarded*
- Vickers, A. C.* and F. Mekik, 2015. Accurately Estimating Rates of Climate Change in Earth's Past. \$2,500 **NASA Michigan Space Grant Consortium**. *Awarded*
- Mekik, F., 2012. Carbonate preservation in pelagic sediments: Developing a new aragonite preservation proxy, \$87,087, **National Science Foundation**. OCE1219739. *Awarded*.

- Mekik, F., 2008. A Multi-Proxy Search for the Deglacial Deep Sea Carbonate Preservation Maximum. \$84,029. Collaborative with Bob Anderson at Lamont Doherty Earth Observatory. **National Science Foundation**. OC0825280 *Awarded*.
- Mekik, F., 2003. RUI: Quantifying Calcite Flux and the Organic Carbon to Calcite Flux Ratio in the Tropical and Subtropical World Ocean. \$92,174 **National Science Foundation** OCE0326686. *Awarded*.
- Mekik, F., 2001. Oceanic regulation of atmospheric CO₂ in the eastern equatorial Pacific over the last 150,000 years. \$8,000 **Michigan Space Grant Consortium of NASA** and Grand Valley State University (matching grant). *Awarded*.

Internal Funding

** denotes undergraduate co-author*

- Mekik F., 2016. An Inter-Lab Comparison of Boron Isotope Data from Fossil Shells of Planktonic Foraminifera: Developing a Method to Estimate the Acidity of Seawater in Earth's Past, CSCE Catalyst Grant, Grand Valley State University, \$3,000.00, *Awarded*.
- Mekik, F. and S. Clark* 2009 Estimating Sea Surface Temperatures for the Earth's Past. \$6,000. Student Summer Scholars Program, GVSU. *Awarded*
- Mekik, F., 2008. Deglacial Water Column Structure and Dynamics in the Eastern Equatorial Pacific Ocean. \$3,000 Grand Valley State University, Research and Development Center, Research Grant-in-Aid Fall. *Awarded*.
- Mekik, F., 2003. Quantifying rain rate for different kinds of calcite in deep-sea sediments. \$2,027 Grand Valley State University, Research and Development Center, Research Grant-in-Aid Fall. *Awarded*.
- Mekik, F., 2001. Determining the timing of closure of the northern branch of the Tethys Ocean. \$5,000. Grand Valley State University, Research and Development Center, Research Stipend. *Awarded*.
- Mekik, F., 2001. Determining the timing of closure of the northern branch of the Tethys Ocean. \$2,525. Grand Valley State University, Research and Development Center, Research Grant-in-Aid. *Awarded*.

Invited Editorship

- [1] Paleoceanography/Paleoclimatology recommending editor to *EOS*. (2012-present)
- [2] Series Editor for "Earth Systems" at *Nature Education Knowledge Project*
<http://www.nature.com/scitable/knowledge/earth-systems-40378443>
- [3] Co-Editor for special volume of *Micropaleontology* for INTERRAD IX

Competitive Scientific Workshops Attended

- Paleo-CO₂ Workshop**, Lake Arrowhead, CA. May 29-31, 2018. Travel, lodging and participation funded by the National Science Foundation.
- U.S. Ocean Acidification Principle Investigators Meeting**, Washington, DC, Gallaudet University's Kellogg Conference Center September, 18-20, 2013. . Funded by the National Science Foundation.
- Gordon Research Conference on Chemical Oceanography** Linking the Time and Space Scales of Chemical Oceanography; Proctor Academy, Andover, New Hampshire. August 14-19, 2011. (Seats are limited; applications to attend the conference are accepted on a competitive basis.)
- Paleo-Ocean Acidification and Carbon Cycle Perturbation Events**. Catalina Island, CA, August 26-29, 2010. (Participation was based on a competitive selection process). Travel, lodging and participation funded by NSF (National Science Foundation) and PAGES (Past Global Changes Project).

Published Scientific Abstracts

** denotes undergraduate co-author*

- Mekik, F.**, J. Hertzberg, M. Schmidt, and J. Patten, 2019. A multi basin calibration of the Mg/Ca paleothermometer corrected for habitat depth and test dissolution. AGU Fall Meeting San Francisco, CA.
- Mekik, F.**, 2018. Correcting for the effect of [CO₃²⁻] of habitat waters on the δ¹⁸O of *Neogloboquadrina dutertrei*: A reconstruction of deep chlorophyll maximum temperatures in the eastern equatorial Pacific between the Holocene and the Last Glacial Maximum. AGU Fall Meeting Washington, DC.
- Rongstad B., Marchitto, T., Koutavas, A., and **Mekik, F.**, 2018. Calibrating a Method for Reconstructing Total and Interannual (ENSO) Variability in the Equatorial Pacific Using Mg/Ca in Individual Planktic Foraminifera. AGU Fall Meeting Washington, DC.
- Mekik, F.**, 2017. Test geochemistry of *Neogloboquadrina dutertrei* reveals a deglacial shoaling of the deep chlorophyll maximum in the eastern equatorial Pacific. AGU Fall Meeting, New Orleans.
- Collins, M.,* **Mekik, F.**, Hertzberg, J., Schmidt, M., 2017. A new multi-basin calibration for estimating paleo-temperature using Mg/Ca from tests of *Neogloboquadrina dutertrei*. AGU Fall Meeting, New Orleans.
- Rongstad B., Marchitto, T., Koutavas, A., and **Mekik, F.**, 2017. Calibrating a method for reconstructing ENSO variance in the Eastern Tropical Pacific using Mg/Ca in individual planktic foraminifera. AGU Fall Meeting, New Orleans.

- Mekik, F.**, 2016. Is the Core Top Really Modern? A Story of Chemical Erosion, Bioturbation, and Lateral Sediment Redistribution from the Eastern Equatorial Pacific. San Francisco, CA: American Geophysical Union.
- Mekik, F.**, Pourmand A., and Ward, B. M., 2015. *Foraminifer Shell Weight and Fragmentation: A Quantitative Study of the Influence of Temperature, [CO₂]- and Dissolution on Proxies of the Marine Carbonate System*. San Francisco, CA: American Geophysical Union.
- Howlett, J. and **Mekik F.**, 2015. *Mn/Ca and Fe/Ca data from multiple species of planktonic foraminifers from the equatorial Pacific and subtropical South Atlantic: Indicators of surface ocean productivity, diagenesis of the shells, or both?* San Francisco, CA: American Geophysical Union.
- Vickers, A. C. and **Mekik F.**, 2015. *Radiocarbon Age Offsets Among co-Existing Foraminifers: Effects of Bioturbation, Dissolution, and Sediment Redistribution*. San Francisco, CA: American Geophysical Union, 2015.
- Ward, B.M., **Mekik, F.** and Pourmand, A., 2015. *Testing the Deglacial Global Ocean Alkalinization Hypothesis Using Foraminifer-based Mg/Ca, Shell Weight, and MFI*. San Francisco, CA: American Geophysical Union, 2015.
- Mekik, F.**, 2014. How do test size and dissolution modify stable isotope ratios and Mg/Ca in planktonic foraminifer tests - a quantitative analysis. AGU Fall Meeting, San Francisco CA.
- Brady, A.* and F. **Mekik.** 2014. Effects of bioturbation and calcite dissolution on radiocarbon dating of co-existing planktonic foraminifers in cores from the tropical Pacific. Michigan Academy of Sciences, Abstracts.
- Mekik, F. A.**, 2013. Carbonate Preservation in Pelagic Sediments: Developing a New Carbonate Preservation Proxy, NSF Ocean Acidification Principal Investigators Meeting, Washington, DC.
- Mekik, F. A.**, 2013. Using Pteropod shells to trace aragonite dissolution: Toward a multi-basin calibration. AGU Fall Meeting, San Francisco CA.
- Coveney, K. * and F. **Mekik.**, 2013. Carbonate preservation Through the Deglaciation: Was the sea really more alkaline? AGU Fall Meeting, San Francisco CA.
- Newman, J.* and F. **Mekik**, 2013. Mg/Ca paleothermometry of the tropical/subtropical Atlantic Ocean using *Globorotalia menardii* fragmentation index to correct for calcite dissolution: Progress toward a global dissolution corrected calibration AGU Fall Meeting, San Francisco CA.
- Brady, A.* and F. **Mekik.** 2013. Effects of Sediment Redistribution and Calcite Dissolution on Radiocarbon Dating of Planktonic Foraminifers in Cores from the Tropical Pacific. AGU Fall Meeting, San Francisco CA.
- Mekik, F.** 2012. Radiocarbon age modeling: dissolution, bioturbation and sediment redistribution, AGU Fall Meeting, San Francisco CA.

- Mekik, F.**, 2011. Can we tell the difference between carbonate chemistry of the surface ocean and the sediments in the last 21,000 years? Tools, proxies and caveats, AGU Fall Meeting, San Francisco CA.
- Mekik, F.**, 2011. Catching misconceptions and misinformation about ocean/climate science among college students: a long record of pre and post exams, AGU Fall Meeting, San Francisco CA.
- Mekik, F.**, 2011. Tracing carbonate dissolution within marine sediments of all water depths, Gordon Research Conference on Chemical Oceanography, Andover, NH.
- Russo, M.* and F. **Mekik**, 2010. The difference between surface ocean carbonate chemistry and calcite dissolution in deep sea sediments as observed in tests of *Globorotalia menardii*, AGU Fall Meeting, San Francisco CA.
- Mekik, F.** 2010. Combining calcite dissolution proxies with aragonite dissolution proxies to trace carbonate dissolution throughout the entire water column: An experiment with foraminifers and pteropods, AGU Fall Meeting, San Francisco CA.
- Clark, S.*, F. **Mekik**, M. Kienast and J. Groeneveld, 2009. Tropical Pacific Mg/Ca paleothermometry: A Contribution to the Core-top Calibration, AGU Fall Meeting, San Francisco CA.
- Vander Boon, C.*, and F. **Mekik**, 2009. Quantifying Calcite Dissolution in Shallow Pelagic Seas: A New Aragonite Dissolution Proxy, AGU Fall Meeting, San Francisco CA.
- Wicker, M. A.*, F. **Mekik**, and R. Anderson, 2009. Mixed Messages from Multiple Proxies: Is There a Deglacial Carbonate Preservation Peak? AGU Fall Meeting, San Francisco CA.
- Mekik, F.**, and R. Anderson, 2009. Ventilation of the Deeps During the Deglaciation: Records from Tropical and Subtropical Cores. AGU Fall Meeting, San Francisco CA.
- Mekik, F.** and M. Kienast. 2008. Comparing changes in sea surface and thermocline temperatures between the western and eastern equatorial Pacific since the Last Glacial Maximum. AGU Fall Meeting, San Francisco CA.
- Ridgwell, A.R., **Mekik F.**, and D. Schmidt. 2008. Models are not just for Christmas. AGU Fall Meeting, San Francisco, CA.
- Mekik, F. A.**, R. Anderson, and A. Ridgwell. 2008. In Search of the Deglacial Carbonate Preservation Maximum: Why is it Missing? Goldschmidt Conference, University of British Columbia, Vancouver Canada.
- Mekik, F. A.**, M. Kienast, S. Kienast, R. Francois, P. Loubere and A. Mix, 2007. Deglacial sea surface and deep chlorophyll maximum temperature variations in the eastern equatorial Pacific: implications for regional paleoceanography, AGU Fall Meeting, San Francisco, CA.
- Francois, R. **Mekik F. A.**, N. Noll*, 2007. Multi-proxy reconstruction of deep sea calcite dissolution from the subtropical South Atlantic Ocean: foraminifer fragmentation, shell weight and Mg/Ca. AGU Fall Meeting, San Francisco, CA.

- Mekik**, F. A., 2007. Rethinking the Meaning of Success in Academia: Strategies of a Female Scientist from a Far – Away Land. AGU Fall Meeting, San Francisco, CA.
- Mekik**, F. A. and R. François, 2006. Mg/Ca in planktonic foraminifers: A dual proxy for deep sea calcite dissolution and water temperature both at the sea surface and at thermocline depths, AGU Fall Meeting, San Francisco, CA.
- Mekik**, F. A., François, R., Loubere, P., Ridgwell, A. 2006. Is Carbonate Compensation from the Last Deglaciation Responsible for the Gradual Increase in Atmospheric pCO₂ During the Holocene? Ocean Sciences Meeting, AGU, ASLO, TOS, Honolulu, HI.
- Mekik**, F. A., 2005. Modeling Deep Sea Delta Calcite in the Eastern Equatorial Pacific Over the Last 25,000 Years: Normalizing Sedimentation Rate with Excess ²³⁰Thorium Activity, or Not? AGU Fall Meeting, San Francisco, CA.
- Mekik**, F. A., Loubere, P., François, R., Richaud, M., 2005. *INVITED* Reconstructing the Rain Ratio in the Eastern Equatorial Pacific. AGU Chapman Conference on the Role of Marine Organic Carbon and Calcite Fluxes in Driving Global Climate Change, Past and Future, Woods Hole, MA.
- Mekik**, F. A., Loubere, P. W., Archer, D. E., 2004. Does the Rain Ratio Reign in the Eastern Equatorial Pacific? In search of the Ideal Carbonate Dissolution Index and Changes in Bottom Water Carbonate Ion Saturation over the Last 25,000 years, AGU Fall Meeting, San Francisco, CA.
- Mekik**, F. A., 2004 *INVITED* Anthropogenic CO₂ Emissions and the Global carbon Cycle, 5th Annual Conference on Turkish Stratigraphy and Paleontology, Urgup, Turkey, Sep. 19-27.
- Mekik**, F. A., Loubere, P. W., and Archer, D., 2004. Reconstructing Changes in Deep Sea [CO₃⁼] in the EEP Over the Last 25000 Years, International Conference on Paleoceanography - 8, Biarritz, France.
- Mekik**, F. A., Loubere, P.W., and Archer, D., 2003. Testing Methods for Reconstruction of Degree of Calcite Saturation / Changes in Carbonate Ion Concentration in the Deep Sea Over the Last 25000 Years. AGU Fall Meeting.
- Loubere, W. P., **Mekik**, F., François, R., and Pichat, S., 2003. Normalization for Sediment Redistribution Yields Entirely Different Biogenic Fluxes for the LGM to Present in the Eastern Equatorial Pacific. AGU Fall Meeting.
- Riemersma, P. and **Mekik**, F. A., 2003. Promoting Undergraduate Research at Grand Valley State University, AGU Fall Meeting.
- Loubere, W. P. and **Mekik**, F. 2003. Tropical Pacific Biogeochemical Role in Global Climate Change Constrained by the Southern Ocean, GSA Annual Meeting, Seattle, WA.
- Mekik**, A. F., Loubere, P., Archer, D., and François, R. 2002. Reconstructing Open Ocean Calcite Fluxes for the Eastern Equatorial Pacific [EEP]: LGM to Present, AGU, Fall Meeting.

- Loubere, P., Archer, D. and **Mekik**, F., 2002. New Mechanism for Tropical Ocean Influence on the Marine Carbon Cycle and Atmospheric CO₂, AGU, Fall Meeting.
- Loubere, W. P. and **Mekik**, F., 2002. Reconstruction of Paleo-Productivity and Paleo-Calcite Flux for the Eastern Equatorial Pacific: Proxy Comparisons. AGU Ocean Sciences Meeting, Honolulu, Hawaii.
- Mekik**, A. F., Loubere, P. and Archer, D., 2001. Oceanic Regulation of Atmospheric CO₂ in the Eastern Equatorial Pacific by Dissolution of Deep-Sea Carbonates, 6th Annual NASA MSGC Conference Ann Arbor, Michigan.
- Edwards, B., Cole, K., Mattox, S., **Mekik**, F., Neal, W., Riemersma, P., Tenbrink, N., Videtich, P., Weber, J., and Wilson, G., 2001. Curricula Revitalization in the Department of Geology, Grand Valley State University, GSA, Abstracts with Programs, Annual Meeting, Boston.
- Mekik**, A. F., Loubere, P. and Archer, D., 2000. Surface Ocean Bioproductivity Influence on Deep-Sea Calcite Dissolution: New Transfer Function Results. AGU, Fall Meeting.
- Mekik**, A. F., Loubere, P., and Archer, D., 2000. New Transfer Function for Quantifying Paleo-Flux of Calcite to the Seabed. AGU, Spring Meeting, Washington, DC.
- Mekik**, A. F. and Ling, H. Y., 2000. Late Jurassic and Cretaceous radiolarian biostratigraphy from northwest Turkey, International Association of Radiolarian Paleontologists Meeting 2000, Reno, Nevada: p. 50.
- Mekik**, A. F., Loubere, P. and Archer, D., 1999. Quantifying Calcite Dissolution in the Deep Sea: A New Transfer Function. GSA, Abstracts with Programs, Vol. 31, No 7.
- Mekik** A. F. 1998. Jurassic-Cretaceous Pantanelliidae (Radiolaria) from Northwest Turkey. The Third International Turkish Geology Symposium, Work in Progress on the Geology of Turkey and its Surroundings, Abstracts, p. 209.
- Mekik** A. F. 1998. Late Cretaceous Radiolarians and their Paleo-Environmental Significance from the Ankara Region, Turkey. Third International Turkish Geology Symposium, Work in Progress on the Geology of Turkey and its Surroundings, Abstracts, p. 214.
- Mekik**, A. F., Altiner, D., and Blome, C.D., 1998. Depositional History of a Sedimentary Mélange Within an Ophiolitic Suture Zone, Ankara Region, Turkey, GSA, Abstracts with Programs, Vol. 30, No. 7, p. 338.
- Mekik**, A. F., Ling, H. Y., Altiner, D. and Özkan-Altiner, S.. 1997. Radiolarians Across the Jurassic/Cretaceous Boundary near Ankara, Turkey. INTERRAD VIII (Eighth meeting of the international association of radiolarian paleontologists) Abstracts Volume, p. 95.

Professional Cruises

Bermuda Institute of Ocean Science BATS cruise (Bermuda Atlantic Transect Series) (July 11-16, 2012) on the *R/V Atlantic Explorer*: collaborated with the Sigman group
 Research Cruise to Weather Station Papa in the NE Pacific on the *J. P. Tully* (Sept. 20–Oct. 9, 2006): collaborated with the Francois group
 Teaching cruises (3-4 per semester) on the *D. J. Angus* on Lake Michigan and the Grand River.

Service

Service to the Professional Scientific Community

[1] American Geophysical Union

President for Paleoceanography/ Paleoclimatology of the American Geophysical Union 2017; 2018.

Vice President for Paleoceanography/ Paleoclimatology of the American Geophysical Union 2015; 2016.

Member of ad hoc advisory group for *EOS* – the AGU newspaper

Focus Group Secretary for Paleoceanography/Paleoclimatology 2009, 2010. (Two full year appointments)

Member of Program Committee for Fall Meeting of the American Geophysical Union, 2007-2013.

(2007-2010 for Paleoceanography/Paleoclimatology;
 2011 -2013 for Global Environmental Change)

Convener for the Emiliani Lecture, 2015 - 2018.

Convener for 2 sessions at the American Geophysical Union Annual Fall Meeting 2017: for the Paleoceanography/Paleoclimatology focus group

Convener for 4 sessions at the American Geophysical Union Annual Fall Meeting 2013: for the Global Environmental Change focus group

Convener for 3 sessions at the American Geophysical Union Annual Fall Meeting 2012: for the Global Environmental Change focus group

Convener for 2 sessions at the American Geophysical Union Annual Fall Meeting 2011: for the Global Environmental Change focus group

Convener for 3 sessions at the American Geophysical Union Annual Fall Meeting 2010: Paleoceanography/Paleoclimatology General Contributions and 2 GEC sessions

Convener for 2 sessions at the American Geophysical Union Annual Fall Meeting 2009: Paleoceanography/Paleoclimatology General Contributions
 Late Pleistocene Variability in Ventilation of Deep and Intermediate Water Masses

Convener for 3 sessions at the American Geophysical Union Annual Fall Meeting 2008:
 Paleoceanography/Paleoclimatology General Contributions
 Tropical Pacific Paleoceanography During the Late Quaternary
 Convener for 2 sessions at the American Geophysical Union Annual Fall Meeting 2007:
 Carbonate Dissolution in Deep Sea Sediments: Proxies, Models and
 Applications both from the Paleo-Record and the Modern Ocean
 Mg/Ca Paleo-thermometry: Advances, Applications and Caveats

[2] National Science Foundation

NSF Panelist, (INVITED) Ocean Sciences Division, Marine Geology and Geophysics.
 Multiple panels between 2005-2014.

[3] Other

Interpreter/translator of manuscripts for peer-reviewed scientific journal,
Micropaleontology, from Turkish to English.

Reviewer (invited) on a regular basis for scientific articles in journals such as *Science*, *Deep Sea Research*, *Geophysical Research Letters*, *Geochemistry Geophysics Geosystems*, *Paleoceanography*, *Earth and Planetary Science Letters*, *Journal of Micropaleontology*, etc; scientific project proposals to the National Science Foundation, American Chemical Society Petroleum Research Fund, and Norwegian national science council; as well as several chapters in introductory geology textbooks.

Service to the University (GVSU)

[1] University Academic Senate (UAS)

Chair of *Executive Committee to the University Academic Senate and UAS*, 2011-2013
Member of *Executive Committee to the University Academic Senate* 2010-2013
Member of *the University Academic Senate* 2010-2013
Member of *the Referendum Task Force for the University Academic Senate*

[2] Faculty Personnel Policies Committee

Member of *the University Faculty Personnel Policy Committee* 2010-2011

[3] Inclusion and Equity

Participate Regularly in *Inclusion Advocate Training* 2009-2010
Member of *NSF Advance STRIDE* for the recruitment/retention of women in academia 2006-2008

[4] Writing Skills Committees/Task Forces

Member of *the Supplementary Writing Skills Committee* 2005-2007
WRT 305 Waiver Exam Grader 2006-2009

[5] University Libraries Personnel Committee Member 2013-2017

[6] Other

Faculty to Faculty mentor for the Center for Scholarly and Creative Excellence 2009

Service to the College of Liberal Arts and Sciences at GVSU

[1] Member of CLAS Faculty Council 2017 - 2019

[2] Member of Search Committee for Associate Dean of CLAS summer, 2011

[3] Chair of the *CLAS Personnel Committee* 2008-2010

Assistant Chair of the *Personnel Committee* 2006-2008

Member of the *College Personnel Committee* 2005-2010

[4] Assisted *College Faculty Council in Developing Personnel Evaluation Standards for the College* 2009-2010

Service to the Geology Department at GVSU

[1] Elected Unit Head, Geology Department, July 2019 – July 2022

Elected Unit Head, Geology Department, July 2016 – July 2019

[2] Assistant Unit Head, Geology Department, 2014 - 2016

[3] Faculty Mentor in Geology, 2014-2016

[4] *United Way* Captain 2010, 2011

[5] Spearheaded the development of *Unit Personnel Criteria* 2008-2011

[6] Acting Chair for *Geology Department*, intermittently throughout summer and fall, 2007; summer 2008; summer 2010; summer 2011, summer 2014, summer 2015

[7] Contributor to *Regional Science Olympiad: Fossils, Rocks and Minerals, Oceanography* 1999-present

Outreach

WGVU Interview on the Shelley Irwin Morning Show, January 16, 2014

Mekik, F. A., 2011. The Climes, They are a Changin'. *Interchange*, Publication of the Regional Math and Science Center, Grand Valley State University, November Issue

Peer-reviewed blog posts on www.realclimate.org:

Sweatin' the Mediterranean Heat, October 22, 2007

Ozone Hole Leaks and Other Tales, April 5, 2007

(also has a permanent link from The Weather Channel's archives page)

Turkish translations for selected blogs on www.realclimate.org

Turkish podcasts for various climate related issues. (<http://h2opodcast.com/Turkce.html>)

Theses

Mekik, A. F. 1999 *Late Jurassic and Cretaceous Radiolarian Biochronology in Resedimented Slope Deposits near Ankara, Turkey*. Dissertation, Northern Illinois University, De Kalb, Illinois, 337pp. *Dissertation Adviser: Hsin Yi LING (retired)*

Mekik, A. F. 1994. *An attempt to reconstruct the Jurassic-Cretaceous successions of the Damlaagaçderesi Sedimentary Mélange: stratigraphic and micropaleontologic analyses*. MS Thesis, Middle East Technical University, Ankara, 526 pp.

Languages

Turkish (fluent), English (fluent), French (good), German (fair)