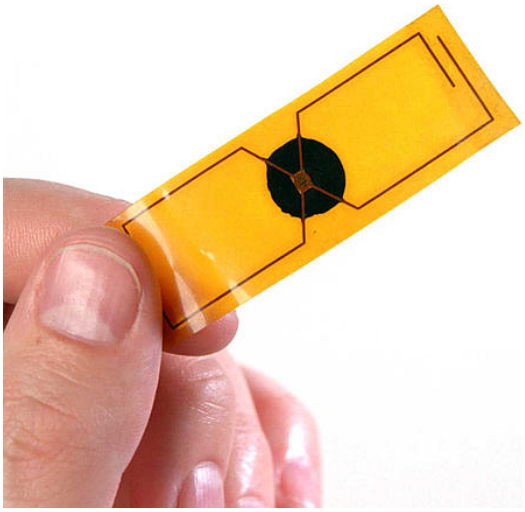
William R. Wiley
EMSL In Brief
Environmental Molecular Sciences Laboratory

EMSL Researchers Awarded Patent for Radio Frequency Technology

Kerry Steele and Gordon Anderson, researchers from EMSL's Instrument Development Laboratory, along with former Pacific Northwest National Laboratory (PNNL) researcher Ronald Gilbert, were recently awarded U.S. Patent 6,765,476 for the Multi-Level Radio Frequency (RF) Identification System.

This newly patented technology is one part of PNNL's ongoing research to support the Defense Threat Reduction Agency in developing RF identification system technologies. It uses discrete frequencies to interrogate and obtain response from individual or groups of tags, versus using an embedded microprocessor to encode and decode messages. For example, at multi-lingual settings—such as the Olympics—tags containing predetermined information could be assigned different languages using corresponding frequencies. Users could then "wave" their tag at an automated information kiosk, with the tag then interrogated and the frequency—mapped to a database of languages—identified, providing the information to the user in the assigned language.



A method has been developed and patented to interrogate and obtain response from RF tags—much like the one shown here—using discrete frequencies.

Long-time collaborators Steele and Anderson worked together for two years to develop the Multi-Level RF Identification System, which garnered Steele his first patent and Anderson his third. The third team member—Gilbert—left PNNL to join Wave ID (now Alien Technology), a spin-off company that commercializes RF identification tag technology. In 2001, the trio was part of PNNL's RF identification system development team that earned the Laboratory a prestigious R&D 100 Award.

For more information, contact Kerry Steele (509-375-2880) or Gordon Anderson (509-376-9558).