



Tomče Runčevski

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Current Position Description:

I am currently an assistant professor at the Department of Chemistry at the Southern Methodist University in Dallas, where I lead an active research group focused on experimental physical chemistry and crystal engineering.

Education and Employment History:

- Assistant Professor (since 2018), Southern Methodist University, Dept. of Chemistry, Dallas, TX
- Postdoc (2015–2018), UC Berkeley, Dept. of Chemistry, Berkeley, CA
- Postdoc (2014–2015), Max Planck Institute for Solid State Research, Stuttgart, Germany
- Ph.D. (2011–2014), Max Planck Institute for Solid State Research, Stuttgart, Germany
- B.S & M.S. (2006–2011), Ss. Cyril and Methodius University, Skopje, Macedonia

Interests:

We are interested in the kinetic and thermodynamic control of the solid-state structure of materials. In our work, we use X-ray and neutron powder diffraction methods for crystal structure solution and Rietveld refinements, and total X-ray scattering methods for local structure and disorder analyses. To test for dynamics in the solid state, and to complement the diffraction studies, we use inelastic and quasielastic neutron scattering, as well as Raman/IR spectroscopy. To study the thermoanalytic equilibria, we use various calorimetry methods. We are frequent users of large scale facilities, especially APS, NIST and ORNL. For example, our recent work “Peritectic Phase Transition of Benzene and Acetonitrile into a Cocrystal Relevant to Titan, Saturn’s Moon” *ChemComm* **2020**, *56*, 13520, was done at the APS and NIST and the paper was coauthored by beamline scientists.

Goals/ideas for advocacy for the user community:

My research group is a frequent user of the APS beamlines. In the last two years, we were awarded 3 beamtime allocations, in addition to dozens of visits I have made during my postdoc. I have also performed experiments at NIST, Diamond, DESY PETRA III, ESRF, NSLS II, ANKA, SLS and other large scale facilities. Our experiments frequently require modification of the sample holder environment, and with an immense help from the beamline scientists, we have always managed to adapt the beamline setup and assure successful data collection. My goal is to use my experience to help foster closer collaboration between the beamlines and the user community. I am particularly interested in advocating for building new sample environment chambers, incorporating advanced options for *in situ* measurements at the beamlines (for example data collection during gas dosing, heating/cooling, photo-irradiation, mechanical treatment; in fact, my group is currently working together with APS beamline scientists to develop new setup for *in situ*

mechanochemistry). As a user, I do my best efforts to help integrate the user community in the future developments of the APS. For example, I co-moderated the *Functional Materials* breakout session at the recent online workshop “*Bright Future for In Situ and Operando Structural Science at APS-U*”, where excellent ideas were discussed. Participating in the Advanced Photon Source User Organization will give me a platform to advocate for more intense involvement of the user community and APS.

Honors and Activities:

- Guest editor of a special issue of *Crystal Growth & Design* on the Rietveld method, 2020-2021
- Sam Taylor Fellowship 2021
- Invitation for the 2021 Emerging Investigator Issue of *Chemical Communications*
- 2021 Emerging Investigator Issue of *Journal of Materials Chemistry A*
- Otto Hahn Medal, Max Planck Society, 2015
- Nominee for the Rampacher Award, Max Planck Institute, 2014
- PhD Fellowship, International Max Planck Research School, 2011
- Golden Medal, Ss. Cyril and Methodius University of Skopje, 2011
- Scholarship, German Academic Exchange Service, 2010

- Member of The American Crystallographic Association (ACA), since 2020
- Elected member of The International Centre for Diffraction Data (ICDD), since 2019
- Member of The American Chemical Society (ACS), since 2015