

**Expertise:**

- The creation, evaluation, and growth of businesses / technology in R&D and healthcare
- The drafting and implementation of durable business strategies
- Multidisciplinary team creation and leadership
- IP strategy, development, and management

**Summary:**

- Harvard and Stanford educated technology and business expert in R&D
- Leader in the evaluation of new technologies, understanding and articulating their business potential, and in the design and development of novel technologies
- Successfully built and managed teams to achieve business goals across diversified objectives, resource constraints, and priorities to achieve success
  - Able to clearly articulate technology/business vision and motivate teams
  - Empower teams by aligning stakeholder needs, business, and technology
  - Core expertise: alignment of business and technology to solve unmet needs
- Builder, leader and mentor of cross-functional teams in biotechnology, diagnostic, instrument, and bioinformatics companies.
  - Core expertise in medicine, biology, chemistry, physics, and computing
- Successful track record in the domestic and international evaluation, drafting, and prosecution of intellectual property (IP)
- Significant experience managing companies at the highest levels
- Experienced speaker: investors, boards, public events
- Conducted research with three Nobel laureates: Dr. W. Lipscomb '76, Dr. R. Kornberg '06, and Dr. M. Levitt '13.

**Professional Experience:**

**1999-Present Strategic Business and Technical Consultant, Full Spectrum Biotechnology Consulting**

- **Accomplishments:** Advised startup and venture capital firms. Provided due diligence and integrated technical/strategic business guidance to venture capital firms and their portfolio companies, as well as providing topical briefings for partners.
- **Overview:** Performed diverse business and technical in-depth evaluations. Developed numerous integrated technical and business strategies that have led to successful corporate outcomes. Advised and coached entrepreneurs on business plans, technology development, presentation, and company development. Specific areas included diagnostics, structure-based drug design, bioinformatics, proteomics, and high throughput, post-genomics technologies.

**2018-2019 CTO, MedicalCue:**

- **Accomplishments:** Supervising manufacturing, deployment, and technology development.

**2013-2018 CEO, MedicalCue:**

- **Accomplishments:** Pivoted the company to a new business model and product definition. Creating a new market for an IT product to aid the resuscitation of newborns. It has shown significant improvements in nurse and doctor performance.

**2013-2014 COO, Retrotope:**

- **Accomplishments:** In charge of operations Developed a unified theory for the science and drug action that enabled the raising \$10MM in funding for a novel therapeutic for the treatment of neurodegenerative diseases. Helped file the IND.

**2010-2013 Director of Business Development and Strategy, Sony, Life Electronics**

- **Accomplishments:** The head healthcare strategist for Sony. Lead the acquisition and development of an *in vitro* diagnostics business, including the successful launch of an IVD product, sole planner of a unique product to address a \$6B market, and created four new product families in research use platforms (RUO), as well as the launch of a high margin consumables business. Drafted Sony product and corporate strategies in healthcare and healthtech/wellness. Technology leader for the only Sony new technology initiative to meet corporate goals
- **Overview:** Responsible for all aspects of building a new business in both diagnostics and research use platforms. Identified potential IP and corporate acquisition targets. Served as the sole healthcare advisor for R&D strategy and IP strategy to the highest executive levels of Sony Japan and Sony US. Actively led several teams that materially improved Sony's competitiveness. Participated and guided numerous FTO reviews to successful outcomes. Conceived of, recruited, staffed, and directed development of a novel research laboratory. Trained IP team in healthcare patent drafting and prosecution strategies.

**2006-2010 Founder, and Chief Scientific Officer, AmbroZea**

- **Accomplishments:** Company provided a novel solution to increase the profitability of ethanol production by using biotechnology to improve the value of byproducts. Invented company concept, built the senior management team, brought on the leading industrial producer as a partner, and successfully sold the company to GEVO. 1 issued US patent, 5 applications, plus overseas filings.
- **Overview:** My key insight was that the ethanol industry is constrained by two separate markets: agriculture and oil. We increased the value of the only revenue source under their control, raising the profit margins. Wrote business plans, presentations, and created financial models until CEO and CFO were hired, and remained responsible for all technical and IP aspects of the company.

**1999-2002 Acting Chief Scientific Officer, Syrrx**

- **Accomplishments:** First hire, and was the senior architect for the technology, IP, and research strategy. Provided scientific leadership for a high throughput drug discovery company founded to rapidly transform gene sequence into novel drug leads via structural biology. Inventor and author of over 12 patent filings, 27 applications. Co-managed the intellectual property portfolio, designed the global IP strategy, and managed the patent filings and

development of new patents. Evaluated new technologies. Helped design the core technology engine, robots and computer cluster. Co-managed the initial laboratory design and build out.

- **Overview:** With my extensive experience in computing, molecular design, structural biology, and protein purification, my skills were important for the design of Syrrx's core research engine, bioinformatics system and for the global strategy for the development and implementation of their IP portfolio.

#### **1998-2001 Founder, Chief Scientific Officer, Dtek Technologies**

- **Accomplishments:** Founded a biotech company for the development of rapid, low cost diagnostic tests for pathogens and toxins based on complex lipids combined with specialty ligands and drugs. Founded, organized, and developed the company. Developed the original business plan and strategy. Designed several products based on the technology, one featured on CBS radio.

#### **1993-1998 X-ray Crystallographer, Structural Biology Department, Stanford University**

- **Accomplishment:** Solved the structure of the largest protein complex ever determined at the time, yeast RNA polymerase II, recognized with the 2006 Nobel Prize in Chemistry to Roger Kornberg.
- **Overview:** Cross-functional team building and leadership were critical for this success. I helped recruit, trained, and directed the team. Integrated solutions from molecular biology through fermentation, protein handling, purification, crystallography, and high-performance computing were created and applied. Initiated several collaborations with other companies and academic laboratories to drive the work to completion. The rapid success of this project was only possible through integrated cross-functional team management.

#### **1991-1993 Postdoctoral Fellow, Cell Biology Department, Stanford University**

- **Accomplishment:** Wrote a novel software suite for *de novo* computer directed drug design, a form of AI for drug design. Successfully raised over \$200k in funding for the research.
- **Overview:** I codified a broad spectrum of concepts in molecular interactions into a cohesive unit for the generation of novel lead compounds for drug design. The goal of this software was to provide, rapid, accurate leads to accelerate the drug discovery process. This work was eventually superseded by work done at Pharmix, my client, in 2003.

#### **Languages:**

Fluent: English, Nepali

Basic: German and Spanish

#### **Hobbies:**

Raising miniature belted Galloway cattle, and long distance equestrian endurance riding.

#### **Education:**

Ph. D. Physical chemistry, Harvard University, Cambridge, MA, 1991  
M.A. Physical chemistry, Harvard University, Cambridge, MA, 1989  
B.A. Chemistry and mathematics, Oberlin College, Oberlin, OH, 1981

**Some Recent Publications and Development Milestones:**

13 issued US patents, 11 of them as sole inventor, in microfluidics, software, and biofuels.

2000 Cramer, et. al., "Architecture of RNA Polymerase II and Implications for the Transcription Mechanism", Science, 288, (5466), 640-649

1999 Fu, J., et. al., "Yeast RNA Polymerase II at 5Å Resolution", Cell 98, 799-810.

**Professional Memberships:**

American Association for Clinical Chemistry

American Association for the Advancement of Science

American Chemical Society

Co-founder BioE2E (Continuing education in biotech and entrepreneurship)