



Dear ICS members,

It is my great pleasure to announce that the 2021 ICS Excellent Young Scientist Prize will be awarded to **Dr. Amnon Bar-Shir** of the Department of Molecular Chemistry and Materials Science, the Weizmann Institute of Science for developing small molecules, nanocrystals, supramolecular assemblies, and proteins, as sensitive and selective sensors for MRI applications; and **Prof. Roman Dobrovetsky** of the School of Chemistry, Tel Aviv University for developing novel concepts in the chemistry of main-group elements, and preparing molecules containing boron, phosphorus, and zinc with unique structures and catalytic properties.

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Amnon Bar-Shir was born in Kibbutz Ramat HaKovesh, Israel, in 1975, earned his B.Sc. (2002) and M.Sc. in chemistry from Tel Aviv University (2004, under Michael Gozin), both *magna cum laude*. His Ph.D. (2009, under Yoram Cohen) focused on advanced diffusion NMR and MRI to study the structure and function of the central nervous system. As a postdoc at the Johns Hopkins University School of Medicine under Assaf Gilad and Jeff Bulte, he developed genetically engineered reporters for MRI. In 2014 he joined the Weizmann Institute, where he created new kinds of biosensors with artificial "multicolor" features for MRI applications. His lab uses synthetic chemistry, nanofabrication, and protein engineering to generate novel molecular formulations, such as small molecules, nanocrystals, supramolecular assemblies and proteins, as MRI sensors of high sensitivity, specificity, and orthogonality. He has used these methods for *in-vivo* molecular and cellular MRI studies for mapping inflammation, multiplexed *in-vivo* MRI, imaging orthogonal reporter genes, and sensing metal ions. In addition, he used his techniques to study fundamental questions in supramolecular chemistry, including kinetic features of dynamically exchanging molecular systems and control over nanocrystals' formation. Dr. Bar-Shir won multiple research grants, including the ERC, two individual ISF grants, BSF, Minerva, and the Israel Precision Medicine Program (IPMP) of the ISF. He was recognized by the 2009 ICS Prize for graduate students, the 2019 Krill Prize, the 2014 NIH Pathway to Independence Award, and the International Society for Magnetic Resonance in Medicine (ISMRM) 2014 Junior Fellowship.

Roman Dobrovetsky was born in Tashkent, Uzbekistan in 1979, and moved to Israel with his family in 1991. After his military service (1998-2002), he obtained his B.Sc. in Chemistry (2005) from the Technion. His Ph.D. research (2005-2011, under Yitzhak Apeloig) focused on developing alpha-functionalized silyl anions. As a postdoc at the University of Toronto under Doug Stephan, he studied frustrated Lewis pairs and Lewis-acid catalysis. In 2015, he joined the School of Chemistry at Tel Aviv University and, in 2020, became an Associate Professor. His fields of interest include main group compounds, focusing on boron, phosphorus, and zinc-based compounds and their chemistry with small molecules. His group developed a diverse research program, including transition metal-free catalysis, geometrically distorted main group centers, stable main group radicals, and the chemistry of boron-cluster-based substituents. His group demonstrated the first geometrically constrained phosphonium cation and its ambiphilic nature. They developed highly selective air-stable Zn-based hydroelementation catalysts. They showed that ortho-carborane substituents could stabilize radicals attached to their carbon atom and used this property to synthesize the first persistent 19-electron molybdenum metalloradical. Utilizing the ability of ortho-carboranes to withdraw electrons into their cage structure, thus forcing geometrical changes on the ligands' structure, they developed the electrochemical tweezers concept. Roman was selected for the Young Investigator Workshop 2018 in Oxford, which recognizes the most promising European organic chemists under the age of 40.

The award ceremony will take place in February 2022, during the 86th ICS Annual Meeting.

Congratulations to Amnon and Roman for their achievements!

Ehud Keinan