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Career Summary

Nearly thirty years experience as an executive and applied scientist in both the private and public sectors. The last twenty years were focused on the management, research and development of all phases of securities trading including mathematical modeling, portfolio management, trading strategy, order-execution systems, marketing and the trading desk.

Accomplishments

- Director and developer of the Program in Quantitative Finance in the Department of Applied Mathematics and Statistics at Stony Brook University. The goal of the program is to develop individuals who are capable of applying rigorous mathematical methods in the solution of difficult and relevant problems in finance and investments. For more information refer to the program's website at <http://www.ams.sunysb.edu/~frey/QuantitativeFinance/>.
- Formed and currently chair the Advisory Board for the Program on Financial Mathematics at the University of Chicago.
- Managing Director with Renaissance Technologies Corp., a quantitatively-oriented investment management firm with approximately \$5 billion in assets under management. Its flagship Medallion Fund has returned an average of more than 30% per year over the past decade. From the time I joined the firm in 1992 to date the assets under management have risen from \$110 million to over \$5 billion. Renaissance has approximately 250 employees in New York City, on Long Island and in Berkeley, California.
- Organized and staffed the Renaissance's fixed income research group. Developed risk control and pricing methodologies using both predictive and market-calibrated models. Primary architect of the quantitative approaches embedded in the firm's fixed income trading support systems.
- Managed, developed, implemented and marketed a new Renaissance product line, Equimetrics, a long-term, low-risk, equity market neutral fund. The firm's original business base consisted of clients who are primarily high net worth individuals. The mission of the new product line is to provide an alternative investment strategy to institutional clients by adapting the quantitative and technological strengths of the firm to this broader market. Raised nearly \$700 million in capital during the first year of the fund's operation. In 2002, after averaging an 18% annual rate of return, this fund was folded into the Medallion Fund, the firm's flagship multi-strategy fund.
- Developed the Nova Fund, an aggressive, market-neutral hedge fund trading U.S. equities using statistical arbitrage. Organized, staffed and directed the business unit which traded the

fund until February 1995. Rate of return was over 40% during its pilot program. In 1997 this fund was absorbed into the Medallion Fund, the firm's flagship multi-strategy fund.

- Designed and managed the implementation of a distributed automated trading system. Formulated models and managed research efforts leading to securities models which successfully integrated technical trading methods with modern portfolio theory. This work was the basis for the Nova Fund above.
- Formulated the basic risk control models used in the management of what was a \$60 million futures and bond fund. From a prior average of 26%, performance was 34% in 1991, 39% in 1992, 39% in 1993, 71% in 1994, 33% in 1995 and 32% in 1996. Money under management grew to \$880 million during this period.
- While at a major investment banking firm, developed and validated a mathematical model which explained an existing *ad hoc* trading strategy, improving its performance by 25%.
- Formulated a large-scale optimization model for capital allocation and risk control that was used to successfully manage a \$500 million equities portfolio.
- As a program manager at a major defense contractor, secured \$25 million in R&D funds for advanced research programs in artificial intelligence. This was done in competitive presentations at the Pentagon with over 70 programs vying for \$200 million in funds.
- Founded and managed the Modeling and Simulation Group at a major defense contractor. Developed large-scale simulation models for the U.S. Navy and NASA. Delivered a variety models including operational combat models and detailed analyses of command, control and communication systems.

Experience

- '04 – date **RESEARCH PROFESSOR – Stony Brook University, Applied Mathematics and Statistics:** Serve as Director, Program in Quantitative Finance, currently under development as a new track within the department. I am also the program's primary architect. See <http://www.ams.sunysb.edu/~frey/> for more information.
- '04 – date **ADJUNCT PROFESSOR – University of Chicago, Department of Mathematics, Program on Financial Mathematics:** Chair the Advisory Board for the Program on Financial Mathematics offered by the Department of Mathematics. The board's mission is to serve as a bridge between industry and academia. I also contribute to the development of instructional materials, particularly student workshops illustrating the practical application of quantitative methods in finance.
- '04 – date **PRESIDENT & CEO – Harbor Financial Management, LLC:** Manage alternative investment and venture capital activities for my family and close

business associates. I also serve on the advisory boards of various funds-of-funds with assets totaling nearly \$20 billion.

- '92 – '04 **MANAGING DIRECTOR - Renaissance Technologies Corp., Member of the Executive Committee, and Member of the Management Committee:** Directed the research and development of several new products and trading activities. I was also a Registered Principal (Series 24) for the firm's subsidiary broker-dealers. I retired from Renaissance in June of 2004.
- '88 – '92 **MANAGING DIRECTOR - Kepler Financial Management, Ltd.:** Managed the firm's research and technology staffs. Renaissance purchased Kepler in 1992.
- '87 – '88 **EQUITIES TRADER - Morgan Stanley & Co., Analytical Proprietary Trading:** Conducted mathematical analyses of security price movements and developed automated trading and investment strategies. The Analytical Proprietary Trading group was one of the earliest "quant" groups on Wall Street involved in statistical arbitrage.
- '81 – '87 **PROGRAM MANAGER - Harris Corp., Government Systems, Advanced Studies:** Developed, marketed and managed applied R&D and advanced study programs, primarily for the U.S. Navy and NASA.
- '73 – '81 **Other Positions:** From 1973 through 1981 held a series of progressively responsible positions as a **UNIT MANAGER** and **MANAGEMENT ANALYST** with the **Treasury Department**, an **OPERATIONS RESEARCH ANALYST** with **Doubleday & Co.** and a **CAPACITY PLANNING ANALYST** with **European-American Bank**.

Part owner and operator from 1983 to 2006 of **Billies 1890 Saloon, Inc.**, Port Jefferson, NY. The profits from this restaurant were used to support my doctoral studies; fellowships and scholarships were generally not available to part-time students.

Public Service & Eleemosynary Activities

TRUSTEE – The Alliance of Guardian Angels: Organized 25 years ago by Curtis Sliwa, the Guardian Angels is a public service organization committed to the safety, security and education of individuals at risk. Its safety patrols, distinguished by their red berets, are familiar sites in many cities throughout the world.

PRESIDENT & CEO – Frey Family Foundation, Inc.: The foundation focuses its resources in two areas: education, especially in the public sector, and social services for at-risk or abused youth. The foundation runs several scholarship programs for secondary and university students, gives direct support to various human services initiatives, and provides free business consulting and investment management advice to several charitable organizations.

TRUSTEE – Hope House Ministries, Executive Board: Hope House Ministries is a human services organization which for the past 27 years has provided a range of services to those in need on Long Island. Hope House maintains a home for young men, an alternative school, a women’s shelter and a homeless shelter; it provides free mental health and counseling services to hundreds of individuals each month. I also serve as Chair of the Endowment and Investment Committee.

CHAIRMAN – Hope House Ministries, Endowment Committee: The committee originally formed four years ago to provide management and financial advice to Hope House, a local human services charity, and to raise and manage endowment funds that would help to stabilize the organization’s finances. Our fund raising galas in March typically sell over 450 tickets each. These events were the most successful in the charity’s history. At the start the charity was several hundred thousand dollars in debt; those debts have been retired and it now has an endowment of over one million dollars.

TRUSTEE –Stony Brook University, Stony Brook Foundation: The Stony Brook Foundation is the primary fund raising organization for the university. I co-chaired the 2004 Stars for Stony Brook Gala which raised over \$1.5 million for scholarship programs. I also serve as Chair of the Investment Committee and as a Member of the Budget Committee.

Co-CHAIR – SUNY Stony Brook, School of Engineering and Applied Sciences, Dean’s Council: The Dean’s Council is the liaison between the Engineering College and outside industry. Its mission is to review and develop curricula, to raise funds and to build university-industry partnerships.

TRUSTEE – Suffolk County Community College Foundation: The Suffolk County Community Foundation is the primary fund raising organization for the college. I also serve as Secretary of the Executive Board and as a member of the foundation’s Investment Committee.

TRUSTEE – Royal Foundation: The Royal Foundation is the primary fund raising organization for the Port Jefferson School District.

PRESIDENT – Mt. Sinai Union Free School District Board of Education: I served for five years as Trustee and four years as Board President until I moved from Mt. Sinai in 2003. Accomplishments include the creation of policies and procedures for superintendent evaluation, improved performance and cost reporting systems, and the development of salary policies and algorithms for the District’s administrative team. During my tenure the Regents diploma rate rose from 56% to 89%, and the District’s relative school tax rate among comparable districts decreased significantly.

TRUSTEE – Port Jefferson Union Free School District Board of Education: In May of 2006 I was elected to a three-year term as Trustee, commencing in July of 2006.

Education

My college studies began in 1971 and continued for 16 years until I completed my Ph.D. With the exception of an initial year of undergraduate studies and a required nine month residency at the end of my doctoral studies, I was a part-time, evening student.

- '87 ***Ph.D., Applied Mathematics & Statistics (Operations Research), SUNY Stony Brook.*** Advisor: Prof. Ellis Johnson. Dissertation title: “On the Classification, Decomposition and Construction of Matroids.” Cumulative G.P.A. 4.0 (A = 4.0).
- '80 ***B.S., Applied Mathematics & Statistics, SUNY Stony Brook.*** Cumulative G.P.A. 3.7 (A = 4.0).
- '78 ***A.A.S., Accounting, Suffolk County Community College.*** Cumulative G.P.A. 4.0 (A = 4.0).