10:40 **1914** Self-Formed Catalysts Using Electrochemical (de)Lithiation for Oxygen Evolution Reaction – V. P. Sumaria, D. Krishnamurthy, and V. Viswanathan (Carnegie Mellon University)

11:00 **1915** Unbiased Photoelectrochemical Solar Hydrogen Generation on Highly Stable, Ultrathin Organic Linker/Metal Ions-Treated InGaN Nanorods on Metal – M. Ebaid, D. Priante, G. Liu (King Abdullah University of Science and Technology), C. Zhao (King Abdullah University of Science & Technology), M. S. Alias, U. Buttner, T. K. Ng (King Abdullah University of Science and Technology), T. T. Isimjan (Saudi Arabia Basic Industries Corporation), H. Idriss (UCL (UK)), and B. S. Ooi (King Abdullah University of Science and Technology)

11:20 **1916** High Performance p-Si/Ni_3S_2 Photocathode for Photoelectrochemical Hydrogen Evolution in Neutral Solution – Q. Jia, C. Yu, and X. Zhang (Zhejiang University)

11:40 **1917** Cuprous Oxide Photocathode with Carbon-Based Protective and Electrocatalytic Layers for Efficient Water Splitting – C. Yu, Q. Jia, and X. Zhang (Zhejiang University)

L08 Advanced Techniques for In Situ Electrochemical Systems

Physical and Analytical Electrochemistry / Energy Technology / Organic and Biological Electrochemistry / Sensor

Chesapeake I, Gaylord National Resort and Convention Center

Advanced Techniques for In Situ Electrochemical Systems III – 08:20 – 12:00
Co-Chairs: Sanjeev Mukerjee and Kateryna Artyushkova

08:20 **2055** *(Invited)* Ambient Pressure XPS: Revealing Elemental, Chemical, and Potential Information across a Wide Range of Electrochemical Systems – E. J. Crumlin (Advanced Light Source, LBNL, Joint Center for Energy Storage Research, LBNL)

09:00 **2056** Investigation of Model N-C and Fe-N-C Oxygen Reduction Catalysts Under *in Situ* Conditions – M. Dzara (Colorado School of Mines), K. Artyushkova (Center for Micro-Engineered Materials), C. Ngo, M. B. Strand, J. Hagen, and S. Pylypenko (Colorado School of Mines)

09:20 **2057** Observation of Oxygen Binding on PGM-Free Electrocatalysts By Ambient Pressure XPS and XAS – K. Artyushkova (Center for Micro-Engineered Materials), E. Weiler (Chem & Bio Engineering, University of New Mexico), M. J. Dzara, S. Pylypenko (Colorado School of Mines), B. Zulevi (Pajarito Powder LLC), F. Jaouen (CNRS - Université De Montpellier), and P. Atanassov (University of New Mexico)

09:40 Break

10:00 **2058** *(Invited)* Understanding Electrocatalytic Pathways in Complex Organic and Inorganic Composites in Aqueous and Non-Aqueous Environments – S. Mukerjee (Northeastern University)

10:40 **2059** In Situ X-Ray Absorption Spectroscopy Investigation of Silver-Copper Nanoparticles for the Oxygen Reduction Reaction – B. M. Gibbons (Stanford University), D. C. Higgins (Stanford University Department of Chemical Engineering), M. Wette (Stanford University), A. Mehta, R. C. Davis (SLAC National Accelerator Laboratory), B. M. Clemens (Stanford University), and T. F. Jaramillo (Stanford University Department of Chemical Engineering)

11:00 **2060** *Operando* Grazing Incidence X-Ray Diffraction and X-Ray Absorption Spectroscopy for Electrochemical CO_2 Reduction on Aupd, Pd and Au Electrodes – A. T. Landers (Stanford University Department of Chemistry), J. T. Feaster (Stanford University Department of Chemical Engineering), M. Farmand (Lawrence Berkeley National Laboratory), J. Lin (Stanford University Department of Chemical Engineering), S. Fackler (Lawrence Berkeley National Laboratory), D. C. Higgins, Y. Nishimura (Stanford University Department of Chemical Engineering), R. C. Davis, A. Mehta (SLAC National Accelerator Laboratory), C. Hahn (Stanford University Department of Chemical Engineering), J. Yano (Lawrence Berkeley National Laboratory), T. F. Jaramillo (Stanford University Department of Chemical Engineering), and W. Drisdell (Lawrence Berkeley National Laboratory)

11:20 **2061** Elucidating the Pre-Oxygen Evolution Surface Chemistry on Ruthenium Dioxide Surfaces – R. R. Rao, M. J. Kolb (Massachusetts Institute of Technology), N. Halck, A. F. Pedersen (Technical University of Denmark), A. Mehta (SLAC National Accelerator Laboratory), H. You (Argonne National Laboratory), K. A. Stoerzinger (Massachusetts Institute of Technology), H. A. Hansen (Technical University of Denmark), Z. Feng (Oregon State University), H. Zhou (Argonne National Laboratory), J. Rossmeisl (University of Copenhagen), T. Vegge, I. Chorkendorff, I. E. L. Stephens (Technical University of Denmark), and Y. Shao-Horn (Massachusetts Institute of Technology)

11:40 **2062** In-Situ Gracing Incidence X-Ray Diffraction Cell for Electrochemically Formed Thin Films – S. Reither (KAI GmbH), W. Artner, A. Eder (TU Wien), S. Larisegger, M. Nelhiebel (KAI GmbH), C. Eisenmenger-Sittner, and G. Fafilek (TU Wien)

Z04 The Brain and Electrochemistry

All Divisions / Interdisciplinary Science and Technology Subcommittee

National Harbor 11, Gaylord National Resort and Convention Center

Honoring Christian Amatore: Neurons and Electrochemistry I – 08:00 – 12:20
Co-Chairs: Mekki Bayachou, Janine Mauzeroll and James D. Burgess

08:00 Intoductory Remarks

08:10 **2321** *(Invited)* History of a Passion and of a Long Courtship: From the Brain to the "Artificial Synapse" – C. A. Amatore (Ecole Normale Superieure & CNRS)