

Robert A. Lodder, Ph.D.
Professor, University of Kentucky
Senior Science Advisor, Spherix Consulting Group

Dr. Robert A. Lodder is a Senior Science Advisor at Spherix Consulting Group as well as a Professor of Pharmaceutical Sciences at the University of Kentucky College of Pharmacy. He has joint appointments at the University in the Analytical Chemistry division of the Department of Chemistry and the Electrical and Computer Engineering department in the College of Engineering, and an active interdisciplinary research group that averages about a dozen members. He has over 25 years of experience with drugs and medical devices. He is an entrepreneur and has designed and operated laboratories and facilities for drug discovery, drug development, and device development, and has 28 patents and pending patent applications for inventions made in the laboratories. At Spherix Consulting Group, Dr. Lodder provides computer simulation and modeling support to the company as well as drug and medical device expertise.

Dr. Lodder has consulted for food, drug, dietary supplement manufacturers as well as medical device manufacturers and the federal government. He served as a Special Government Employee for process analytical technologies for two years at the US Food and Drug Administration. He has worked on INDs, NDAs, ANDAs, orphan drugs, 505(b)(2)s, 510(k)s, and PMAs at his own companies as well as at ChromaDex Spherix Consulting. Dr. Lodder has served as an expert witness and provided laboratory data in product liability, patent infringement and interference, and criminal cases (including capital cases).

Dr. Lodder has founded five companies based on his research and patents (the oldest startup, InfraReDx, was founded in 1998 and has raised over \$150 million in private capital. In April 2008, InfraReDx received marketing approval from FDA for the Lipiscan coronary imaging system originally invented and patented by Dr. Lodder). He has conducted his own phase 1 and 2 studies at the University of Kentucky and other universities, as well as placed phase 2 and 3 studies with CRO's and managed their work. He has extensive experience with protocol design, IRBs, and IACUC submissions, and FDA meetings.

Dr. Lodder is the recipient of numerous awards from organizations including the American Society of Agricultural Engineers, Research and Development magazine, and the National Science Foundation, and won first prize in an international supercomputing competition sponsored by IBM. At ChromaDex Spherix Consulting Dr. Lodder applies R, SAS and Matlab as well as other programming languages to databases including NHANES and the U.S. Census. He performs EDI calculations, computes exposure estimates, and makes risk estimates using models incorporating Monte Carlo and Bayesian approaches.

Dr. Lodder serves as an editor or editorial board member of many journals, and reviews proposals for NIH, NSF, and DOE. Dr. Lodder previously served as President of Spherix Incorporated (NASDAQ/SPEX) and worked with Dr. Claire Kruger, the CEO of Spherix Incorporated, to develop novel pharmaceuticals, in-license NMEs, and conduct preclinical studies as well as phase 2 and 3 clinical trials.



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Expertise

Drug Development

Device Development

Analytical Chemistry

Process Analytical Technologies

Chemometrics

Pharmaceutical Analysis

GxP

Due Diligence

IP Strategy

Credentials

Ph.D. Indiana University

B.S., M.S. Xavier University

Professor, University of Kentucky, Dept. of Pharmaceutical Sciences, Dept. of Chemistry, Dept. of Electrical and Computer Engineering