
SEPM (Society for Sedimentary Geology)

**2022
PRESIDENT'S
AWARDS
CEREMONY**

Colorado Convention Center
Mile High Ballroom
5:30 p.m. MT
October 11, 2022

James Lee Wilson Award

For Excellence in Sedimentary Geology Research by a Young Scientist

Chris Lowery

Dr. Lowery is a consummate micropaleontologist. For decades that has been a difficult word in academia, because it conjures the famous quote from Luis Alvarez, “I don’t like to say bad things about paleontologists, but they’re not very good scientists. They’re more like stamp collectors.” (Browne, New York Times, 1988). Chris Lowery has done a great deal of work demonstrating that Dr. Alvarez is both extremely right about the Cretaceous Paleogene boundary, but also extremely wrong. Micropaleontology as a discipline is incredibly interdisciplinary, as it brings together the fields of ecology, evolution, biology, tectonics, sedimentology, biostratigraphy, chemistry, and more. Dr. Lowery’s research is similar: he uses foraminifera as tools to explore a tremendous number of hypotheses. For example, during his graduate work, Chris spent a great deal of time working on the biostratigraphy and assemblage dynamics of the Western Interior Seaway and Gulf of Mexico across Ocean Anoxic Events, with one 2017 publication awarded the Editor’s Choice in Cretaceous Research.



While he has contributed to a number of different aspects of micropaleontology, Dr. Lowery’s most high-profile contributions have been about the Cretaceous–Paleogene boundary. His most cited first author paper describes how life recovered surprisingly quickly at ‘Ground Zero’, with a functional ecosystem returning within only 30 thousand years inside the Chicxulub impact crater. Despite this finding, he and a frequent collaborator demonstrated that while the ecosystem may have recovered, other metrics indicate that life did not fully recover for another 10 million years after the impact. This series of papers demonstrates Dr. Lowery seeks to challenge his own hypotheses, or reveal the intriguing details at their edges.

Paleontologists were slandered as stamp collectors because we were perceived to be more invested in naming and cataloging than hypothesis testing. Chris is constantly thinking about why what we study matters. It is very easy for a micropaleontologist to focus on esoteric aspects of our field, spending a great deal of time worrying about the exact calibration for the *Whiteinella archaeocretacea* biozone. Instead, Chris continually asks what the ultimate purpose is for the work we do. Societal relevance grounds his work, be it trying to understand the impacts and causes of ocean anoxia in both the past and modern, using the K/Pg as the only geologically understood event that caused massive ecosystem disruption faster than anthropogenic climate change, or as part of a team working to understand sand resources in the Gulf of Mexico. This bleeds into his teaching, with many of his lectures forcing students to ask the question of, “Why should we care?”

Chris also recognizes problems within science and works to remedy them in a variety of ways. He is active in outreach programs ranging from elementary schools to specialists, as IODP Ocean Discovery Lecturer, and was a leader for UT’s Unlearning Racism in Geoscience (URGE) Pod, as just two examples. As a key part of a new generation of IODP scientists, Chris and collaborators developed a series of workshops called “Demystifying the IODP Proposal Process for Early Career Scientists” (ECRs). These workshops were developed by and for ECRs to accelerate their involvement in the program. This contribution was quickly recognized by established program leaders, and Chris has been involved as a lead Chapter Author for the next iteration for the IODP Science Framework. Speaking from personal experience, Chris is a pleasure to work with, something that is not only recognized by those of his own generation of scientists, but also above and below. Mentorship is important to him, as previous mentees can, and do, attest. These contributions clearly demonstrate that Dr. Lowery works to improve science and scientific communities.

Biographer: Andy Fraas

Citation: *In recognition of Dr. Christopher Lowery’s contributions to furthering our understanding of the marine biota through different environmental crises and his contributions toward improving the scientific community.*

William R. Dickinson Award

For Excellence in Sedimentary Geology Research by a Mid-Career Scientist

Barbara Carrapa

As the 2022 recipient of the SEPM William R. Dickinson Medal, Barbara Carrapa is a leader in sedimentary geology, tectonics, and thermochronology. She unites sedimentary basin analysis with low- and medium-temperature thermochronological techniques to uncover erosional and exhumational histories of major mountain belts such as the Himalayas, Andes, Alps, Pamir, and North American Cordillera. Her innovative research has revised our understanding of orogenesis, surface uplift, and the interplay among tectonic, climatic, and sedimentary processes. In investigating diverse systems around the globe, she draws on a strong foundation of sedimentologic, petrographic, and stratigraphic skills from her undergraduate studies at the University of Pavia, Italy, and her doctoral training in thermochronology, geochemistry, and quantitative basin analysis from Vrije University, Amsterdam. Postdoctoral work at the University of Potsdam, Germany, launched Barbara's 20-year-long effort in the central Andes.



Barbara is best known for applying fission-track, $^{40}\text{Ar}/^{39}\text{Ar}$, and U-Th/He thermochronology to detrital minerals and providing unprecedented insights into the timing and rates of thermal and exhumational processes. Her dissertation research using the $^{40}\text{Ar}/^{39}\text{Ar}$ method on Alpine detritus was pioneering. In the Andes, she integrates field and laboratory results to show how basins interact with continental deformation to affect potential orogenic cyclicity and long-term growth of the high-elevation Puna–Altiplano plateau. In the Himalayan–Tibetan–Pamir system, her detrital analyses of modern rivers and ancient basin fill have helped define complex structural and erosional processes in response to slab dynamics during the India–Asia collision. Her work in the Sierras Pampeanas of Argentina and Laramide uplifts and basins of the western U.S. has shed new light on the relationships between flat-slab subduction and upper plate deformation.

As the driving force behind multiple field-based investigations, Barbara contributes at a fundamental level to the understanding of processes that shape surface topography and clastic depositional systems. Like Bill Dickinson, her expertise and interests transcend tectonic influences on sedimentation; she also documents the effects of regional and global climate on stratigraphic records, such as the critical roles of global shifts in climate and sea level on the evolution of central Asia and western South America. Since her 2010 arrival at the University of Arizona, Barbara has risen through the professorial ranks and, since 2018, she has served as the Head of the Department of Geosciences, where she is an enthusiastic colleague and valued mentor to many geoscientists.

Biographer: Brian Horton

Citation: *In recognition of Barbara Carrapa's innovative research in sedimentary geology and basin analysis, with the development of pioneering detrital thermochronological approaches that elucidate the tectonic and climatic histories of Earth's major orogenic systems.*

Raymond C. Moore Medal

For Sustained Excellence in Paleontology

Luis Buatois



Dr. Luis A. Buatois has produced immense and influential contributions within the field of ichnology, evolutionary paleoecology, and integration of trace fossil analysis with sedimentology and sequence stratigraphy in both, marine and continental settings. Through his work, he has provided a deeper understanding of major evolutionary transitions, from Ediacaran to modern ecosystems. His quantitative approach to track macroevolutionary trends through geologic time has generated innovative ideas and provided new perspectives on many old questions. In recent years, he and his research group have been focused on building up a new understanding of the history of life from the perspective of trace fossils. This major effort requires an extraordinary collaboration from the international scientific community.

Dr. Buatois impressive production of collaborative scientific papers, chapters on books, and own books speak by themselves. He has also served immensely the global paleontological community in general, and the South American community in particular. He is an active member of numerous professional societies and played an instrumental role in the creation of the International Ichnological Association (IIA), serving as its first President. His activities as a reviewer and editor also constitute a remarkable service to the ichnologic community, having been recognized by his peers for his constructive and positive reviews.

Another aspect that needs to be highlighted is that Luis is an exceptional lecturer and teacher, as well as a generous mentor. He has supervised a remarkable number of students, including many from underrepresented populations within the geosciences. As one of his former PhD students myself, I can testify of his avid assistance all along their careers, and his continuous guidance and advice.

In sum, Luis Buatois is, without doubt, a deserving recipient of the SEPM Moore Medal.

Biographer: Noelia Carmona

Citation: *For his remarkable and influential contributions to the advancement of trace fossil research as an important discipline within paleontology, his exceptional encouragement to students and young scientists to pursue a career in paleontology, and his extensive service to the global paleontological community.*

Francis J. Pettijohn Medal

For Sustained Excellence in Sedimentology

Gregor Eberli

In honoring the University of Miami's Gregor Eberli, the SEPM recognizes one of the pioneers in the understanding of the sequence stratigraphy and physical properties of carbonates.

Gregor Eberli holds the Robert N. Ginsburg Chair of Marine Geosciences at the Rosenstiel School of Marine and Atmospheric Sciences of the University of Miami. He is also recipient of the Grover E. Murray Distinguished Educator Award from AAPG and the Johannes Walther Award from the International Association of Sedimentologists.



Gregor P. Eberli was born in Giswil, a small town in Switzerland and completed his undergraduate and graduate degrees at ETH in Zurich. His Ph.D. involved working on the structural and sedimentological development of the Jurassic Tethys margin with an emphasis on extracting the evolution of the rift basins from carbonate turbidite successions. His participation in the inaugural expedition of the Ocean Drilling Program (Leg 101) as a physical property specialist prompted him to have a career long interest in the Ocean Drilling Program, participating on four expeditions, two of which he was a co-chief. After a brief spell back in Switzerland, Gregor joined his mentor Robert Ginsburg as a post-doctoral associate at the University of Miami's Comparative Sedimentology Laboratory on Fisher Island. Gregor was given some discarded seismic profiles from the Great Bahama Bank and with these he radically reinterpreted the depositional history of the Bahamas. Gregor joined the faculty at the University of Miami permanently in 1990 and for the past 30 years has been an outstanding educator, scientist, and colleague.

In the 1990s Dr. Eberli participated and helped organize major drilling expeditions in the Bahamas including the drilling of two cores on the Great Bahama Bank using a jack-up barge (Clino and Unda) and later the drilling of the western margin of Great Bahama Bank (Leg 166) using the JOIDES Resolution. Leg 166, on which Dr. Eberli served as co-chief, resulted in the first peer-reviewed work which demonstrated the time significance of seismic reflection lines in carbonate environments. This verified the basic assumptions of seismic stratigraphy as promoted by Peter Vail and thus had great significance for sedimentology well beyond formations dominated by carbonates. He later extended his expertise to the study of carbonate platforms in Australia and the Maldives. Together with Dr. Christian Betzler he led the ODP drilling of the Maldives and pioneered the relatively new concept of carbonate drifts as a major mechanism of carbonate deposition in deeper water, not only in regions such as the Maldives and the Bahamas, but also in ancient carbonate systems such as the Cretaceous of Southern Europe.

One of Dr. Eberli's most enduring contributions to the field of sedimentology has been his enthusiastic teaching, which is manifested not only in the numerous field courses that he has led together with his colleagues, but also in the mentoring of MS, PhD, and post-doctoral associates. These students and post-doctoral associates have been traditionally diverse, originating from throughout the world (U.S., Europe, Turkey, Middle East, Asia, and South America). Also, because of his mentoring and scholarship, the students from his group have played an important role in industry, in academia and the training of the next generation of sedimentologists.

Biographer: Peter K Swart

Citation: *For his outstanding, game-changing contributions to geosciences in the field of sedimentology, which has led to our enhanced understanding of carbonate systems throughout geological time and his dedication to teaching and training of students of all generations.*

Francis P. Shepard Medal

For Sustained Excellence in Marine Geology

Lionel Carter

Lionel Carter, Emeritus Professor in the Antarctic Research Centre at Victoria University of Wellington, New Zealand, was educated at the universities of Auckland and British Columbia. After a short stint at Texaco in Canada, he joined the New Zealand Oceanographic Institute in 1973, working through its transformation into the National Institute for Water and Atmospheric Research in 1992, until he moved in 2005 to Victoria University as Professor of Marine Geology.

New Zealand abounds in environmental superlatives with an extensive submarine continent traversed by an active convergent plate boundary. This dynamic setting spans subtropical to subantarctic climates and intersects the Antarctic Circumpolar Current—our largest ocean flow. The presence of strong environmental signals functioning today and recorded in thick deposits of terrigenous and biogenic sediments render this country, unsurprisingly, a sedimentologists' delight that has been Lionel's lifetime natural laboratory.

His research has investigated how basic geological, oceanic, and climatic processes interact to affect environmental change on timescales of days to millennia. This ongoing research, now well into its fifth decade, has benefitted greatly from collaborations with the international science community. These include Leg 181 of the Ocean Drilling Program co-led with Nick McCave and Bob Carter; MARGINS co-led with Steve Kuehl and Charles Nittrouer, ANDRILL with Tim Naish and Ross Powell plus a suite of NZ government-funded initiatives that involved many local colleagues whose collaborations were invaluable.

Initially, Lionel's research took a broad-brush approach to outline the modern sedimentary regime of the NZ region relying on existing data and new observations gathered by him on 25 research voyages. This research was very much guided by the 1960s and 1970s pioneers, with Francis Shepard's *Submarine Geology*, Kenneth Emery's *Sea off Southern California* and more latterly *Marine Geology* by James Kennett, essential reading. As undersea NZ was revealed, defining the processes that shaped it became major research topics aided greatly by technological developments such as remote sensing, seafloor mapping systems, and ocean drilling. Against that backdrop, Lionel turned his attention towards deciphering the records and causes of environmental change, as exemplified by the MARGINS initiative, which sought to determine the responses of landscapes to climatic, tectonic and anthropogenic forces and the resultant passage of sediment from the mountains to the abyssal ocean.

Lionel is very much a firm believer in applying geoscience to real-world problems, especially those associated with marine infrastructure. For the past 15 years he has worked with the International Cable Protection Committee, an international not-for-profit forum for the submarine telecommunication industry, to better protect the global fiber-optic cable network from marine hazards. This work has gained global significance as the network carries >95% of all international internet and communications traffic. By identifying the presence and frequency of hazards such as submarine landslides and turbidity currents, it is now possible to improve the safety profile of cable routes. And it is to the cable industry's credit that this research is published in the science literature thus improving our knowledge of how the deep ocean functions.

In summary, Lionel Carter has done more than any other individual to grow our knowledge of the marine environment past and present in the New Zealand region and beyond, and is a highly worthy recipient of the Francis P. Shepard Medal for Sustained Excellence in Marine Geology.

Biographer: Colin Wilson

Citation: *For more than 50 years of inspirational research on the past and present marine geology of the greater New Zealand region that has given us new insights into the processes that shape the sedimentological record of the marine environment.*



Honorary Membership

For contributions to the science and SEPM

Lesli Wood

Honorary membership in SEPM is given to Lesli J. Wood in recognition of her sustained and outstanding service and leadership to the Society, and her accomplishments in the field of sedimentary geology. In particular, her contributions in seismic geomorphology have greatly advanced our science. She is the eighth female scientist to be so honored out of 126 awards since 1930 and only the sixth since 1973.

Lesli has served SEPM as Secretary-Treasurer in 2002–04, and as Gulf Coast Section SEPM President-Elect and President in 2005–07. Lesli has continued her leadership role in the national organization as a member of the HBC Committee, and as STRATA Editor from 2018 to the present. She is also a long-time and dedicated student proposal reviewer for the SEPM Foundation. An SEPM member since 1984, Lesli also served numerous times as session co-chair in SEPM annual meetings; and, served as SEPM Annual Meeting Program Committee Chairman in 2003, and as SEPM Annual Meeting Vice-Chair in 2008. She has and continues to serve as a reviewer for JSR; and significantly, she co-edited a now classic Special Publication 288 on Seismic Geomorphology, done jointly through the Geological Society of London and SEPM.



Lesli has garnered numerous awards throughout her career, including the 2022 Robert Berg Award from AAPG, and previously six best poster awards, and four best paper awards, including the AAPG J. Cam Sproule Memorial Award for best paper by a young geoscientist in 2001, the JSR Best Paper Honorable Mention in 2008, the BEG Excellence in Publication in 2010, and the 2014 EAGE Norman Falcon Best Paper in Petroleum Geosciences.

Having grown up on an Arkansas farm amid classic Ozark and Ouachita Mid-Continent geology, it was only natural for her to gravitate to geology in her Arkansas university career. Adventuring out to the mountains and plains of Colorado, she received her Ph.D. at Colorado State University where she first investigated shelf and slope depositional systems and was advised by SEPM Honorary Member Dr. Frank Ethridge. This led her to becoming one of the pioneers in the development and application of seismic geomorphology. Lesli has fostered the development of techniques in quantitative seismic geomorphology that integrate seismic and shape mapping with traditional modern geomorphological approaches to predict deep marine process and depositional fill, and thus predict depositional body size, composition, and heterogeneity. Lesli has also been an advocate and practitioner of an integrated approach to stratigraphic interpretation. During her scholarly pursuits she has graduated numerous M.S. and Ph.D. students; has published over 50 peer-reviewed publications and 14 book chapters in collaboration with a large, diverse group of experts across many sedimentary geology disciplines.

Lesli's technical leadership and mentoring skills were developed through a long tenure at the Bureau of Economic Geology in the Jackson School of Geosciences, at the University of Texas, Austin, where she attained the level of Senior Research Scientist.

Currently, Lesli holds the Robert J. Weimer Endowed Chair and Professor in Sedimentary and Petroleum Geology at the Colorado School of Mines, where she also serves as Associate Department Head. In addition to her work in quantitative seismic analysis of paleo-geomorphic landscapes and seascapes, she has pursued projects in geohazards, basin analysis, including climatic and tectonic influences on sedimentation in a variety of tectonic settings, and notably, most recently she has been investigating planetary processes and deposits and developing analogs for Mars.

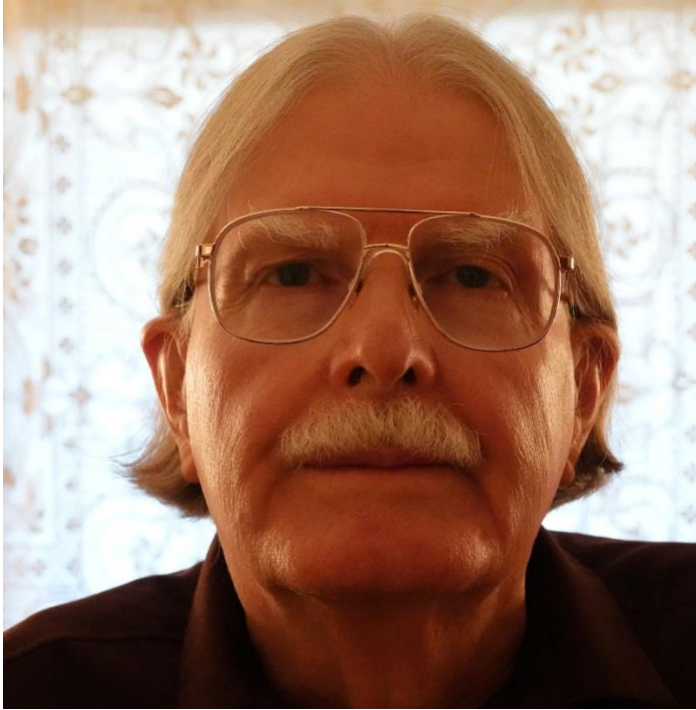
Biographer: Rick Sarg

Citation: *For exceptional service to SEPM as a leader and editor and to the field of sedimentary geology as a scholar, explorer of the seismic realm, enthusiastic collaborator, and outstanding role model.*

William F. Twenhofel Medal

For a Career of Outstanding Contributions in Sedimentary Geology

David Bottjer



During his career, David Bottjer has made significant contributions to sedimentary geology and paleobiology through insightful studies on mass extinctions, early animal evolution, and macroecological trends, often with a strong focus on animal-sediment interactions. Dave received his PhD in 1978 from Indiana University, where he began work on community paleoecology, particularly incorporating sedimentology to assess the role of bioturbation and substrate conditions on community structure, using Cretaceous chalk faunas of the Gulf Coast as a case study.

His work expanded to include a more explicit focus on trace fossils and bioturbation, but with an environmental and ecological angle. For example, Dave and Chuck Savrda investigated trace fossil assemblages as indicators of oxygen-deficient conditions, an extension to the well-established use of ichnofacies to constrain energy and substrate. Ichnofabric index, developed by Dave and Mary Droser, was an important advance in assessing the consequences of bioturbation through its focus on the extent of sediment mixing independent of trace fossil diversity or composition. Ichnofabric index measurements have played key roles in understanding how substrate changes influenced early animal evolution, how bioturbation intensity changed following mass extinctions, and have provided a foundation for a growing body of work on the

biogeochemical consequences of bioturbation through geological time.

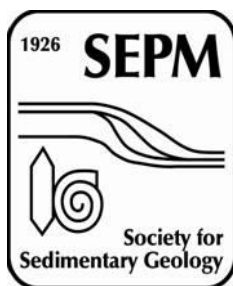
In addition to macroecological studies of long-term trends in organism tiering, both above and below the seafloor, and the onshore-offshore distribution of evolutionary innovations, Dave is perhaps best known for his work in two areas: the evolution of early animals during the Neoproterozoic and Cambrian, and the consequences of the end-Permian and end-Triassic mass extinctions and their recoveries. He has contributed significantly to paleobiological discoveries such as the affinities of early embryo fossils and the rise of bivalves following the end-Permian extinction, but has also made important sedimentological advances in these areas. He and his students documented increased bioturbation intensity and decreased microbial influence on sedimentation during the Cambrian, helping to emphasize the evolutionary importance of this “Cambrian Substrate Revolution” on early animals. He helped pioneer the study of mass extinction recoveries, broadening research interest beyond the immediate extinction interval and its causes. In this field, his group played an important role in documenting the significant resurgence of microbially-influenced sediments such as stromatolites and wrinkle structures following the extinction, as well as the proliferation of anachronistic features such as seafloor cements that hint at dramatic changes to seawater chemistry.

Dave’s research accomplishments reflect not only his ability to identify creative questions, but also his successful graduate mentoring. Dave’s mentoring gives students the flexibility to guide the direction of their projects and build their own skills in developing research questions. Over his career, Dave has mentored 30 PhD students, nearly all of whom have gone on to successful careers at universities, museums, government agencies, and scientific societies.

Dave’s contributions to multiple research fields and to the development of the next generation of scientists both speak to his impact on the discipline.

Biographer: Matthew Clapham

Citation: *To David J. Bottjer, in recognition of his interdisciplinary contributions at the interface of sedimentology and paleobiology, including the development and consequences of bioturbation, animal-substrate interactions during the early evolution of animal life, and biological and sedimentological consequences of mass extinctions and their recovery.*



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.

SEPM (Society for Sedimentary Geology)

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SEPM Foundation

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