

Keynote Address: The Hockey Stick and the Climate Wars: Dispatches from the Front Lines

SPEAKER:

Michael E Mann

Distinguished Professor of
Atmospheric Science
The Pennsylvania State University
State College, Pennsylvania

REPORTER:

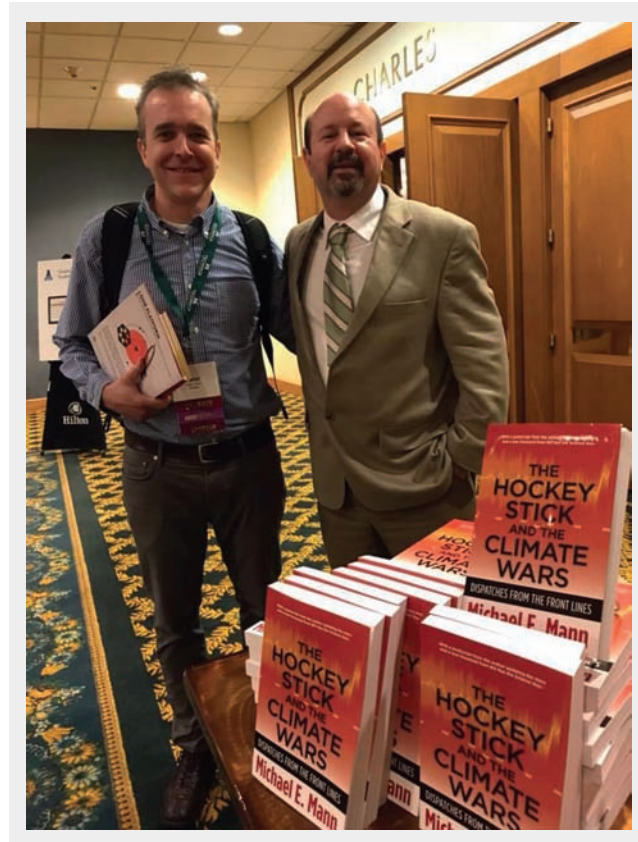
Peter J Olson

Senior Copyediting Coordinator
Sheridan Journal Services
Waterbury, Vermont

If you had approached Michael Mann while he was double majoring in applied mathematics and physics at the University of California, Berkeley, and told him he would one day be one of the most prominent public figures in the fight against climate change, he likely would have laughed in your face. A mild-mannered scientist at the center of one of the most politically contentious debates in the history of human civilization? It simply wasn't the plan. Yet there he was in New Orleans, delivering an inspiring keynote address in which he recounted the "evolution of a science nerd" who became a conduit for conveying the science of climate change to the general public—and how he ultimately came to embrace this role.

Mann was thrust into the spotlight in 1998 when he and his colleagues published the now-famous "hockey stick curve," a graph illustrating the increasing global warming trends over the last 1000 years in which the curve is not so much a curve as it is an obtuse angle that resembles its namesake.¹ The hockey stick curve became an icon of the climate change debate virtually overnight, and Mann just as quickly found himself at the center of efforts to discredit the graph—and discredit him—as a means of dismissing the case for human-caused climate change altogether. He eventually came to realize that such efforts are rooted in a cynical belief that if the science behind the hockey stick curve is dismissed, the whole climate change debate will collapse like a house of cards.

Such attempts seem irrational in light of the evidence, particularly given Mann's assertion that the science of human-caused climate change is neither new nor scientifically controversial (thanks largely to Joseph Fourier, the 18th-century physicist credited with identifying the greenhouse effect). Furthermore, Mann suggested these attempts are more fallacious than ever given the myriad other lines of evidence for human-caused climate change that have surfaced since the hockey stick's debut. A "veritable hockey



Peter Olson (left) and Michael Mann (right) pose with a stack of Mann's book *The Hockey Stick and the Climate Wars*.

league" of studies now tell the same story as the hockey stick: the earth has warmed significantly in the last 1000–1400 years, humans are the cause, and we have an increasing number of droughts, heat waves, superstorms, and floods to show for it.

Yet even among those who accept the scientific conclusions derived from the hockey stick, there are critics, including those who suggest that the observed warming trends are natural. Mann addressed this questionable claim in a 2017 article in *Geophysical Research Letters*² in which he and his colleagues demonstrated that the years 2014, 2015, and 2016 were the warmest years on record (in ascending order) and estimated that it is highly unlikely that this trend was not due to human behavior.

CONTINUED

This prompted Mann to ask: If the scientific evidence is so compelling, and the signs of climate change are no longer subtle, why has there been so little action to combat it?

His answer was simple: The fossil fuel industry—the largest and wealthiest industry in the world—profits from the global addiction to fossil fuels, and they wield their immense power, wealth, and influence to maintain the status quo. Their efforts to stymie any transitions toward renewable energy have taken many forms, including fake grass roots campaigns that are coordinated by fossil fuel interest groups (and the politicians who support them) to inject doubt into the public discourse. These campaigns often create front groups—some of which employ actors to portray defiant citizens, others of which recruit apostolic scientists to publicly undermine their peers—to openly contest the science of climate change, in turn creating the illusion of a groundswell of opposition. (Mann himself was once the target of a dubious Facebook campaign to prevent him from delivering a climate change lecture at Penn State.) Such tactics are not new; in particular, they emulate the campaign initiated by the tobacco industry to discredit the science linking cigarette smoking to several diseases—and some of the same players, funders, and scientists who had key roles in that campaign have climbed aboard the anti-climate change bandwagon.

For Mann, these campaigns embody what he calls the “scientization of politics,” a concept wherein science is a mere tool for waging politics, and politicians can summarily dismiss the conclusions of renowned scientific organizations in favor of an “alternative universe where the laws of physics no longer apply [and] the science of climate change is an elaborate hoax.” Citing personal skirmishes with climate change deniers Sarah Palin, James Inhofe, Ken Cuccinelli,

and Lamar Smith, Mann derided the notion that thousands of scientists around the world could not only coordinate such a hoax, but could also arrange the melting of ice sheets and the rising of sea levels to promote their agenda. All joking aside, however, Mann said that the scientization of politics has created a disturbingly challenging environment: many U.S. EPA policies that have been established over the last 50 years are now being dismantled, and science itself is under attack by legislators who are feeling increasingly entitled to—and empowered by—their own opinions about climate change. Undaunted, Mann has endured and combated this anti-scientific fervor relentlessly over the years, often partnering with influential journalists, celebrities, and politicians to help leverage his message.

Michael Mann’s role as a highly visible figure in the fight against climate change is a far cry from the humble scientist who “wanted nothing other than to be left alone in the laboratory.” Yet even though he was forced into the public sphere involuntarily, he has grown to appreciate his position over time—and he continues to find inspiration in his passion for science and his vision of a political environment that fosters objective discussions about human-caused climate change. Mann perhaps put it best when he said, “What more important role could a scientist play than to try to inform the public discourse over what is potentially the greatest challenge we face as a civilization?”

References

1. Mann ME, Bradley RS, Hughes MK. Global-scale temperature patterns and climate forcing over the past six centuries. *Nature*. 1998;392:779-787.
2. Mann ME, Miller SK, Rahmstorf S, Steinman BA, Tingley M. Record temperature streak bears anthropogenic fingerprint. *Geophys. Res. Lett.* 2017;44:7936-7944.

All full list of all of the presentations from the 2018 CSE Annual Meeting, including session descriptions and most presentation slides, can be found online at <https://www.councilscienceeditors.org/events/previous-annual-meetings>