SEPM (Society for Sedimentary Geology)

2020 PRESIDENT'S AWARDS CEREMONY

Online – GoToWebinar 2:00 p.m. CDT October 7, 2020

Program

• Recognitions and Thanks

Mike Blum

- Introductory Remarks
- o Annual Meeting Committee
- o SEPM Council and Staff

• SEPM Outstanding Journal Papers Awards

Mike Blum

- o JSR
- PALAIOS

SEPM Science Awards

Mike Blum

- James Lee Wilson Award Lida Xing
- Dickinson Medal Carmala Garzione
- Honorary Membership Norman Rosen
- Shepard Medal Miriam Katz
- Moore Medal Mary Droser
- Pettijohn Medal Gail Ashley
- Twenhofel Medal Philip Allen

Concluding Remarks

Mike Blum

2020 Annual Meeting Organizing Committee

The Society thanks the members of the committee for their time and effort

 Ashley Harris, SEPM Vice Co-Chair
 James Bishop, SEPM Field Trip Chair
 Howard Harper, SEPM Short Course Chair
 Kiara Gomez, Andrew Madof, Wen Lin, Victorien Paumard & Jinyu Zhang, Research Symposium Theme Chairs

SEPM 2020 Council

SEPM Society for Sedimentary Geology is governed by these elected officials, who volunteer their time

President

President-Elect Secretary-Treasurer Sedimentology Councilor Paleontology Councilor Research Councilor International Councilor Web Councilor Early Career Councilor Student Councilor SEPM Foundation Pres PALAIOS Co-Editors JSR Co-Editors Special Publications Editor Mike Blum NA Keriann Pederson Zane Jobe Murray Gingras Peter Flaig Emese Bordy Erin Pemberton Dawn Jobe Kristina Butler Rick Sarg Patrick Orr & Martin Zuschin Peter Burgess & Kathleen Marsaglia John-Paul Zonneveld

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Cassie Turley, Deputy Business Manager
Melissa Lester, Managing Editor for JSR
Kathleen Huber, Managing Editor for PALAIOS
Rebekah Grmela, Digital Media Consultant



2020 Outstanding Papers in the Journal of Sedimentary Research

O. Remus Lazar; Kevin M. Bohacs; Joe H. S. Macquaker; Juergen Schieber; Timothy M. Demko

2015, Capturing Key Attributes of Fine-Grained Sedimentary Rocks in Outcrops, Cores, and Thin Sections: Nomenclature and Description Guidelines. JSR 85 (3): 230–246

Erica P. Suosaari; R. Pamela Reid; Amanda M. Oehlert; Phillip E. Playford; Carl K. Steffensen; Miriam S. Andres; Gregory V. Suosaari; Gary R. Milano; Gregor P. Eberli

2019, Stromatolite Provinces of Hamelin Pool: Physiographic Controls On Stromatolites and Associated Lithofacies JSR 89 (3): 207–226

*The Outstanding Paper from JSR has been chosen from a pool of papers from 2015-2019, using reference metrics as well as individual input from people reading and comparing the top

papers.



2020 Outstanding Paper in PALAIOS

Rebecca C. Terry, Jesse A. Laney, and Samuel H. Hay-Roe

2018, Quantifying the Digestive Fingerprints of Predators on the Bone of their Prey Using Scanning Electron Microscopy PALAIOS (2018) 33 (11): 487–497

2020 Outstanding Paper in PALAIOS Honorable Mentions

Caitlin M. Boblitt, Roy E. Plotnick, Fabien Kenig, and D'Arcy Meyer-Dombard

2018, Determining Taphonomic Controls and Rate of Decay in Cave Environments using Microcosms PALAIOS (2018) 33 (4): 141–153

Brandt M. Gibson, James D. Schiffbauer, and Simon A. F. Darroch 2018, Ediacaran-style Decay Experiments using Mollusks and Sea Anemones PALAIOS (2018) 33 (5): 185–203

*PALAIOS continues to use the process which identifies the outstanding paper from a single year, looking back two years to 2018.

James Lee Wilson Award

For Excellence in Sedimentary Geology Research by a Young Scientist

Lida Xing

Lida Xing established China's first dinosaur website and unified Chinese scientific names of almost all known dinosaurs when he was merely a high school student. After getting his Master degree from University of Alberta, Canada in 2012, he began his paleontological researches, including complete investigations of over a hundred of China's Tetrapoda track sites. In the same year, he held the first International dinosaur tracks symposium in China and invited excellent colleagues from 13 countries. In 2016, he moved to the China University of Geosciences (Beijing) and started his teaching career there. As an explorer of National Geographic Society, he discovered the world's first bird and dinosaur inclusions in amber during his PHD program. He has won quite a lot important rewards, including 2015 Li Siguang Outstanding Student Award, the highest honor for



geology students in China, 2015 Top Ten Geological Progresses Award by the Geological Society of China, and 2016 Top Ten Progresses by the Paleontological Society of China, 16th Youth Geological Science and Thechnology Award in 2017 ("Silver Hammer Award"). Since 2005, he has documented by more than 200 peer-reviewed publications, one of which was rewarded as China's best paper of the year 2016 by Cell Press. Most of his papers focus on China's Tetrapoda tracks. He and his colleague (eg Martin G. Lockley) have reconstructed the evolution system of the Tetrapoda trackmakers around China, providing significant insights into the Mesozoic ecology of terrestrial animals in China. Since 2013, he has been taking the lead in the studies of vertebrate inclusions in China, built up world's largest collection of vertebrate inclusions (about one thousand specimens), and described world's first bird, dinosaurs, and snake inclusions from amber. The cover story of Science (2019, May 24th), "Troubled treasure", reported his team and achievements. He also gives a lot of lectures to undergraduates, postgraduate, doctoral students as an associate professor. Social activities like introducing dinosaurs to children is also part of his job. All these accomplishments have won great reputation for him in China.

Biographer: Xiaoqiao Wan

Citation: Lida Xing is one of the best young paleontologists and geologists in China. He is studying Mesozoic Tetrapoda tracks in China by combining morphology, sedimentology, ethology, and photogrammetry, trying to enhance their global comparative value. Reconstruction of vertebrate inclusions in Cretaceous amber by synchrotron radiation, micro CT scans, and XRF has broken new ground in studies of Cretaceous vertebrates in Southeast Asian. With continuous researches and fruitful international cooperation, much more information can be expected from him in the coming decades.

William R. Dickinson Award For Excellence in Sedimentary Geology Research by a Mid-Career Scientist Carmala Garzione

Carmala N. Garzione is the recipient of the Society for Sedimentary Geology's 2020 William R. Dickinson Medal in recognition of her contributions to the understanding of how and when high elevation develops in continental plateaus and how it controls local environments as well as global atmospheric and climatic effects. Carmie is best known for her pioneering work in the application of oxygen isotope geochemistry to determining paleoelevation of sedimentary basins. Carmie received her undergraduate degree at the University of Maryland, and her M.S. and Ph.D. degrees at the University of Arizona. For her M.S. project at Arizona she used Nd isotope geochemistry to determine the provenance of foreland basin deposits in the Canadian Western Interior foreland basin. For her Ph.D. Carmie targeted Thakkhola graben in north-central Nepal, a Miocene rift that cuts across the high Himalaya. Although her initial agenda focused on basin analysis--which in this case would have been interesting enough--Carmie quickly recognized the potential of



Thakkhola basin for reconstructing Himalayan paleoaltimetry using oxygen isotopes from paleosol and lacustrine carbonates. In order to develop the approach, she first had to document the modern isotopic lapse rate in surface waters from the northern Indian plains to the high Himalaya; then she had to collect and analyze appropriate samples from the basin within a chronostratigraphic and sedimentologic context. The outcome established the standard to which all subsequent studies of Asian paleoelevations must refer and sparked a geochemical stampede to do similar work in all of the world's great orogenic belts. Almost as soon as she defended her dissertation, Carmie was hired as an Assistant Professor by the University of Rochester. Over the next ten years Carmie piled success upon success, receiving a research fellowship at the University of Colorado (2003-4), the Donath Medal in 2007 from the Geological Society of America, and the Blavatnik Award for Young Scientists from the New York Academy of Sciences in 2009. Succumbing to her obvious potential for leadership, Carmie chaired the department from 2010-2016; she was promoted to Professor in 2013 and in 2016 she was named the Helen F. and Fred H. Gowen Professor at Rochester. Scientific leadership became increasingly important for Carmie, first as Director of the Center for Energy and Environment at the University of Rochester, and most recently as she accepted the post of Associate Provost for Faculty Affairs at Rochester Institute of Technology. On top of all these efforts are numerous advisory and panel duties for university and governmental institutions, and ongoing mentorship of graduate students and postdoctoral scholars.

All of her awards and promotions followed from Carmie's energetic scientific work. Having opened the path to paleoaltimetry in Tibet and the high Himalaya, Carmie turned her sights toward the Altiplano in Bolivia. There she documented a remarkably abrupt record of elevation gain during late Miocene time, so abrupt that standard tectonic processes alone, such as crustal shortening, were not likely to be the culprit. With her coworkers, Carmie proposed that large masses of lower crust and lithosphere had been gravitationally removed beneath the Altiplano, a bold claim that placed her at center stage in debates about how orogenic plateaus attain high elevation. This work resulted in a series of co-authored papers that introduced clumped isotopic methods in paleothermometry/altimetry applications. About the same time Carmie rejuvenated her work in Tibet, getting involved in and eventually spearheading large, multidisciplinary projects designed to test hypotheses about how high topography in central Asia has affected global climate. The power of Carmie's work stems from its combination of geochemical approaches with standard methods in basin analysis and sedimentary provenance analysis, keeping alive and well the methods and kernels of wisdom that were originated by Bill Dickinson himself.

Biographer: Peter DeCelles

Citation: In recognition of Carmala Garzione's pioneering work in developing stable isotope methods for determination of paleoelevation, her contributions to orogenic history and paleoclimate by leveraging the stratigraphic record, and her energetic leadership and service to the geosciences community.

Honorary Membership For contributions to the science and SEPM Norman Rosen

The Gulf Coast Section SEPM is unique among professional societies as it is a regional AND an international society. During Norm's tenure, the GCSSEPM and its Foundation: (a) participated in the GCAGS Annual Convention (with the GCSSEPM luncheon), (b) provided financial support for student research and researchers, (c) established the Doris Curtis Medal for contributions in sedimentary geology with emphasis on the Gulf Basin, and (d) reinvigorated the Annual Perkins-Rosen Research Conference. This conference is routinely one of the highlights of the year for applied researchers globally.



The Annual Research Conference was started and thrived under Bob Perkins' leadership (SEPM HM 1998). After Bob's unexpected death in April 1999, Norm stepped into Bob's position and assumed leadership during yet another industry downturn. Since then, the GCSSEPM Foundation has hosted seventeen RC's (now named appropriately in Bob's and Norm's honor), all of high quality and mostly well attended. The digital publications associated with the RC, which Norm is responsible for co-editing and producing, continue to be extensively used, and contain many substantial papers that are routinely cited in the literature. The RC routinely attracts people from 10-15 countries who attend because of its technical content and its atmosphere that allows scientists to interact freely. Norm is the primary reason for this success. With his executive vision, insistence on high standards, and thousands of hours of volunteer work, Norm has worked extensively to maintain its international reputation.

GCSSEPM has continued to thrive because of the selfless dedication and leadership of Norm Rosen. Norm has kept a local Section and its Foundation vibrant and meaningful during the continued downsizing of our profession during the past four decades. In particular, the annual Perkins-Rosen conference fills a unique niche in our profession for publishing high-quality science in a timely fashion. 100,000 thanks, Norm!

Biographer: Paul Weimer

Citation: For his dedicated service and innovative leadership as the Executive Director of the Gulf Coast Section SEPM Foundation from 1999 to 2016, the SEPM is awarding Honorary membership to Dr. Norman Rosen.

Francis P. Shepard Medal For Sustained Excellence in Marine Geology

Miriam Katz

Miriam (Mimi) Katz is a Professor in the Dept. of Earth and Environmental Sciences at Rensselaer Polytechnic Institute and holds degrees from St. Lawrence Univ. (B.S.), Univ. of South Carolina (M.S.), and Rutgers Univ. (Ph.D.). Prior to joining the RPI faculty in 2007, she worked at LDEO and then Rutgers Univ. for 25 years as a research scientist. She participated in six IODP cruises and one LDEO cruise.

Mimi's research focuses on reconstructing changes in ocean circulation, marine environments, sea level, and climate through time. She integrates marine microfossils, geochemistry, sedimentology, and seismic stratigraphy to do these reconstructions, which encompass normal climate and ocean variability through geologic time, long-term sea-level change,



and rapid, extreme climate events and climate transitions. Her research contributions include increasing our understanding of the Paleocene-Eocene thermal maximum, the middle Eocene-early Oligocene climate transition, Cenozoic benthic foraminifera, carbon isotope stratigraphy, and the geological context of phytoplankton evolution.

Mimi has been involved with SEPM since 2002. She sat on the Board of Directors of the North American Micropaleontological Section (NAMS) of SEPM from 2002-2005 (including a year as president), was an SEPM Student Mentor, organized two NAMS Marine Micropaleontological Research Group Meetings, and served on the organizing committees for two NAMS-sponsored international meetings. Mimi currently sits on the Board of Directors of the Cushman Foundation for Foraminiferal Research, and is on GSA's joint technical program committee. Her outreach efforts encompass secondary school students, science teachers, and community groups.

The Shepard Medal is an honor that follows Mimi's previous awards and honors: GSA Fellow (2016); W. Storrs Cole Memorial Research Award for Micropaleontology (GSA 2014); Ocean Leadership Distinguished Lecturer (2012-2013); Honorary Degree, Doctor of Science (St. Lawrence University, 2009); and Doris M. Curtis Outstanding Woman in Science Award (GSA 2002).

Biographer: Alicia Kahn

Citation: For the scientific rigor with which she has served the fields of micropaleontology, paleoceanography, deep time, global cyclicity from a microscopic to global scale. Her prolific research and significant community outreach are extensive and accessible, providing tremendous benefit to the scientific community and general public.

Raymond C. Moore Medal

For Sustained Excellence in Paleontology

Mary Droser

Mary L. Droser, a native of New Jersey, received her B.S. from the University of Rochester and M.A. from Binghamton University, finishing her education with a Ph.D. from the University of Southern California in 1987. After two years as an Assistant Professor at Oberlin College Mary moved in 1989 to the University of California, Riverside, where she has been a Professor since 1996. As a graduate student attempting to better understand the early evolution of bioturbation Mary developed the ichnofabric index method, and this was published in 1986 as a methods paper in Journal of Sedimentary Petrology. This has since become one of the most widely-used methods to semi-quantitatively record the amount of bioturbation evident in sedimentary rocks from throughout the Phanerozoic. Subsequently, Mary expanded her studies towards a particular emphasis on



understanding the Ediacara Biota, the record of the earliest macroscopic animals on Earth. Over the past 20 years, with colleagues, she has been excavating extensive bedding planes of the Ediacara Member of the Rawnsley Quartzite at Nilpena near the Flinders Ranges of South Australia. Along with this ground-breaking research on Ediacaran-Cambrian life, Mary has also published important papers on the Great Ordovician Biodiversification Event (GOBE), the end-Devonian mass extinction, and the uncoupling of ecological from taxonomic effects of the Big 5 Phanerozoic mass extinctions. These compliment an overall career of research that has very productively and creatively explored the evolution of life on Earth. Along with this wonderful research career Mary has contributed greatly to the development of her department at UCR, and to the national and international community. She has been department chair, and recently co-organized the 2019 North American Paleontological Convention, held at UCR. Of particular note, she has been an exceptional mentor of Ph.D. students, with graduates as faculty at many outstanding institutions of higher learning.

Biographer: Dave Bottjer

Citation: Few have done as much fundamental research on early animal life during the Precambrian-Cambrian transition as has Mary Droser. This is coupled with a broad variety of very significant research on major events in life's history in the subsequent Phanerozoic. She has had an unusually large impact upon our profession, and we can expect that she will be a major contributor for many years to come.

Francis J. Pettijohn Medal For Sustained Excellence in Sedimentology Gail Ashley

A Massachusetts native, Dr. Gail Ashley earned her B.S. and M.S. from the University of Massachusetts, moved west for her PhD to the University of British Columbia and ultimately returned east to the Department of Earth and Planetary Sciences at Rutgers University. Gail recently retired from Rutgers, where she served as a professor for an illustrious 42 years, the first 23 of those as the department's sole tenured female faculty member and thus was the only woman to serve in any number of service and mentoring roles. During her time at Rutgers, Gail mentored nearly 40 graduate students, published over 100 papers, and edited six volumes.

Gail's research explores and elucidates the spectacular world of the Quaternary— the bipolar icehouse that birthed the human lineage. More specifically, she uses earth surface processes (sedimentology, hydrology, geomorphology) to interpret paleoenvironments and paleoclimate of the Plio-Pleistocene, and as a field-based geologist, has ranged literally across the globe, from pole to equator to pole. Oh, and New Jersey.



Her PhD research at the University of British Columbia pulled her into the realm of tidal fluid mechanics and sediment transport in a field-based study of the Fraser River-Pitt River-Pitt Lake system. Early work with bedforms led to deep dives on coastal zone sedimentology and fluid dynamics research in collaboration with John Southard, once again leading to a number of highly cited publications, including Gail's 1990 work on classification of large-scale bedforms, now cited over 1200 times.

Akin to a snowbird tracking the Sun's trajectory, Gail shifted from a polar to equatorial focus with her more recent research in freshwater wetlands of the East African Rift Valley. Here, she blends techniques and collaborations that span disciplines of both geosciences and archeology to illuminate how environment and climate have shaped and guided human evolution and paleodiasporas. This work inspired her to introduce the concept and indeed coin the term "Critical Zone" (BROES Report, 2001).

While maintaining her impressive and wide-ranging research efforts, Gail also assumed a number of leadership and service roles in the broader geoscience community, amongst sedimentary geologists, and in support of women in geoscience. She served as President of SEPM, GSA, and AGI, demonstrating time and again that a woman can be president. She's chaired, co-chaired, and participated in numerous blueribbon panels and National Research Council committees, given a number of keynote presentations, and garnered multiple awards (e.g. Fellow of GSA, the U.S. Navy's Antarctic Service Medal (1991), the Association of Women Geoscientists' Outstanding Educator Award (2002), the PNAS Cozzarelli Prize (2012), and GSA's Laurence L. Sloss Award (2012)).

After a career spent advocating for and mentoring women in geoscience, Gail has once again paved the way by shattering the glass case surrounding the Pettijohn Medal. This simply reinforces Gail's other virtues: grace, patience, and perseverance.

Biographer: Lynn Soreghan

Citation: For her tireless, rigorous, and enduring contributions to analysis and interpretation of sedimentary systems ranging from glacial to shallow marine to wetlands, her groundbreaking research informing the interconnectedness of human evolution and environments, and for serving as an inspiring maverick for current and future generations of geoscientists, Dr. Gail Ashley embodies excellence in sedimentology.

William F. Twenhofel Medal For a Career of Outstanding Contributions in Sedimentary Geology Philip Allen



The goals of sedimentary geology are at its nuts and bolts to reconstruct ancient surface processes and landscapes from bed to basin scale. Armed with this knowledge one can decipher the controls that govern the Earth surface system through its journey in deep time. One person stands out in our field as someone who truly has been our intellectual guide to addressing these far-reaching goals, and who has inspired a more quantitative, systems-based approach to analysing sedimentary rocks. That person is Philip Allen. Philip's research over 40 years has spanned across a capacious array of research problems ranging from the depositional mechanics of hummocky cross stratification to the quantitative analysis of sedimentary basins. Not only has Philip been at the vanguard of, indeed inspired, many areas of sedimentary geology, he has also made seminal contributions to the community, especially very many students, through his erudite and scholarly textbooks: Basin Analysis (written with his brother John Allen) and Earth Surface Processes.

Philip commenced his research career at Cambridge, where under the supervision of Peter Friend he worked on Devonian alluvial fan and lacustrine sediments in Shetland – the Orcadian Basin. A postdoctoral fellowship in Berne, Switzerland, initiated a particularly fruitful line of enquiry into the stratigraphic and mechanical evolution of foreland basins in collisional orogens, with a focus on the Alpine foreland basin. Philip, together with

collaborators and students, showed through careful field observation and numerical modelling how the stratigraphy recorded the flexural evolution of such basins. The new approach coupled knowledge of the sedimentary evolution of a basin to the orogen geodynamics. This seems commonplace now but at the time was simply revolutionary to our field. That large-scale facies successions and unconformities could be simulated in computer models and be explained through geodynamic processes in the Alpine orogen ushered in a powerful way of viewing the stratigraphic record anew.

Intrigued by the hydrological implications of the 'Snowball Earth' hypothesis, Philip switched his attention to the Neoproterozoic record of global glaciations. Using rigorous field observations primarily in Oman, Philip and his group placed critical constraints on the character and duration of the glaciations using geochemical and sedimentological tools, and argued for a slushball model rather than a solid snowball. Moreover, with Paul Hoffman, he applied quantitative models of wave ripple formation to show that giant wave ripples in these deposits implied extreme wave and wind conditions in Neoproterozoic oceans. In the 3rd arc of his career, Philip initiated a systematic investigation of 'sediment routing' systems as the key to understanding the dynamics of erosional and depositional landscapes through geological time. With uncommon focus, Philip led astute scrutiny of the mechanics of sediment transfer across landscapes in particular exploring the controls on grain size variations in ancient sedimentary systems and examining how tectonic and climatic signals are preserved in the stratigraphic record. This work has been encapsulated recently in a masterly book, Sediment Routing Systems, that beautifully sets out Philip's vision and analytic approach to quantitatively characterising the sedimentary rock record. Indeed, Philip's use of language and his eye for poetry have infused our professional literature with an artistic quality that is a key to enjoyment of scientific writing.

Finally, perhaps Philip's most valuable contribution has been the cohort of students and young researchers who learned so much from him and went to apply what he taught to propel the frontiers of sedimentary geology and surface process science across Europe. Whilst active in widely disparate fields, we all share Philip's holistic and highly original approach to our science: an approach that blends exploration of a mechanistic understanding of the Earth surface system grounded through rigorous field observation. A cursory glance at any of the journals that encompass sedimentary geology today will readily show that this approach is now ingrained within our field.

Biographer: Sanjeev Gupta (Imperial College London)

Citation: In recognition for his seminal and enduring contributions to sedimentary basin analysis and the quantitative investigation of the links between Earth surface processes and the preserved sedimentary archive. An inspiring educator, mentor and colleague, who has through his erudition and clarity of writing influenced generations of students and professionals in sedimentary geology.

The Scientific community looks to the SEPM Foundation to meet the challenges in educational, scientific and charitable activities.

SEPM Foundation Funds

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If you would like to contribute to the SEPM Foundation, please contact SEPM Headquarters or go online <u>www.sepm.org</u> for more information



The SEPM Society was formed in 1926 to promote the science of sedimentary geology through encouraging scientific research in and disseminating educational information about paleontology, sedimentary petrology and allied disciplines; and for charitable, educational and scientific purposes.

Plan to attend ISGC 2021



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