

Michal Tal, ISAC Member

Areas of Expertise for the PRRIP: fluvial geomorphology; interactions amongst riparian vegetation, hydrology, and channel morphology; morphodynamics of braided rivers.

Michal Tal is a fluvial geomorphologist. Her experience and interests are in understanding river trajectories in response to natural and anthropogenic forcings. Her experimental studies at the Saint Anthony Falls Laboratory in Minneapolis on the interactions of riparian vegetation and channel dynamics have contributed to our understanding of how the opportunistic colonization of braid plain by riparian vegetation during low flows can lead braided rivers to evolve to single-thread channels. In her studies of alpine gravel bed rivers, Michal has examined how sediment flux varies along braided rivers and how well existing empirical and numerical formulations predict sediment flux. On the Rhone River, Michal has worked on quantifying the impacts of channel narrowing due to embankments and flow diversions for hydroelectricity and gravel mining. Michal has used 1D morphodynamic modeling to study the impacts of dams and gravel augmentation to mitigate the effects of sediment deficits below them. Michal's work has always been carried out within the framework of partnerships between scientists and river managers and collaborations amongst different disciplines (Earth Science, Geography, Engineering, Ecology, etc.). These experiences have served to reinforce her strong belief in the need for cross-disciplinary and multi-institute platforms to ensure the success of large-scale restoration projects.