

Price Medal 2021 – Professor Emily Brodsky

Full citation

Professor Emily Brodsky (University of California, Santa Cruz) receives the Price medal in recognition of her outstanding multi-disciplinary contributions to earthquake mechanics, frictional behaviour, and rock-fluid interactions. Professor Brodsky is an internationally acknowledged leader in quantifying processes involved in generating and propagating earthquake ruptures.

Her primary recent research targets have included observational approaches to measuring stress on faults, analysis of human-induced earthquakes, experimental work on granular flows at high slip rates, and analysis of aftershock distributions relative to fault ruptures and volcanic processes. Using novel combinations of field measurements, laboratory experiments, observational seismology, and theoretical modelling, her research often provides comprehensive insights into the problems she is tackling.

To test models for fault friction at the field scale, she argued that the ruptured fault be drilled as soon as possible after an earthquake. The JFAST rapid response drilling into the seafloor disrupted by the magnitude 9 Tohoku earthquake provided the required data. Her work showed that dynamic weakening in already weak clay material on the plate boundary occurred for the Tohoku rupture. Using down-hole thermal observatories, she has also detected fluid pressure redistributions in the damage zone around the main boundary faults.

The novelty of her approaches and the importance of her work sets her apart. For these reasons Professor Emily Brodsky is awarded the Price Medal.

Short citation

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