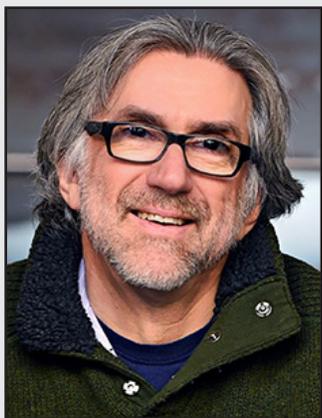


2014 MEDALS & AWARDS

G. K. GILBERT AWARD

Presented to
W. B. McKinnon



Bill McKinnon
Washington University in St Louis

Citation by Jay Melosh

It is a great pleasure to see the Gilbert Award presented to William B. McKinnon. G. K. Gilbert excelled in applying quantitative reasoning to geologic and planetary processes, a talent evident in Bill's own research. Bill's distinguished career in Planetary Science began in 1981 at Caltech, where his PhD dissertation focused on the mechanics of complex crater formation. This work shortly developed into the ring tectonic theory of multiringed basin formation, a theory that has received spectacular verification from the GRAIL gravity investigation of the Orientale basin on the Moon. Bill's true love, however, always lay in the outer part of our solar system, where the icy moons of the giant planets captured most of his later attention.

Bill was one of the first to recognize that the bright lanes arcing across Galileo Regio on Ganymede form a ring system similar to (but larger than) the Valhalla system on Callisto. He has been a leading investigator of convection in Europa's icy shell in collaboration with a long list of students and postdocs. He proposed an impact origin for Charon, the major satellite of the dwarf planet Pluto and is participating in the upcoming flyby of that object. Most recently he played an important role in defining the nature and origin of Iapetus' (and Enceladus') equatorial ridge. Bill has been an active advocate for planetary science and exploration. He has a talent for clearly summarizing complex information and his many review papers and

edited books are, for many aspiring young scientists, their first source of information about the bizarre denizens of the outer solar system.

For all of these reasons, and many more that there is no space to list here, I think that Bill McKinnon is a most fitting recipient for the 2014 Gilbert Award.

Response by W. B. McKinnon

I thank Jay for his gracious remarks. I also thank my luck to be born in the middle of the 20th century. I was able to see the Moon and planets revealed one by one as the real places they are. As a boy I was utterly captivated by the far off worlds of our solar system, but had to be contented with low-resolution telescopic images or illustrations from the imagination. I went to college (MIT) to study science in some form, but it only became clear with time that the path to the planets, for me, lay through geology. I remain forever grateful for my undergraduate grounding, in both physics and geology, and for such inspirational teachers as Irwin Shapiro and John Lewis.

Heading out west for the first time, I landed at Caltech, and began my graduate work with Jay Melosh, someone who needs no introduction given his immense contributions to planetary science. Our initial theoretical (and a bit of experimental) work in impact cratering was fascinating enough, but what valorized my graduate years were the launch and arrival of the twin Voyagers at Jupiter. Entirely new worlds to explore and understand (by which I mean the satellites)! I have never looked back (or at least not much). The one-score-and-two midsize and large satellites of the giant planets illustrate splendidly the variation possible in geological and geophysical evolution, and the uncountable number of dwarf planets in deep solar space provide a boundless scientific frontier.

It was also in graduate school that I discovered G.K. Gilbert, whose papers can still be read with profit — for their insights, prescience, and methodology. Indeed, I continue to assign his 1896 *Science* paper on “a topographic problem” (Meteor Crater) in my planetary geology class, as an example of coming to the wrong conclusion for all the right reasons. Nature can be subtle, and it is so important to question one's assumptions. Gilbert's expert consideration of the impact problem and the surface of the Moon make him, in my view, the first true planetary geologist. I am deeply honored to receive this award named for him.

Space does not allow me to thank everyone to whom I owe so much, but I will try: Jay Melosh, of course, who initiated me into the mysteries of impact cratering and tectonics, and who provided the template for a scientific life; the other faculty and students at Caltech back in the day, including Andy Ingersoll, Dewey Muhleman, Gene Shoemaker, and Peter Goldreich; Bob Strom of the University of Arizona, who needed a postdoc to study icy satellites right when I needed a job; Larry Haskin and the department at Washington University in St. Louis, who took a chance offering a faculty position to a greenhorn; my parents, grandparents, siblings, and uncles; my most excellent former students, many of whom made the trek to Vancouver; numerous colleagues and bffs (many of whom are the same); and of course my lovely and talented wife Kate and our children.

In closing, I will simply say that it is wonderful to reconvene, as we periodically do, this tribe of like-minded planet and (especially) icy satellite enthusiasts. Planetary science, and especially planetary geology, is never, ever boring. New discoveries roll in endlessly, enriching and ennobling the common heritage of humankind.