

JORDAN P. TODES

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EDUCATION

- University of Chicago** 2020 -
Ph.D. in Geophysical Sciences
- University of Warsaw** 2018 - 2019
Fulbright Student Researcher
- Northwestern University** 2014 - 2018
Bachelor of Arts in Earth and Planetary Sciences (with honors), Integrated Science
Minor in Russian and Eastern European Studies
Graduated *Summa cum laude*
Thesis: *Seismic and geochemical studies of mantle and paleoenvironmental structure: perspectives from subduction zones and the Western Interior Basin*

RESEARCH INTERESTS

My interests are broadly centered about the dynamic interplay between life, climate, and tectonics - in particular, during the middle Paleozoic and Mesozoic, crucial intervals characterized by rapid biologic evolution, volatile carbon cycle dynamics, and the emergence of significant paleo-ecological features that form the scaffold of our modern world. To this end, I study the geologic record using an integrated combination of (i) regional stratigraphy, (ii) detailed microfacies observations, (iii) sedimentary geochemistry, (iv) paleobiology, and (v) earth-systems modeling, within the framework of both field campaigns and lab/archival settings.

PUBLICATIONS

Walaszczyk, I., Čech, S., Crampton, J. S., Dubicka, Z., Ifrim, C., Jarvis, I., Kennedy, W. J., Lees, J. A., Lodowski, D., Pearce, M., Peryt, D., Sageman, B. B., Schiøler, P., **Todes, J.**, Uličný, D., Voigt, S., and F. Wiese, with contributions by Linnert, C., Püttmann, T., and S. Toshimitsu. In Press. The Global Boundary Stratotype Section and Point (GSSP) for the base of the Coniacian Stage (Salzgitter-Salder, Germany) and its auxiliary sections (Słupia Nadbrzeżna, central Poland; Střeleč, Czech Republic; and El Rosario, NE Mexico). *Episodes*.

J. P. Todes, Okal, E. A., and S. H. Kirby. 2021. Frequency-size distributions of Wadati-Benioff zone and near-boundary intraplate seismicity: Implications for intermediate and deep seismicity. *Physics of the Earth and Planetary Interiors*, **321**, 106707.

Walaszczyk, I. and **J. P. Todes**. 2020. *Inoceramus proximus* and other inoceramid species of Michael Tuomey from the Cretaceous of Alabama and Mississippi. *Zeitschrift der Deutschen Gesellschaft für Geowissenschaften*, **71** (2), 227-236.

WHITE PAPERS AND OTHER PUBLISHED WORKS

Walaszczyk, I., Čech, S., Crampton, J., Dubicka, Z., Ifrim, C., Jarvis, I., Lees, J. A., Lodowski, D., Pearce, M., Peryt, D., Schiøler, P., **Todes, J.**, Uličný, D., Voigt, S., and F. Wiese, with contributions by Kennedy, W. J., Linnert, C., Püttmann, T., Sageman, B., and S. Toshimitsu. 2020. Formal proposal for the Global Boundary Stratotype Section and Point (GSSP) of the Coniacian Stage at Salzgitter-Salder (Germany) and its auxiliary sections. *Proposal to the International Commission on Stratigraphy, Cretaceous Subcommittee*. 95 pg., 25 fig. Approved, May 2021.

Todes, J. P. 2016. As we stare into the void: Absence, Truth, and Cinematographic Structure in Paweł Pawlikowski's *Ida*. *The Birch*, Fall 2016, 45-50.

PRESENTATIONS

Podrecca, L., Hurtgen, M., Sageman, B., **Todes, J.** and A. Masterson. The Role of Relative Sea Level in Microbial Sulfate Reduction and the Local S-isotope Record. To be presented at the 2021 Geological Society of America Connects Annual Meeting, Portland, Oregon. Talk.

Walaszczyk, I., Čech, S., Crampton, J. S., Dubicka, Z., Ifrim, C., Jarvis, I., Kennedy, W. J., Lees, J. A., Lodowski, D., Pearce, M., Peryt, D., Sageman, B. B., Schiøler, P., **Todes, J.**, Uličný, D., Voigt, S., and F. Wiese. The Global Boundary Stratotype Section and Point (GSSP) for the base of the Coniacian Stage (Salzgitter-Salder, Germany) and its auxiliary sections (Ślupia Nadbrzeżna, central Poland; Střeleč, Czech Republic; and El Rosario, NE Mexico). To be presented at the 2021 Geological Society of America Connects Annual Meeting, Portland, Oregon. Talk.

Podrecca, L., Hurtgen, M., Sageman, B., **Todes, J.**, and A. Masterson. Microbial Sulfate Reduction in the Western Interior Seaway: Examining the Link between Relative Sea Level Change and the Local S-isotope Record. Presented at the 2021 Midwest Geobiology Symposium, Indianapolis, Indiana. Poster.

Walaszczyk, I. and **J. P. Todes**. Coniacian inoceramid diversification: evolutionary acceleration driven by palaeoenvironmental instability? Presented at the 20th Czech-Polish-Slovak Palaeontological Conference, 2019, Chęciny, Poland. Talk.

Podrecca, L., **Todes, J.**, Sageman, B., Hurtgen, M., and A. Masterson. Chemostratigraphic analysis of high frequency sea level change in the Western Interior during the Mid-Cretaceous hyperthermal. Presented at the 2019 Urbino Summer School of Paleoclimatology (USSP), Urbino, Italy. Poster.

Todes, J. P. and I. Walaszczyk. Linking Coniacian inoceramid diversity with paleoenvironmental instability. Presented at the 3rd International Congress on Stratigraphy - STRATI 2019, Milan, Italy. Talk.

Todes, J. P., Okal, E. A., and S. H. Kirby. Frequency-size distributions of Wadati-Benioff zone and near-boundary, intraplate earthquakes; implications for intermediate and deep seismicity. Presented at the 2018 Intermediate and Deep Earthquakes: Observation and Modeling Workshop, Paris, France. Poster.

Todes, J. P., Sageman, B. B., Jones, M. M., and M. R. Osburn. A Compound-Specific Hydrogen Isotope Record at the Onset of Ocean Anoxic Event 2, Kaiparowits Plateau, Southern Utah. Presented at the 2017 American Geophysical Union Fall Meeting, New Orleans, Louisiana. Poster.

Todes, J. P., Sageman, B. B., Jones, M. M., and M. R. Osburn. A biomarker and compound-specific hydrogen isotope record from the onset of Ocean Anoxic Event 2, Kaiparowits Plateau, Southern Utah. Presented at the 2017 Midwest Geobiology Symposium, Indianapolis, Indiana. Poster.

Todes, J. P., Okal, E. A., and S. H. Kirby. Frequency-size distributions of Wadati-Benioff zone and near-boundary, intraplate earthquakes. Presented at the 2016 American Geophysical Union Fall Meeting, San Francisco, California. Poster.

Todes, J. P., Okal, E. A., and S. H. Kirby. Frequency-size distributions of Wadati-Benioff zone and near-boundary, intraplate earthquakes; implications for intermediate depth seismicity. Presented at the 2016 Gulf Coast Undergraduate Research Symposium, Houston, Texas. Talk.

Todes, J. P., Loyd, S. J., and M. R. Osburn. Preferential Preservation of Biomarkers in Carbonate Concretions: A Case Study from the Holz Shale. Presented at the 2015 Midwest Geobiology Symposium, Bloomington, Indiana. Poster.

INVITED TALKS

Institute of Geophysics of the Czech Academy of Sciences, Prague, Czech Republic. The development of Ocean Anoxic Event 2 in the marginal Western Interior Seaway: a sulphur and hydrogen isotope perspective. June 2019.

Adam Mickiewicz University, Poznań, Poland. The onset and development of Ocean Anoxic Event 2 in the marginal Western Interior Seaway. April 2019.

University of Warsaw, Warsaw, Poland. Revisiting the Cenomanian-Turonian sulphur cycle in a sequence stratigraphic context: Western Interior Seaway, USA. March 2019.

FELLOWSHIPS

Graduate Research Fellow, National Science Foundation	2020 - 2025
Fulbright Scholar, Extension, Poland	2019
Fulbright Scholar, Poland	2018 - 2019

HONORS

Seymour Schlanger Undergraduate Earth Science Award, Northwestern University	2018
Centennial Award, Phi Beta Kappa, Illinois Alpha Chapter, Northwestern University	2018
Géza von Molnar Essay Award, Northwestern University	2018
Graduate Research Fellowship Honorable Mention, National Science Foundation	2018
Oliver Marcy Scholar, Northwestern University	2017
Goldwater Scholar Honorable Mention (2x)	2016, 2017
Gary Saul Morson Award for Outstanding Essay in Slavic Literatures and Cultures	2016
Kultura i Lingvistika Honor in Intermediate Polish, Northwestern University	2016
Excellence in Mathematics by a First-Year Student, Northwestern University	2015
Dean's List, Northwestern University (11x)	2014 - 2018
Eagle Scout	2012

GRANTS (RESEARCH)

Student Grant, Gulf Coast Association of Geological Societies (GCAGS). The Gulf Coast Cretaceous: a missing link in inoceramid paleobiogeography. 2019. (\$2,000)

Lane Environmental Studies Research Grant, Weinberg College of Arts and Sciences, Northwestern University. Hydrogen isotope and organic carbon stratigraphy of the Western Interior Seaway as proxies for Cretaceous paleoenvironments. 2017. (\$3,500)

Undergraduate Research Grant, Office of Undergraduate Research, Northwestern University. Hydrogen isotope stratigraphy of the Western Interior Basin: implications for Milankovitch cycle mechanisms. 2017. (\$1,000)

Undergraduate Research Grant, Weinberg College of Arts and Sciences, Northwestern University. Tremors from the Mantle: Frequency-Moment Distributions of Deep and Intermediate Earthquakes. 2016. (\$3,500)

Undergraduate Research Grant, Office of Undergraduate Research, Northwestern University. A Biological Time Capsule: Preservation of Organic Signatures in Carbonate Concretions. 2015. (\$3,000)

GRANTS (TRAVEL)

Conference Travel Grant, 3rd International Congress on Stratigraphy - STRATI 2019. 2019. (€300)

Supplemental Grant-in-Aid, Integrated Science Program, Northwestern University. 2018. (\$500)

Irwin and Vivian M. Weil Fund Travel Grant, Department of Slavic Literature and Languages, Northwestern University. 2018. (\$1,000)

Conference Travel Grant, Weinberg College of Arts and Sciences, Northwestern University. 2017. (\$500)

Conference Travel Grant, Office of Undergraduate Research, Northwestern University. 2017. (\$500)

Conference Travel Grant, Integrated Science Program, Northwestern University. 2017. (\$500)

Conference Travel Grant, Weinberg College of Arts and Sciences, Northwestern University. 2016. (\$500)
Conference Travel Grant, Office of Undergraduate Research, Northwestern University. 2016. (\$500)
Conference Travel Grant, Integrated Science Program, Northwestern University. 2016. (\$500)

MEMBERSHIP

Phi Beta Kappa (2017-)

FIELD EXPERIENCE

Saltzitter-Salder (*Germany*) November 2019
 Inoceramid biostratigraphy: proposed Turonian-Coniacian GSSP.

Selma Group (*Alabama*) September 2019
 Inoceramid biostratigraphy: Campanian.

Carpathians (*Poland*) May, August 2019
 Mesozoic-Cenozoic geology of the Polish Carpathians; Jurassic-Cretaceous boundary interval in the Tatras.

Opole (*Poland*) July - August 2019
 Inoceramid biostratigraphy, lithostratigraphy, and chemostratigraphy: Turonian - Coniacian.

Holy Cross Mountains (*Poland*) May 2019
 Paleozoic-Mesozoic geology, paleontology, and structure of the Holy Cross Mountains.

Australia (*South Australia, West Australia*) July - August 2018
 Biogeochemistry of the Coorong Lagoon and Yilgarn Block hypersaline lakes; Archaean Pilbara Craton.

Rio Tinto (*Andalusia, Spain*) April 2018
 Biogeochemistry of an acidic river mine drainage system.

Grand Canyon-Parashant National Monument (*Arizona, Nevada*) January 2018
 Stratigraphy of the Pennsylvanian-Permian Supai Group; demise of the late Paleozoic ice age.

Yucatan Platform (*Mexico*) March 2017
 Carbonate and microbial sedimentology, karstology, and hydrology.

Cretaceous Western Interior Seaway (*Colorado, Utah*) August - September 2016
 Lithostratigraphy, structural geology, and high-resolution event stratigraphy.

SHORT COURSES AND WORKSHOPS

12th Micropalaeontological Workshop MIKRO 2019 October 2019
Europejskie Centrum Edukacji Geologicznej, University of Warsaw, Chęciny, Poland

Thin Section Preparation and Analysis March 2019
Europejskie Centrum Edukacji Geologicznej, University of Warsaw, Chęciny, Poland

Intermediate and Deep Earthquakes: Observations and Modeling November 2018
Collège de France, Paris, France

11th Micropalaeontological Workshop MIKRO 2018 October 2018
Institute of Geology of the Czech Academy of Sciences, Prague, Czech Republic

Stable Isotope Geochemistry June - August 2017
Theory, Analytical Methods, and Applications in Stable Isotope Geochemistry, Northwestern University

TEACHING

Guest Lectures

Geology 1300-OMSTC: Metodologia stratygrafii (Methodology of Stratigraphy). Winter 2018, University of Warsaw (2 lectures on 'Fundamentals of Chemostratigraphy', in Polish)

Teaching Assistantships

PHSC 13600: Natural Hazards. University of Chicago, Winter 2021.

PHSC 10800: Earth as a Planet: Exploring our Place in the Universe. University of Chicago, Fall 2020.

Earth 330: Sedimentary Geology. Northwestern University, Spring 2018.

SERVICE AND OUTREACH

Reviewer for *Acta Geologica Polonica* (2), *Paläontologische Zeitschrift* (1)

Member, Organizing Committee & Coordinating Committee, 11th Cretaceous Symposium, Warszawa, Poland: August 22-26, 2022

Lead Organizer, Inoceramid Workshop, 11th Cretaceous Symposium, Warszawa, Poland: August 27-28, 2022

Member, Coniacian Working Group (Cretaceous Subcommittee, International Commission on Stratigraphy), 2020-2021

Invited Speaker, Youth Future Conference 2019 (Warsaw, Poland); Robert Frost Poetry Competition (Suwałki, Poland)

Peer Research Mentor, Office of Undergraduate Research, Northwestern University, January - June 2017.

Undergraduate Research Panel, Integrated Science Program, Northwestern University, September 2015 - June 2018.

SKILLS

Computer Programming

Python, R, Fortran

Computing Tools

Adobe , L^AT_EX, GMT, ImageJ

Scientific Instruments

GC/MS, IRMS, Petrographic Microscope, SEM(-EDS), IC, MC-ICP-MS

Languages

Fluent in English; Proficient in Polish; Basic Spanish