ACS Catalysis Lectureship in its Fifth Year: First Team of Winners in 2015 and a Look into the Selection Process

On Monday and Tuesday of the 250th ACS National Meeting in Boston, Massachusetts (August 17–18, 2015), in a session cosponsored by the ACS Technical Divisions of Catalysis Science and Technology (CATL) and Inorganic Chemistry, Morris Bullock and Daniel DuBois of the Pacific Northwest National Laboratory (PNNL, Richland, WA) jointly presented the 2015 ACS Catalysis Lectureship entitled "Design of Molecular Electrocatalysts for the Production and Oxidation of Hydrogen." The Lectureship presentation ended a 1.5 day symposium that featured 18 speakers (Figure 1), including other members of the PNNL team whose work was recognized with the award (Aaron Appel, Molly O'Hagan, Monte Helm, Simone Raugei, Wendy Shaw, Sharon Hammes-Schiffer, Eric Wiedner, Jenny Yang).

Tom Rauchfuss (University of Illinois, Urbana–Champaign) introduced DuBois and Bullock at the start of the lectureship presentation, noting the PNNL Hydrogen Catalysis Team has had a tremendous influence on coordination chemistry. Rauchfuss said, "Standing on the shoulders of a team, the PNNL group's approach to electrocatalytic proton reduction using ligand-based proton shuttles has had an across-the-globe effect, and this research provides both a fundamental advancement and activities that are applicable to benchmarking catalysts."

DuBois gave the first half of the talk, discussing the foundation for the design of the first nickel catalysts with an emphasis on the role of the pendant amines. These initial catalysts provided functional models of the FeFe hydrogenase enzyme, which inspired their creation. Bullock showed how the successful design of nickel electrocatalysts has been extended to iron, cobalt, and manganese catalysts. One takeaway message was that in addition to carefully tuning the thermodynamics for optimal proton transfer, "As in real estate: location, location, location. The value of proton relays is maximized by correctly positioning the ligands."

At the conclusion of the symposium, ACS Catalysis Associate Editor Brent Gunnoe (University of Virginia) presented a plaque to each winner on behalf of the journal and the CATL division. Gunnoe commented, "There are many compelling aspects of the PNNL Team's body of work under the leadership of Bullock and DuBois. But, perhaps there are two aspects that are most compelling. First, we often strive to achieve rational design of improved catalysts through fundamental understanding of mechanism, but it is often a tremendous challenge to build on mechanistic understanding to make better catalysts. Here, we have seen a great example of improved catalysis through a rational design approach. Second, the PNNL team combines a diverse set of expertise and skills to

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Figure 1. Participating speakers in the ACS Boston sessions honoring the achievements of the Pacific Northwest National Laboratory Hydrogen Catalysis Team. Members of the PNNL Team are denoted with an asterisk. From left to right: Louise Berben (UC Davis), Thomas Rauchfuss (UIUC), Morris Bullock*, Wendy Shaw*, Daniel DuBois*, Simone Raugei*, Jillian Dempsey (UNC Chapel Hill), Erwin Reisner (Cambridge, U.K.), Vincent Artero (CEA Grenoble, France), Eric Wiedner*, Michael Hall (Texas A&M), Stephen Koch (Stony Brook), Aaron Appel*, Marcetta Darensbourg (Texas A&M), Monte Helm*, Jenny Yang* (UC Irvine). Not pictured: Sharon Hammes-Schiffer* (UIUC), R. Tom Baker (Ottawa), Michael Wasielewski (Northwestern).

achieve a showcase for a highly effective collaborative effort that has advanced the field in ways that would be difficult, and perhaps not possible, from single PI work."

The call for nominations for the 2016 *ACS Catalysis* Lectureship for the Advancement of Catalytic Science (http://pubs.acs.org/page/accacs/nominations.html) was recently released. In its fifth year, the Lectureship will again recognize the remarkable achievements of a catalysis scientist or team of scientists that have made significant contributions in the last seven years. The 2016 Lectureship will be presented in a symposium celebrating the award winner(s) at the 252nd ACS National Meeting in Philadelphia, Pennsylvania (August 21–25, 2016) sponsored by the ACS Division of Catalysis Science and Technology. The honoree(s) will receive $3000 and up to $1500 in associated conference travel costs.

Many have inquired, "How are the *ACS Catalysis* lectureship winners chosen?" The process developed by the journal and division is one that seeks to avoid selection bias while identifying highly qualified nominees. All the nomination packages initially come to the journal's Managing Editor, Dr. Rhea Williams. She ensures that the nominations are complete and valid (nominator or letter writer is a CATL division member, nominee has published in *ACS Catalysis*, etc.). Next, she prepares a description of all the nominees that is free of personally identifying information, such that the nominees, nominators, and supporting letter writers remain anonymous. For example, the information provided about the PNNL team nomination from last year might be the following list of keywords: U.S.A., hydrogen fuel, proton movement, electron transfer, molecular electrocatalyst. Such general topical information, when compiled for all nominees, provides the Editor-in-Chief, Prof. Christopher Jones, and Chair of CATL division (Prof. Jingguang Chen of Columbia University in 2015 and Prof. Michael Wong of Rice University in 2016), a clear picture of the catalysis subfield areas covered by the array of nominees. The collected, sanitized information describing the nominees allows five jury members to be selected in an objective manner. In this process, the expertise of the jury is matched to the topical areas of the nominations, to the extent possible. The division submits two names to the jury, and the journal submits two names as well. If the suggested jurors are not nominees, nominators, or authors of supporting letters, as verified by the Managing Editor, they are placed on the jury. Based on this group of four jurors, the Editor-in-Chief and Division Chair select a fifth member of the jury via consensus, often using this person to fill a perceived gap in expertise that may exist on the committee, or to bring diversity to the group. Once the jury is selected, the complete nomination packages (now with identifying information) are sent to the committee for review. Each member of the jury rank orders the nominations independently and sends his/her rankings to the Managing Editor, who combines all the ratings to yield an overall, average ranking for each nomination. These averaged rankings are sent to the jury prior to their teleconference, whereby the combined rankings and top nominations are discussed. Based on the discussion, rankings can change, and an alternate highly ranked winner may be selected by consensus. In the absence of a consensus selection, the nominee initially ranked highest by the jury is the winner.

We hope this explanation provides transparency and a thorough look behind the process that has so far selected Alan Goldman (Rutgers, 2012), John Hartwig (Berkeley, 2013), Suljo Linic (Michigan, 2014), and this year's honorees.

In summary, we offer our congratulations to Bullock, DuBois, and the PNNL team. We look forward to receiving nominations from around the world for the 2016 lectureship by the December 1, 2015 deadline.

Christopher W. Jones, Editor-in-Chief
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■ AUTHOR INFORMATION

Notes

Views expressed in this editorial are those of the authors and not necessarily the views of the ACS.