

## 2008 MEDALS & AWARDS

### GILBERT H. CADY AWARD

Presented to Maria Mastalerz



Maria Mastalerz  
Indiana Geological Survey

#### *Citation by James C. Hower*

It is an honor to be here tonight recognizing Maria Mastalerz for her outstanding contributions to coal geology. I first got to know Maria in the mid-1980's when she wrote letters asking questions about my papers. Neither of us could have anticipated that the inquisitive young Polish student would end up being the distinguished colleague we are honoring tonight.

I believe that, in order to be a coal geologist, it is important to go to the coal. In many parts of the world, such as in Poland and in the Illinois Basin, sometimes this means going underground. In this respect, Maria has more than paid her dues. Her graduate fieldwork was conducted in difficult, deep-coal conditions. There is really no substitute for personally collecting samples for your research, a lesson she learned early in her career.

Since arriving in North America in 1990, she has established research in the electron microprobe examination of coal and the in situ organic geochemical characterization of macerals. Both activities have been valuable in characterizing material that would be difficult to separate from the coal matrix.

More recently, she has conducted research in the petrology and chemistry of Indiana coals and their combustion by-products. She has undertaken a thorough investigation of the coal in the mine, tracing it through its path to the power plant and beyond. Just as it is important to study

the coal in place, it is vital to understand the power plant as the factory producing new products: the fly ash, bottom ash, and flue gas desulfurization products. Through her own work in Indiana, and by means of collaborations with other investigators, she has contributed to our understanding of mercury capture in fly ash, an important aspect in the prospects for utilization of fly ash.

Arguably, her most important contributions have come in coalbed methane and carbon dioxide sequestration research. Through field studies and subsequent laboratory investigations, she has become one of the leaders in this important discipline.

For her research in many aspects of coal geology and petrology, for her dedication to her students, and for her exemplary service to our professional organizations, it is an honor to be recognizing Maria Mastalerz, one of the outstanding coal scientists of this generation, with the Gilbert H. Cady Award of the Geological Society of America's Coal Geology Division.

#### *Response by Maria Mastalerz*

I would like to thank Jim Hower for his kind words and the Coal Geology Division of the Geological Society of America and the Nominating Committee for presenting me with this year's Gilbert H. Cady Award. I feel particularly honored to be only the second woman, after Marlies Teichmüller, to receive this award. It is also satisfying that this year's award is for work done primarily in the Illinois Basin, the region where Gilbert H. Cady devoted most of his professional life.

I became a geologist relatively early in my life. At the age of 14, I decided that I would be a scientist. "Geology" sounded very scientific to a 14-year old girl in my native Poland, and I chose to attend a geological high school. Five years later, I received a diploma in geology after defending a project on a design of an underground coal mine. Perhaps this was the first sign, unrecognized at that point, that coal geology was in my future. Finishing high school as a number-one-ranked student gave me automatic acceptance to any university and department in Poland. I filled an application to study international trade in Warsaw, but after two days of thinking, I changed my mind. "Geology is not so bad," I thought, and put in an application to study geology at Wrocław University.

The next sign that I should become a coal geologist came five years later after

I defended my M.S. thesis on the clastic sedimentology of a Permian basin in Poland. The professor of coal geology at Wrocław University unexpectedly left Poland, and I was offered a position to teach and work towards a doctoral degree in coal geology. It was 1981. Because no one at Wrocław University was studying coal at the time, I turned to Prof. Wiesław Gabzdyl from the Silesian Technical University in Gliwice for help and guidance. For the next several years, I split my time between teaching at Wrocław University, doing field work in the underground coal mines in the Intrasudetic Basin, and working in the coal petrology laboratory in the Upper Silesian region.

In 1986, I was offered a British Council Fellowship at Newcastle-upon-Tyne University in England to work with Prof. Duncan Murchison and Dr. Mike Jones in their organic petrology/organic geochemistry lab. It was my first international exposure and it turned out to be of critical importance in my life. During my nine-month stay in Britain, I completed all the analyses towards my doctorate, learned English, and wrote my first article for an international journal. I will always be grateful to Prof. Murchison for giving me that life-changing opportunity.

After my return from Britain, I completed my dissertation and graduated with a Ph.D. in Mining Geology from Silesian Technical University in 1988. My thesis work on depositional conditions and coal rank in the Intrasudetic Basin received a Polish Ministry of Education Award. I then started as an assistant professor at Wrocław University, continuing my work on coals and oil shales from the Intrasudetic Basin.

The next turning point happened in 1990 when Prof. Marc Bustin offered me a postdoctoral position at the University of British Columbia in Vancouver. I am very grateful to Prof. Bustin for giving me the chance to work with him. Those four years in Canada were extremely fruitful and enjoyable, and to a large extent influenced my further career.

My job as a coal geologist with the Indiana Geological Survey at Indiana University provided more opportunities to work on coal and coal-related issues. My 14-year association with Indiana University has also been very rewarding. A collaborative effort with my colleague Arndt Schimmelmann allowed us to successfully address many geological and chemical aspects of organic matter and generated hydrocarbons, not only from coal but also from other kerogen types,

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and resulted in excellent graduate theses and first-rate publications. Work with John Rupp, Agnieszka Drobnik, Nelson Shaffer, among others, on practical aspects of coal geology resulted in maps and reports that are used by industry and the government. I value the support of my supervisors, Norman Hester and, more recently, John Steinmetz. I am also greatly indebted to past and current graduate students: Rachel Walker, Grzegorz Lis, Dariusz Strapoc, Wilfrido Solano-Acosta, Ling Gao, Hui Jin, and Penny Meighen. Their enthusiasm, scientific curiosity, and humor make my work more complete, exciting, and fun.

While working at Indiana University, I have enjoyed many fruitful collaborations with my colleagues from other centers. Joint projects with Jim Hower, University of Kentucky; Miryam Glikson, University of Queensland; Erwin Zodrow, University College of Cape Breton; Colin Ward, University of New South Wales; and others have contributed to my success. And it is an honor for me that these people have become not only my co-workers but lifelong friends.

Finally, I would like to thank my husband, Brian, for his continuing support, and my daughter Kasia for always believing in her mom.

In closing I would like to say that I love my work, I love doing research, and it has already been a great reward for me to have had the opportunity to work on coal-related issues for all these years. It makes me feel even better to see the current renewed and diversified interest in coal and the increased demand for information that only we, coal geologists, can provide. I gratefully and humbly accept this award. It assures me that the choices I made and directions I chose were good ones, and it will motivate me to work even harder to deserve it. Thank you very much indeed.