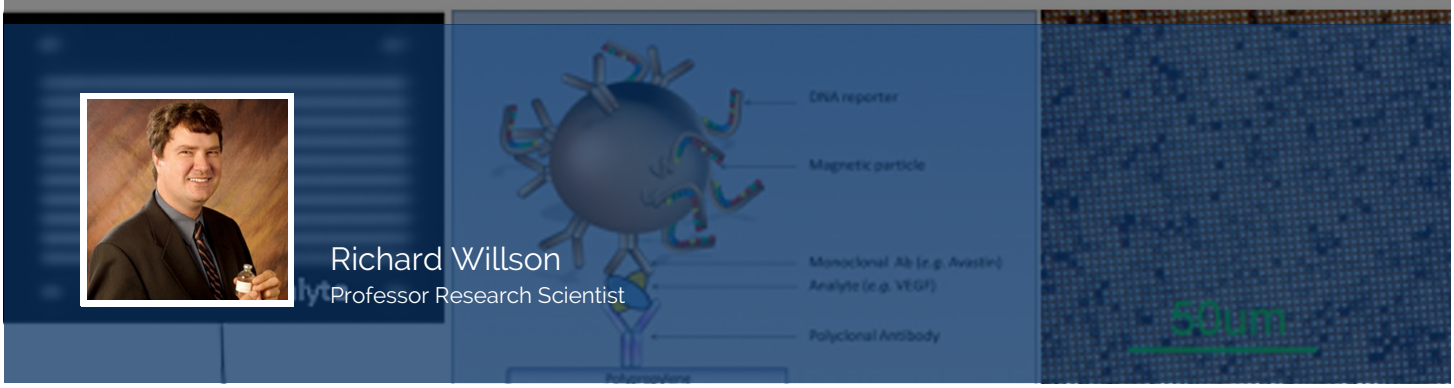
A Take Home Test for Detecting Disease



Richard Willson
Professor Research Scientist

CURRENT RESEARCH

Better health through easier access to knowledge

Ovarian and other cancers all too commonly are diagnosed at late stages, and many other diseases and conditions are hard to diagnose. When disease is caught late, it is difficult for medical interventions to restore health for a patient, and often leads to premature death. However, often clinicians lack the tools to identify and diagnose disease early. Dr. Richard Willson, Professor of Chemical and Biomolecular Engineering at the University of Houston, is interested in catching disease before it's too late in order to reduce suffering and save money while improving patient outcomes. The simple devices he and his team have developed will enable diagnostics in the home, rural clinics, low-resource settings, or in military and emergency environments. Therefore, with improved diagnostics that are affordable, effective, and accessible, Dr. Willson's research will impact the lives of patients in the United States and internationally.

Primarily, Dr. Willson works on simple point-of-care cellphone-based diagnostics that target diseases affecting people all over the world each year including, chlamydia, dengue, and chikungunya. Additionally, he and his team are working on monitoring SLE lupus flares and personal wellness monitoring such as stress levels. Like a pregnancy test, Dr. Willson's technology is simple, cheap, and ubiquitous and relies upon a multidisciplinary team to develop diagnostics that can be used by physicians. Lastly, new nanotechnology in early stages of development aims to detect cancer and cancer relapse. With formal affiliations with Baylor and Houston Methodist Research Institutes, two of the preeminent research institutions in the world, his nano-scale biosensors can be used in hospital labs...

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AFFILIATION

University of Houston

EDUCATION

- B.S. & M.S., Chemical Engineering, 1982 , Caltech
- Ph.D., Chemical Engineering, 1986 , Massachusetts Institute of Technology
- Postdoc, Biology, 1988 , Massachusetts Institute of Technology

AWARDS

- Fellow of the American Association for the Advancement of Science
- Fellow of the American Chemical Society
- Member, National Academy of Inventors
- Fellow, American Institute of Medical and Biological Engineering
- Elected to Phi Kappa Phi, Sigma Xi, and Kappa Gamma
- and 1 more...

RESEARCH AREAS

Life Science, Diagnostics, Immunology / Inflammatory, Oncology / Cancer

FUNDING REQUEST

Your contributions will support the continued research of Dr. Richard Willson, of the University of Houston, is developing to provide earlier detection of diseases, when they are easier to treat. Donations will fund the necessary $65K/year required for each project. If disease is caught earlier, we can make strides in detection and treatment; join Dr. Willson in making that dream a reality.