

## Topics in micro-/nano-scale transport

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The talk covers the experimental and computational investigations of Dr. Canpolat's research interests in micro- and nano-scale transport. In micron size, fluid and particle motions will be presented with the topics of electrokinetics and mixing. Here, shear-dependent protein adsorption, the benefits of flow pulsations, and Induced Charge Electroosmotic (ICEO), which Dr. Canpolat provided detailed experimental measurements for the first time in the literature, will be highlighted. In addition, a novel method for protein adsorption on microparticles will be promoted. In nano-scale studies, molecular transport of ions and biomolecules, such as proteins, will be handled. At the end of the talk, some future topics/works will be discussed.

Dr. Canpolat holds a Ph.D. in Mechanical Engineering from Çukurova University, Turkey. He was a pre-doctoral and a post-doctoral researcher in Old Dominion University, VA, USA, 2011-2013 and Georgia Institute of Technology, GA, USA, 2017-2018, respectively. His professional activities center on applied fluid mechanics, micro-/nano-scale transport, cardiovascular biomechanics, and drug release. As of May 2021, he is the author of many journal publications recorded in Web of Science with h index=10. Dr. Canpolat is passionate about computational and experimental techniques in fluid, particle, and heat transport. His experimental interests are in the fields of flow visualization and Particle Image Velocity (micro-/2D-/stereo-PIV). His computational works concentrate on two-dimensional fluid, particle, and heat transport in micro and nano dimensions. The unsteady flows, quantitative imaging and measurement, vortex flows, flow control, and heat transfer in complex geometries are also the topics that Dr. Canpolat made contributions to the literature. He has served as a referee in various panels in TUBITAK (The Scientific and Technological Research Council of Turkey). He has been involved in many research projects with national/international collaborators. He has taken many roles in evaluating and monitoring industrial/scientific projects.

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