



**Iacob Mathiesen, PhD**

## DNA Vaccine Delivery Pioneers

Meet the two world-class scientists behind Inovio's breakthrough platform...



**Rune Kjekken, PhD**

**I**ACOB MATHIESEN was one of the world's first scientists to develop in vivo electroporation technology for DNA vaccine delivery in humans. His original scientific contributions have been published in numerous esteemed scientific journals, such as *Science*, *Proceedings of the National Academy of Sciences (PNAS)*, *Vaccine*, *Molecular Immunology*, *Molecular Therapy*, *Gene Medicine* and *Immunology*.

Dr. Mathiesen is a biologist by training, with a doctorate in neurobiology from the University of Oslo.

It was while earning his PhD that he invented a new approach to getting genes into cells—via **electroporation**. His invention was patent-protected and ultimately licensed on a non-exclusive basis to Big Pharma companies, including Merck and Wyeth.

The intellectual property was also the basis for Dr. Mathiesen starting Norway-based **Inovio AS**, focused on

*Dr. Mathiesen, 45, is a distinguished scientist who has received international acclaim and recognition for his landmark achievements and original scientific contributions to DNA vaccine delivery systems that fight AIDS, cancer, hepatitis C, and other devastating diseases.*

gene delivery. In January 2005, Genetronics Biomedical bought Inovio AS and later adopted the name "Inovio Biomedical." At Inovio Biomedical, Dr. Mathiesen serves as Managing Director of Inovio AS.

"Intramuscular injection of plasmid DNA, followed by electroporation, has been shown to be an efficient method for achieving therapeutic levels of encoded proteins and eliciting efficient immune responses," says Dr. Mathiesen. "This approach may represent the future of vaccine technology." ■

**R**UNE KJEKEN has spent the past 15 years making significant contributions to the field of molecular biology. Through his research, Dr. Kjekken has designed electroporation devices and procedures that can deliver DNA vaccines currently under development against cancer, hepatitis C and HIV, as well as biowarfare agents such as anthrax. His research in the DNA delivery field has been supported by the United States government through contracts between the U.S. Army and Inovio. He has been a key expert in conducting collaborative studies with large pharmaceutical companies on DNA-based vaccines. Indeed, results from one such study using a delivery device co-designed by Dr. Kjekken was the decisive factor when Wyeth Pharmaceuticals recently signed a \$64.5 million contract with Inovio to co-develop electroporation-based delivery of Wyeth's DNA vaccines against infec-

*Dr. Kjekken, 47, is an esteemed researcher whose original scientific contributions have been published in numerous prestigious scientific journals, significantly advancing molecular biology, particularly in the areas of intracellular traffic and DNA vaccine delivery systems.*

tious diseases.

In January 2005, when Genetronics Biomedical purchased Inovio AS, where Dr. Kjekken was employed, he joined Inovio Biomedical as Director of R&D.

"Inovio is a leader in electroporation-based DNA delivery technology," says Dr. Kjekken. "We are moving quickly with the research necessary to further perfect the efficacy and tolerability of Inovio's electroporation delivery methods for muscle, tumor and skin tissues, so that we may remain among the vanguard in this important field!" ■