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SUMMARY:

Management professional, responsible for development of consumable products for Proteomic and Nucleic Acid applications in sample preparation and MS. Extensive business development and direct customer market development experience. An accomplished lecturer, public speaker and educator in Biotechnology assay and instrumentation applications. Highly visible keynote speaker and chairperson at large meetings in Proteomics and BioChip technology areas.

Innovative and creative biotechnology research scientist with four granted patents, >20 publications and over 25 years experience in academia and industry. Wide experience of Proteomics and Molecular Biology techniques with a detailed instrumentation, chromatography, mass spectrometry and electrophoresis background. Extensive experience in the securing of IP and strategic assessment of competitive technologies.

Product champion on a wide range of new technology programs developing sample preparation, electrophoresis, chromatography and mass spectrometry application based products. Responsible for novel idea creation and subsequent IP filing, through to final product launch and promotion to create sales of several Proteomics technology platforms.

PROFESSIONAL EXPERIENCE:

Sept.1996 -present Consulting Services, 19 Silver Hill Rd, Acton, MA
Biotech Consulting Services for Research and Product Development.

BIOTECH CONSULTANT (see Appendix A for examples of recent projects)

Sept 2001 - Oct 2002 Proteome Systems, Inc.
14 Gill St, Woburn, MA.

EXECUTIVE VICE PRESIDENT, New technology and Business development

Responsible for management and business development of electrophoresis and MS based products and sample preparation in Proteomics.

- 1995-Aug 1996 Unisyn Technologies, Inc., Hopkinton, MA
A major supplier of hollow fiber based bioreactors and chromatography packings for production and purification of antibodies.
- MANAGER BIOSEPARATION R&D.**
Responsible for Bioseparations products in application and R&D group and scale up manufacture.
- 1984-1995 Millipore Corp., Bedford, MA
A major supplier of membrane filtration technology to the research, pharmaceutical and industrial Biotechnology markets.
- DIRECTOR CUSTOM PEPTIDE NUCLEIC ACID (PNA) SYNTHESIS GROUP, Analytical Division (1993-1994)**
Supervised technical and professional staff responsible for chemical synthesis group. Extensive contact with customers. Generated \$50k in orders during six months of project.
- CONSULTING SCIENTIST ELECTROPHORESIS PROGRAM, Life Science Corporate R&D (1988-1993)**
Supervised technical and professional staff during development of the Investigator™ 2D gel analysis system, long shelf life precast polyacrylamide gels and the Glycoscan™ carbohydrate analysis system.
- SENIOR SCIENTIST, BLOTTING MEMBRANE PROGRAM, Analytical Division (1985-1988)**
Supervised technical and professional staff during the development of Immobilon™ affinity and blotting membranes. Two issued US patents #5,004,543 and #5,011,861.
- SENIOR SCIENTIST PACKINGS DEVELOPMENT, Waters Chromatography Division, Milford, MA (1984-1985)**
Individual contributor during development of Protein A based and ion exchange silica HPLC packings.
- 1978-1984 Boston Biomedical Research Institute, Boston, MA
A non-profit research laboratory receiving funding from NIH to investigate muscle protein function and regulation of gene expression.
- PRINCIPAL INVESTIGATOR, Dept. of Muscle Research**
Carried out original research on embryonic and adult muscle molecular biology looking at regulation of gene expression.
- 1976-1978 Massachusetts Institute of Technology, Cambridge, MA
World famous Nutrition and Protein metabolism group whose research activities were supported by NIH in the field of Muscle Biochemistry.

POST-DOCTORAL FELLOW, Dept. of Nutrition and Food Science

Post-doctoral research on the influence of aging on muscle protein synthesis in rats.

EDUCATION:

- 1976 Ph.D. Biochemistry, Dept. of Medicine, University of Newcastle upon Tyne, UK
1971 B.Sc. Hon. Biochemistry, Dept. of Biochemistry, University of Newcastle upon Tyne, UK

MEMBERSHIPS OF PROFESSIONAL SOCIETIES:

- 1997-present American Chemical Society
1994-Present Association of Biomolecular Resource Facilities
1991-Present Protein Society
1983-Present American Society of Biochemists and Molecular Biologists
1978-Present American Society of Cell Biology
1974-Present Biochemical Society

JOURNAL EDITORIAL BOARDS

- 1986-Present BioTechniques

Appendix A

Non-confidential summary of recent Consulting Projects

- 1) Application of lab and industrial automation technologies in DNA sample preparation and sequencing applications in a large scale genomic lab setting.
- 2) Development of a large scale automation platform for compound storage and retrieval in Pharmaceutical drug discovery.
- 3) Development of a microfluidic platform for DNA and protein sample preparation including PCR and interfacing to MS.
- 4) Troubleshooting of a large scale plasmid DNA purification process and assembly of a unique detection reagent.
- 5) Technical market development for a large Bioscience tools provider in the areas of Proteomic SPE technology especially linked to MALDI mass spec. applications.
- 6) Technical due diligence of strategic IP in the Protein Microarray area to support a business licensing and acquisition negotiation.
- 7) Technical due diligence for a venture capital fund on a new fluorescence based detection technology.
- 8) Reduction to practice of a number of unique surface chemistry treatments for creation of Protein microarrays.
- 9) Development of unique manufacturing processes for immobilized pH gradient and second dimension SDS-PAGE gels for applications in two dimensional gel analyses.
- 10) Created unique IP for a client in the area of membrane based preparative isoelectric focusing application in Proteomics sample pre-fractionation.
- 11) Developed and the manufactured a series of kits for sample preparation in Proteomics, including in-gel digest (manual and automated platform applications) and abundant protein depletion.
- 12) Market assessment and technical landscape analysis of the IP in the area of clinical diagnostics of infectious diseases.
- 13) Evaluation of a new drug discovery platform strategy based on affinity ligands utilizing a Proteomics 2DE and MS platform.
- 14) Support as larger Bioscience company in the generation of a pipeline of new product ideas and applications in Proteomics and diagnostics.
- 15) Expert witness to a legal team involved in patent infringement litigation in electrophoresis application area.

- 16) Expert witness to a legal team involved in patent portfolio review due diligence as part of M&A.
- 17) Creation of a very large product protocol support manual for Life Sciences to be used to train and support sales of products in this area.
- 18) Reduction to practice novel solid phase synthesis chemistry for DNA and peptides on a unique substrate for creation of arrays of binding ligands.
- 19) Training program introduction to microarrays and surface chemistry for a national pre-meeting workshop.
- 20) Created intensive training course in BioTechnology, with an emphasis on Proteomics for in-house clients to train at many levels within a company. Combination of lectures and hands on for up to 5 days duration. Full coordination of on-site facilities and literature/course material production for groups as large 350. Course given within the US and in Europe.