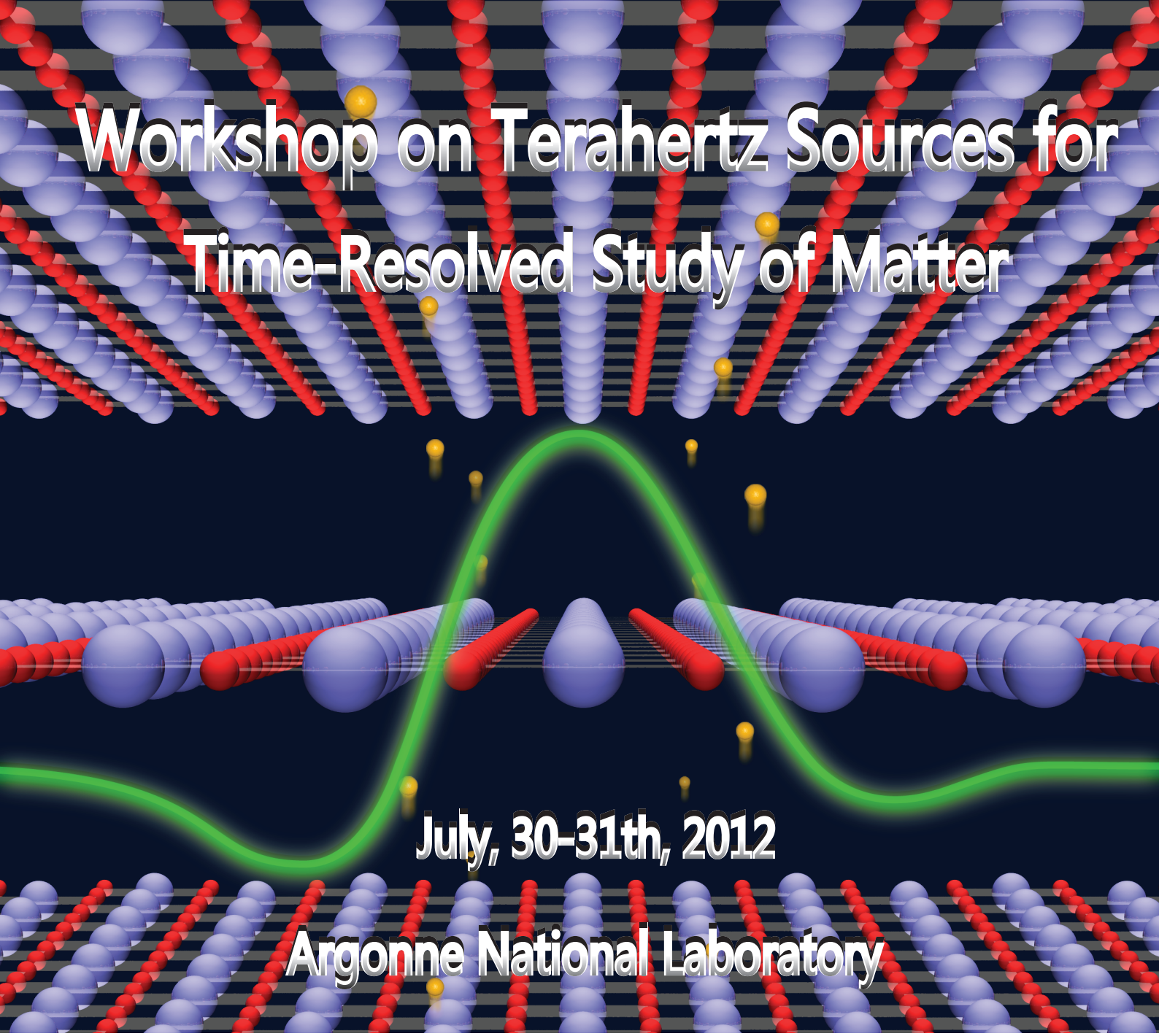

Most time resolved studies to date have made use of readily available visible and near-visible pump sources to trigger the events, thus were bound to study of only a small subset of phenomenon accessible to photons with ~eV energies. In contrast, a few recent experiments have emerged in which the dynamics stimulated by THz and mid-infrared pulses led to novel ultrafast control of matters, such as a selective control of insulator metal transition and the discovery of the light induced superconductivity in a stripe-ordered cuprate. Many low frequency excitations of complex condensed matter driven by THz pulses are likely to exhibit interesting dynamics that can also be used in a new generation of electronics.

This workshop will bring experts from both advanced accelerator and ultrafast laser communities to discuss the future intense THz sources. Particularly, intense THz sources that produce tunable narrow band, or, near-half-cycle broad band THz pulses will be emphasized to provide resonant or impulsive excitation in the frequency range from 1 to 20 THz. It is presumed that these sources can work in tandem with a free-electron laser or a storage ring based synchrotron light source for THz pump, X-ray probe experiments. New science enabled by these techniques will be discussed.

Register at
http://www.aps.anl.gov/Accelerator_Systems_Division/THz_workshop/

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