Caltech/MIT Enterprise Forum
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MAN & THE MACHINE
The Interface Between the Human Body and the Device

PRESENTERS

Alfred Mann
Chairman
The Alfred Mann Foundation and the Alfred Mann Institute for Biomedical Engineering at UCS

Alfred E. Mann serves as Chairman of the Board and CEO of MannKind Corporation, a diversified biopharmaceutical company focused on the development of novel therapeutics and drug delivery technologies for treatment of diabetes, cancer, autoimmune and inflammatory diseases. Dr. Mann founded in 1993 and serves as Chairman and co-CEO of Advanced Bionics Corporation (ABC), now a Boston Scientific Company. ABC is a developer, manufacturer and distributor of cochlear implants for the restoration of hearing to the deaf and a broad range of neurostimulation systems for various neural deficits such as chronic pain, migraines, urge incontinence, angina, etc.

Dr. Mann also founded and served as the Chairman of the Board and Chief Executive Officer of MiniMed Inc. from its incorporation in 1993 until August 2001 when it was acquired by Medtronic, Inc. MiniMed develops, manufactures and distributes microinfusion systems and continuous glucose monitoring systems that have revolutionized the treatment of Type 1 diabetes. Dr. Mann was also the founder and until August 2001 was Chairman of the Board of Medical Research Group, Inc. (MRG), a manufacturer of implantable medication infusion systems and developer of a long term glucose monitoring system and prosthetic artificial pancreas, also acquired by Medtronic, Inc. in 2001.

Dr. Mann also founded and was Chairman of the Board and CEO of Pacesetter Systems, Inc., which developed, manufactured and distributed cardiac pacemakers, from 1972 until 1985 when it was acquired by Siemens, AG. From 1985 to September 1992, Dr. Mann continued to serve as Chairman and CEO of the successor company, Siemens-Pacesetter, Inc., Pacesetter is now the Cardiac Rhythm Management unit of St. Jude Medical. Prior to 1972, he was President of Spectrolab, an electro-optical and aerospace systems company, and Heliotek, a semiconductor and electro-optical components manufacturer. Dr. Mann founded these companies in 1956 and 1960, respectively, sold them to Textron Inc. in 1960 and continued to lead them until 1972, when he left for Pacesetter. They are now part of the Boeing Company.

Dr. Mann also founded and is non-executive Chairman of (i) Second Sight, which is developing a visual prosthesis to restore sight to the blind; (ii) Implantable Acoustics, which is developing implantable hearing aids; (iii) NeuroSystec, which is exploring drug therapies to treat tinnitus and other audiologic problems; (iv) Bioness, which is involved in prosthetics for electrostimulation to address functional neural deficits; (v) Quallion, which develops, manufactures and markets advanced batteries for medical, aerospace and military applications, and (vi) Stellar Microelectronics, which produces micro-circuit assemblies.

Mr. Mann is currently Chairman of the Board of Trustees of the Alfred Mann Foundation and of the Alfred Mann Institute at the University of Southern California, medical research foundations founded and endowed principally by Dr. Mann. Since March 1998, Mr. Mann has served as a

Trustee for the University of Southern California and as a member of the Board of Overseers of the Keck USC School of Medicine. Dr. Mann also serves as the Chairman of the Southern California Biomedical Council, a nonprofit association dedicated to the fostering of the bio-medical industry in the Los Angeles Metropolitan area. Dr. Mann holds B.A. and M.S. degrees in physics from the University of California, Los Angeles and honorary doctorate degrees from the University of Southern California, The Johns Hopkins University, Western University and the Technion Institute (Israel). Dr. Mann is a member of the National Academy of Engineering and has received dozens of honors.

Dr. Mann's keynote address will focus on the current state of the industry for bionics, the near and medium term prospects for this industry, and opportunities for entrepreneurs. He will draw liberally upon his own personal experiences, including the interesting and compelling technologies underlying the products from his companies.

Richard Andersen
Professor of Neuroscience
California Institute of Technology

Dr. Andersen is one of the leading researchers in his field. Work in his laboratory has focused on the role of the posterior parietal cortex in visual-motor integration, spatial perception, and visual-motion analysis. The posterior parietal cortex is the end point of one of the two major streams of visual processing in the primate visual cortex. The pathway to the parietal cortex is located in dorsal areas of the extrastriate cortex and is involved in spatial aspects of visual processing. It is functionally distinct from the more ventral pathway, which is concerned with color and form perception.

He is studying the role of this area in the kinematics of visual-motor integration. At issue is the fact that visual information is gathered in retinal coordinates and is represented in many structures retinotopically. However, at some point in the nervous system, this information must be converted to spatial coordinate frames for programming accurate motor activity in the world. He has found that the posterior parietal cortex transforms visual information from retinal to head-and body-centered coordinates, and he is presently studying the mechanisms by which this is accomplished.

Dr. Andersen will explain in laymen's terms what his research is, the goals of the research, the progress to date, and potentially practical applications in the not distant future. He will discuss how his technology can be transferred from the university setting to the commercial marketplace for medical devices, and the potential role of entrepreneurs in working with university researchers. In particular, he will give his views on how entrepreneurs may connect with university researchers to help commercialize scientific advances.

PRESENTERS *(continued)*

Richard Myers
Founder
Freedom Innovation

Mr. Myers in many ways is the paradigm entrepreneur. After receiving his college degree, he worked for pharmaceutical and medical device companies. He gained “domain expertise” through his experience. He then saw a market need, he reached out to friends and acquaintances who had the additional expertise needed to reach the market, and started the company. He and his co-founder have self-financed the company and have built it into a solid middle-market company. He has continually looked to upgrade and innovate his market offering. In particular, the newest product is an artificial knee that will include hydraulic components and software components. Mr. Myers will present his company and his own experience as a paradigm for entrepreneurs. He will explain why he decided to become an entrepreneur, how he determined the market niche that he has pursued (analysis of the market, the regulatory environment, the cost to develop and market products, available expertise, etc.), the correct decisions he made early in the process, the mistakes he made in the process, and the prospects for the company. He will discuss his decision to grow the company through self-funding, and not through outside investment. He will discuss his views as an entrepreneur whether he now needs or would like outside funding, and his views on whether he wants to pursue such funding. He will explain his desire to make contact with university personnel, including graduate students at Caltech (or other universities) who might like to work with his company.

PANELISTS

Michael Sanders
Attorney at Law
Reed Smith

Michael Sanders joined Crosby Heafey Roach & May in September 2000 after 20 years as a founding partner with the firm of Sanders, Barnet, Goldman, Simons & Mosk. Now with Reed Smith, following the combination with Crosby Heafey, his practice continues to focus on the representation of start-up and emerging growth companies, primarily in the life science area, and middle market companies in a broad range of industries. Mr. Sanders also serves as investors' counsel for venture capital firms on a regular basis.

His life science clients include medical device, drug discovery, instrumentation, diagnostic, pharmaceutical, biopharmaceutical, and healthcare companies. He works closely with the management teams of these companies in addressing all of their legal issues and represents them on a regular basis in connection with structuring and negotiating debt and equity financing transactions, strategic alliances, technology transfer agreements, and clinical trial and sponsored research agreements.

Mr. Sanders represents middle market companies in connection with merger, acquisition and divestiture transactions, and provides general corporate representation to the clients with respect to their day-to-day legal matters.

PANELISTS *(continued)*

Paul Kacik
Senior Vice President
Barrington Associates

Mr. Kacik is a Senior Vice President at Barrington Associates and head of the healthcare and life sciences investment banking group. He had over thirteen years of investment banking, venture capital and corporate finance experience, and has acted in a lead advisory role on numerous M&A transactions within the Medical Device, Biotechnology and Healthcare Services sectors.

Prior to joining Barrington Associates, Mr. Kacik was Investment Director of Technomark Medical Ventures, a London-based venture capital firm backed by Lloyds TSB Bank. At Technomark, Mr. Kacik was responsible for overall management of the firm's healthcare portfolio and served as a member of the Investment Committee. In addition, Mr. Kacik was an active board member of several investee companies where he played a key role in setting policy and advising fellow board members on corporate finance, exit strategies and governance issues.

MODERATOR

Russ Frandsen
Attorney at Law
Reed Smith

Mr. Frandsen has 29 years experience with the major corporate law firms in Los Angeles. During the course of his practice, Mr. Frandsen has developed considerable expertise in high technology companies, entrepreneurial businesses and venture capital investing. In this connection, he has handled numerous technology start up firms, mergers and acquisitions, federal and state securities law issues, including public and private securities offerings, intellectual property licensing and technology transfers, technology joint ventures, securing and protecting trade secrets and intellectual property and related general business problems. Mr. Frandsen serves as outside general counsel to a number of clients in the high technology field.

Mr. Frandsen has advised a range of clients which includes individuals and companies involved in such diverse technological activities as Internet commerce sites, Internet access companies, uranium enrichment through laser diffusion technology, industrial acoustic imaging, document imaging, storage, and retrieval through systems integration and proprietary software development, electronically controlled and metered fuel injection systems for internal combustion engines, pressure and temperature sensors, optical data storage, proprietary computer board manufactures, carbon, fiber and other composite material, molding technology, solar energy development, fluid control valves for the semiconductor industry, high performance general aviation aircraft engines, piezo electric telephone switching technology, data base search engine software, Internet software, medical software, web site software, optical filters, multiplexing and demultiplexing telecommunications devices, genetic diagnostic tools, domestic and foreign technology, licensing agreements, pharmaceutical development, Internet commerce, among others.

Mr. Frandsen has pioneered the way for Internet securities offering. He obtained the IPONET No Action letter, dated July 26, 1996, setting for the guidelines for securities offerings on the Internet, particularly private offerings as well as public offerings. Mr. Frandsen obtained the definitive opinion of the California Commissioner of Corporations interpreting Corporate Securities Act of 1968, as amended, section 25102(n), including in particular the use of Section 25102(n) offerings on the Internet. Mr. Frandsen has participated as speaker and panelist at a number of national and local seminars and conferences on Securities Laws and the Internet.

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Reed Smith, LLP

Reed Smith, LLP, is a top global law firm that has worked in close partnership with its clients throughout a successful history to grow from being a leading national law firm to a transatlantic law firm committed to providing the highest level of service to national and international clients.

Founded in Pittsburgh in 1877, the firm now has nearly 1000 lawyers located throughout the U.S. and Europe, and we are counsel to 29 of the top 30 United States banks; 26 of the Fortune e-50 companies; 9 of the top 10 pharmaceutical companies; and 50 of the world's leading drug and device manufacturers.

Representing today's technology isn't just about transactions or business formation or patents or licensing agreements or debt equity financing. It's all of that and more. It's about investing in the industry not just representing it. It's about solutions, not just answers.

Reed Smith has long been a part of the technology landscape and was one of the first major law firms to integrate our intellectual property capability with corporate law and other legal practice areas to provide comprehensive support to clients. Similarly, we are at the forefront in advising clients on issues around creating and exporting advanced encryption and wireless communications technologies. Reed Smith has watched the biotechnology arena grow and responded with an expansion of their own, focusing on the issues unique to biotechnology and representing many of the industry leaders, including Invitrogen and Amgen. Reed Smith is continually responding to the changing paradigm in the technology community. Reed Smith offers a unique blend of technical and business expertise, integrating the issues of law, business and technology.