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JOURNAL OF MARINE RESEARCH

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Hats off to you, Jim!

Jim's intellectual curiosity was an inspiration. In addition to those whose comments follow, he clearly touched the careers and lives of many others.

It is perhaps old-fashioned, and even curmudgeonly, to attribute a portion of Jim McCarthy's success to virtues that may evoke another era. I plead guilty to both labels, but I would point out that among these virtues are listening and objectively entertaining arguments. These abilities have ingredients of politeness, respect, consideration, and patience, qualities some see in short supply. Not that this patience is easy, nor does it signify lack of vigor in defending his position. But Jim's listening is a key aspect of his successful scholarship, especially when driven by his boundless curiosity and keen desire to get it right.

These qualities have served Jim well in other arenas. Although others may think of academic administration or advising Nobel laureates on climate change, I think of auto mechanics and winter mountaineering. Jim's garage in Lexington resembled a chop shop for old Audis, where he and his sons could break down and cannibalize various hulks to keep the primary vehicle purring. In the mountains, a reliable steadfastness on the end of a climbing rope, but also knowledge and discretion are essential in avoiding extreme situations. Jim's knowing the method and patience required for compacting deep powder snow into a firm tent platform once proved crucial after a long, after-dark approach to a high camp.

To list Jim's many virtues may conjure up an unapproachably august figure, especially if he has a beard. But his caring and sense of humor are at the fore. This humor can easily approach silliness, even prior to sharing the distinctions of fine sherries and Armagnacs. He has taught this physical oceanographer far more than biology. Hats off, indeed.

—Bill Boicourt

University of Maryland Center for Environmental Science

I have followed Jim's work since I was in graduate school in the '70s and it was highly influential in the development of my own research interests. I still refer to many of his classic papers with Goldman and Carpenter in our Advanced Biological Oceanography class for our incoming graduate students.

—Doug Capone
University of Southern California

Jim McCarthy and I worked together in the early part of our careers on several aspects of ocean science relating to the marine nitrogen cycle. I enjoyed the research cruises, and, all in all, it was a productive collaboration. We especially reveled in great shore excursions to exotic locations in Spain, Bermuda, and Caribbean islands.

—Ed Carpenter
San Francisco State University

While finishing a post-doc at Scripps I was offered a faculty position in the Civil Engineering Department at MIT—an unlikely place for someone like me! It was largely because of Jim's encouragement—from the hallowed halls of Harvard—that I decided to take a risk and give MIT a shot. That was the best decision I ever made. Jim was very supportive as I launched my lab and I have fond memories of cruising in the Caribbean with him, wild taxi rides in St. Lucia, and trips to Taunton to scrounge Army surplus equipment. My career was shaped significantly by his mentorship, kindness, and friendship during those early years, and for that, I will be forever grateful.

—Penny Chisholm
Massachusetts Institute of Technology

I have known Jim since I was a graduate student at the University of British Columbia and he was just finishing his degree at Scripps. Jim was a pioneer in the application of stable nitrogen isotopes to quantify nitrogen fluxes in the upper ocean. Although I never worked with Jim, I spent a lot [of] my academic life studying his papers and listening to his talks. Jim's work inspired me to attempt to understand the co-evolution of the carbon, nitrogen, and oxygen cycles, and the influence of trace elements (especially iron) on them. I was delightfully surprised and especially honored that we shared the 2018 Tyler Prize, and was doubly happy to meet Jim and his lovely family for the occasion to thank him in person for his scholarship, academic leadership, and most important, his grace as a human being.

—Paul Falkowski
Rutgers University

Starting out in acid rain research in the mid-1970s, my questions focused mostly on sulfur. Even when I ventured into nitrogen, it was in the context of acid rain. After a while, I realized that there was more to nitrogen than atmospheric nitric acid and then things got complicated! All those chemical species, all that biology, and especially all that variability.

Thank goodness Jim McCarthy had already provided an example and a role model for how to handle complex biogeochemical systems and for that I am extremely grateful!

—Jim Galloway
University of Virginia

I first met Jim McCarthy when I started graduate school at Harvard in 1977. I had heard stories of other students being intimidated by Jim, so I was a bit nervous when I asked if I could do a tutorial with him in biological oceanography, which I knew nothing about at the time. He agreed without hesitation. Far from being intimidating, Jim put me at ease even while he challenged me to think hard and carefully. He was always ready to listen, and offered wise counsel, support, and encouragement when needed the most.

—Dave Kirchman
University of Delaware

Until [recently], I had not fully realized that Jim influenced me both as a graduate student and again much later in my career. As a grad student, his work on nitrogen cycling in the Chesapeake Bay inspired my parallel research in the Delaware River, with Jim providing guidance on my dissertation committee. As I stayed at Harvard for my post-doc, I heard that he was working on some new international activity that was involved in climate change, which turned out to be the IPCC, but at that stage of my career, I was focused on publishing and establishing myself scientifically to pay any attention. I had no appreciation and indeed wondered why someone would stop doing research to go off on such a tangent.

Twenty-five years later, having moved to Washington, DC to serve at NSF and then NASA, I started working on assessments myself and then his vision of service and his clarity about the climate crisis quickly became far more obvious! As I worked on the National Climate Assessments at the US Global Change Research Program, which also supports the US federal engagement with IPCC, I fully understood the crucial role that IPCC and similar assessments serve and developed a deep appreciation of Jim's service to the global effort. As senior advisor for the 2017 Adaptation Actions for a Changing Arctic, I discovered that yet again Jim had led the way forward with his involvement in the previous version in 2004. Indeed, as I googled around to check my hazy memory of Jim's activities, I also came across his 2007 testimony to Congress about climate distortion that rings shockingly still true today in my current work life. Jim certainly deserves the Tyler Prize for his many achievements over a varied and illustrious career and he has my deep appreciation for the influence on my career!

—Fred Lipschultz
US Global Change Research Program

I have spent the last few decades working on global change impacts on the environment. To a large degree, it was Jim McCarthy who started me on this path. I was a member of a US National Academy Committee on global change that was initiated by Tom Malone

and Herbert Friedman. When the first chair of the committee, Jack Eddy, stepped down, Jim suggested that I become chair. The committee produced a first plan for a global change research program. This plan was put forth for adoption, as an international program, to be administered by the International Council of Scientific Unions. Jim became the international scientific director of the program. He mobilized nations in their first efforts to address the consequences of global changes and led in the development of international teams to work on the many dimensions of global change impacts. As they say, the rest is history and one that is built in large part to Jim's visions and commitment.

—Hal Mooney
Stanford University

Jim McCarthy and I started our careers at nearly at the same time in Cambridge and quickly became next door neighbors in Lexington where our children attended school together. Through his passion for oceanography (and his willingness to share his extraordinary command of the literature!) Jim played a key role in the evolution of my own career. But science was not everything in those early days: weekend trips to the Lexington dump where we collected more than we deposited; foot races around the Mystic Lakes with Penny Chisholm's group and ours; rides to Woods Hole to attend seminars or general exams.... Thanks Jim for sharing your passion, inspiring my career, and enriching my life.

—François Morel
Princeton University

I am delighted to join with your former graduate students sending congratulations on your 2018 Tyler Prize award. The award cites your clarion call on the "global impacts of climate change" through your work on the JGOFS program. I cannot help but reflect at this time on the full arc of opportunities that you created for this group through your tireless work, not only on policy, but in organizing the many interdisciplinary and other research programs, the global adventure in which were all privileged to be a part. Congratulations indeed!

—John Nevins
Harvard University

My first large oceanographic research program was on Warm-Core Gulf Stream Rings in the early 1980s. The program was innovative and ahead of its time with respect to multi-platform sampling strategies and interdisciplinary focus—thanks in great part to the leadership of Jim McCarthy. I had the good fortune to go on several cruises on which Jim served as chief scientist. As a young scientist I benefitted greatly from Jim's leadership style, support, and mentorship.

—Mike Roman
University of Maryland Center for Environmental Science

Jim McCarthy has had a profound influence on my career since I first arrived at Harvard as a junior faculty member in 1997. He was in the midst of his work with Working Group 2 of the IPCC, and I was fascinated with all dimensions of climate change and climate policy—so we ended up speaking frequently, teaching several undergraduate seminars together, and even writing a paper together for a volume of *The Sea*. But more than any specific research or teaching interaction, including his substantial role as head tutor for the undergraduate concentration in Environmental Science and Public Policy, Jim’s influence on me was foremost through his kindness and his gentleness, never forsaking his very critical standards, yet inspiring me (and all around him) to value the collegial interactions that make science so much fun.

—Dan Schrag
Harvard University

As a young scientist in the 1980s and 1990s trying to tackle global scale nitrogen questions driven by microbial scale processes (e.g., denitrification), Jim’s upper ocean nitrogen dynamics work was an inspiration to me. What I wasn’t aware of was Jim’s central role in the establishment and evolution of an organization that I would later become the executive director of, the International Geosphere-Biosphere Program. As Hal Mooney notes above, Jim was involved in the establishment of a number of international programs. For IGBP he had important input during the early to mid-1980s to the original ICSU [International Council of Scientific Unions] Ad Hoc Planning Group on Global Change. He was subsequently appointed chairman of the ICSU Special Committee that under his leadership developed and laid the foundation of this major new transdisciplinary global change research program, IGBP. Jim continued to be a promoter of IGBP throughout its three decades. I’m sure I wasn’t the only one who was moved that he came to the final celebration of IGBP’s accomplishments in 2015, thus closing the circle on an important international global change initiative that he was instrumental in launching three decades earlier. Hats off to you, Jim!

—Sybil Seitzinger
Pacific Institute for Climate Solutions

I always considered Jim McCarthy to be my academic uncle, because my PhD advisor, Mary Jane Perry, was Jim’s academic sibling, both having done their PhDs with my academic grandfather, Dick Eppley. I “grew up” hearing about Jim and of course subsequently followed some of his work as it related to my own. Most recently, it was an honor and a pleasure to serve on a committee of the National Academies about the future of oceanography with Jim. There he played the role of everyone’s academic uncle—wise, generous, keeping us honest.

—Bess Ward
Princeton University