

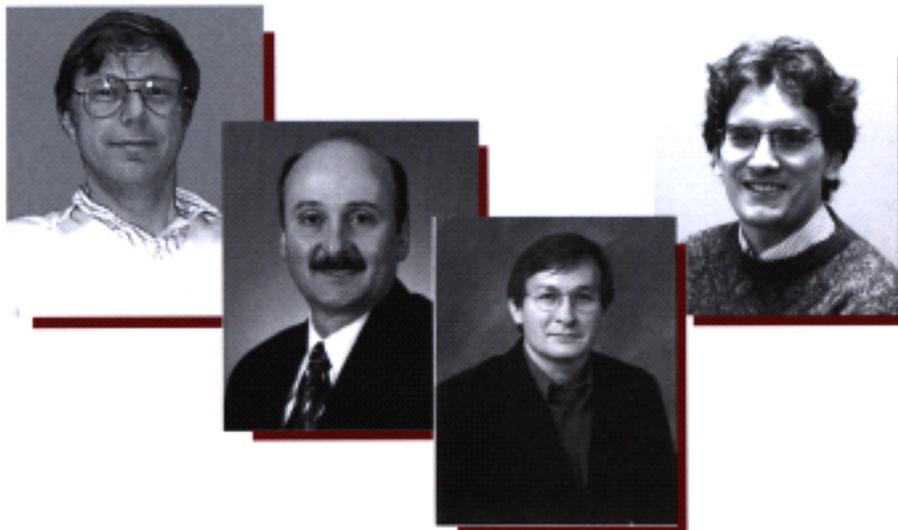
Single Molecule Biosensors

The single molecule biosensors developed by the NRL team represent a revolutionary class of biosensors that are capable of detecting a variety of biomolecules, including proteins, viruses, and bacteria. The patented biosensors use the principles of atomic force microscopy (AFM) to measure the strength of single DNA-DNA and antibody-antigen bonds—in effect detecting and characterizing single molecules of DNA or antigen.

The NRL team transferred its technology to Gravitron, Inc., which is negotiating a sublicense to a large biotechnology company. Gravitron intends to apply the technology in a

number of areas, including biological diagnostics, environmental monitoring, and portable gas monitoring.

By linking micromachined sensors to basic biological and chemical methods, the single molecule biosensors will provide unprecedented sensitivity, cost-effectiveness, accelerated data management, integration, and reliable detection. Moreover, since the entire process is conducted on a single chip, it is inherently smaller and less expensive than other sensors.



*From left: Dr. David Kidwell, Dr. Richard Colton, Dr. Gil Lee, Dr. John-Bruce Green
Not pictured: Dr. David Baselt*