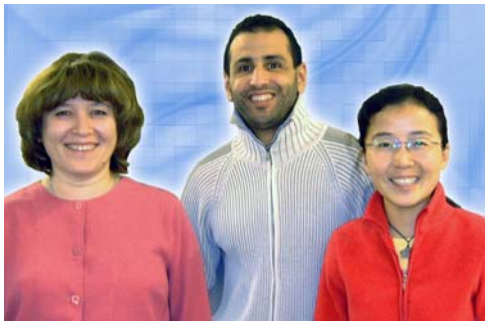
William R. Wiley
EMSL In Brief
Environmental Molecular Sciences Laboratory

Research on Soft Landings Glides onto Cover of Top Physics Journal

Julia Laskin, Omar Hadjar, and Peng Wang, users of the Department of Energy's Environmental Molecular Sciences Laboratory, show that the complex science of softly depositing small proteins on a surface is both beautiful and informative. The images they provided for an invited review article on the current understanding of the soft-landing phenomena grace a cover of the February 28, 2008, issue of *Physical Chemistry Chemical Physics,* rated #7 by ISI in impact in atomic, chemical, and molecular physics.



Julia Laskin, Omar Hadjar, and Peng Wang, (left to right), EMSL users from Pacific Northwest National Laboratory.

The soft-landing experiments use mass spectrometry as a separation technique for preparing novel materials and exploring reactivity at interfaces. Soft landing of low-energy complex ions provides a convenient and flexible platform for tailoring properties of substrates and opens new opportunities for preparing extremely pure, uniform layers of molecules on surfaces that could lead to better sensors and new biomaterials.

Further, studies of depositing biomolecules on substrates will also help to obtain a molecular-level understanding of the interactions of peptides and proteins with hydrophobic and hydrophilic surfaces. This research is relevant to transporting biomolecules through membranes in organisms and determining binding energies between biomolecules and model surfaces in the absence of solvents.

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