

# Dr. Rajiv R. Shah

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Dr. Shah is presently a Clinical Professor in the School of Management (SOM) at the University of Texas at Dallas (UTD), and also the Program Director for the Systems Engineering & Management (SEM) Program. He has taught five different undergraduate and graduate courses in Entrepreneurship and Corporate Venturing in the Institute of Innovation and Entrepreneurship (IIE) since fall 2008– (1) Entrepreneurship, (2) Entrepreneurial Strategy, (3) Strategic and Organizational Issues in Technology Management, (4) Managing Ventures within the Corporation, and (5) The Entrepreneurial Experience. The latter two courses were newly created by him, one working with an external partner, ELCAN Corporation, a Raytheon Company. He also created entirely new teaching materials for the other three courses. He also has interests in and will be teaching graduate level Quantitative Finance.

Dr. Shah has also been one of the key members involved in helping develop and grow a few new programs at UTD -

- a. The Corporate Venturing track within the new MS in Innovation & Entrepreneurship degree program with the graduate level courses (3) to (5) above as key parts of that program.
- b. He was also the Principal Faculty Advisor and Sam Walton Free Enterprise Fellow for Students in free Enterprise (SIFE) and under his leadership the UTD SIFE Team won the Regional Competition in 2010 and went on to the Nationals for the 1st time in their 5 year history at UTD. SIFE is a Springfield, Missouri-based, global, non-profit organization, operating in 40 countries, across 1400 college campuses, and supported by over 50 large corporations, and 250 companies overall. In 2009 he helped grow the organization from a handful of students to 75+ students, and in 2010 the group has grown to over 200+. He established working relations with close to a dozen Service Partner community organizations and delivered services to them through SIFE student teams. He also established relations with half-a-dozen entirely new Corporate Partners, and set up a Business Advisory Board (BAB) for UTD SIFE, and led and conducted thrice a year meetings of the BAB.
- c. He also provided leadership, as Program Committee Chair, in helping UTD host the 15th Anniversary Conference of the Society for Design and Process Science (SDPS) in the summer of 2010. As part of this effort, he led numerous meetings of the organizing committee and also with a large number of UTD faculty to help define tracks and sessions for this conference. The conference was successfully executed, and he was recognized by the SDPS for his leadership of the conference activities.
- d. Also, working very closely with the Provost's Office, he led efforts to gain approval from the UT System and THECB (Texas Higher Education Coordinating Board) for the new Systems Engineering and Management (SEM) Program – a joint effort between the Erik Jonsson School of Engineering and Computer Science and the School of Management. Approval for this program was obtained in May 2010.
- e. The SEM program was launched in an Exec Education format in fall 2010, with 22 seats filled with 12 students across 4 courses. The program has to where in its fourth semester, in Fall 2011, there were 50 seats filled and cumulative 115 seats filled through 4 semesters.
- f. He worked with the marketing communications teams of the two schools to get the marketing collateral ready for this program, including a video put together with our industry partners, as well as a website and hard copy hand-out materials. He also presented this program to industry partners – HP, Ericsson, TI, Rockwell, Ball Aerospace, Lockheed Martin and Raytheon, and continues to interface with industry partners to promote and increase enrollment in the program.
- g. Working with the School of Engineering and Computer Science (ECS) he has also created 2 new Certificate Courses in the School of Management (SOM) for science and engineering students who will be completing their MS in sciences or engineering and would like to do 9 additional credit hours to get a certificate in either (1) Engineering Management, or (2) Innovation and Entrepreneurship.

## **Previous Background**

Dr. Shah is a nationally-recognized leader in the high-technology sector, having served as CTO of Alcatel North America and as a CEO advisor providing corporate business strategy, strategic partnering and M&A due diligence. In early 2008, he co-founded and has been a Managing Partner of Timmaron Capital Advisors, <http://www.timmaron.com>. As co-founder of Timmaron Capital Advisors, he brings more than twenty years of experience in the telecommunications, computer, semiconductor and laser industries.

He is highly regarded for his expertise in conceptualization, analysis and synthesis of business and technology issues for operations located in North America, Europe and Asia Pacific. He has a proven track record in leading technology and product development, product rollout, process and performance improvement, and implementation into manufacturing.

He rose through the ranks in seventeen years at Texas Instruments from technologist to manager of business development on a corporate level team set up to assess how TI could leverage its defense electronic systems expertise to launch commercial electronic systems businesses. He became Senior Manager, Network Architecture & Design, Network Technology & Planning in his five year tenure at MCI. He was promoted to CTO of Alcatel North America, during his four years with the \$2B American subsidiary of Paris-based Alcatel.

In 2005 Rajiv founded The indusLotus Group, [www.indusLotus.com](http://www.indusLotus.com), which has since provided high-level consulting to private equity firms and others on Wall Street. He worked on a \$50 B telecom deal in 2007. He has been an advisor to Cerberus Capital LP, Ericsson Inc., Commscope Inc., Goldman Sachs Vantage Marketplace LLC, Nomura Securities' Private Equity Arm, a Council Member on the Gerson Lehrman Group (GLG), Silver Lake Partners, Columbus Hill Capital Management, as well as three separate engagements with McKinsey & Co.

He has worked as an evaluator and mentor with the Texas Emerging Technology Fund and STARTech, reviewing business plans and mentoring founders and CEOs.

In 2004, Rajiv was the General Chair for the IEEE Globecom 2004 Conference, <http://www.ieee-globecom.org/2004/> which was attended by about 2000 people from all over the world.

Rajiv earned his Ph.D. in Electrical Engineering from Rice University and was a Post-Doctoral Fellow for over two years at the California Institute of Technology, Caltech. He earned an Executive MBA from Southern Methodist University and a B.Sc. in Physics from the University of Pune, in India.

## ***Professional Experience***

**University of Texas** (Richardson, TX)

September 2008 – Present

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### **Clinical Professor in the School of Management**

Teaching courses on Entrepreneurship, Entrepreneurial Strategy and Technology Management.

Industrial Advisory Board Member for the Jonsson School of Engineering (from 2002 and Co-chairman 2005 to Aug 2008)

**Timmaron Capital Advisors** (Southlake, TX)

April 2008 - Present

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### **Managing Partner and Co-founder**

Strategic advisors to CEOs, Boards and PE firms on corporate transformation issues, such as M&A, growth strategy and governance. Dr. Shah works directly with senior management of clients to find practical and implementable solutions to complex problems, bringing decades of management expertise to each relationship. Details of most current client relationships are confidential.

**Texas Emerging Technologies Fund** (Richardson, TX)

2005 – Present

Evaluator and Mentor, North Texas Regional Commercialization and Innovation Center (NTxRCIC)

**STARTech** (Richardson, TX)

2005 – Present

Mentor, Early Stage VC Fund

Chairman, Industrial Advisory Board, Computer Science and Engineering Department  
Board Member, Engineering Executive Board, School of Engineering  
Advisor on technology commercialization issues to the Provost and VP of Research in early 2008

**Founder and Managing Partner**

High-tech consulting and financial advisory firm.

- Advisor to a large NYC private equity firm on a \$50 B telecom deal in 2007.
- Advisor to Goldman Sachs, Vantage Marketplace LLC, and a Council Member on the Gerson Lehrman Group (GLG).
- Advisor to the Technology Private Equity arm of Nomura Securities, Silver Lake Partners, Columbus Hill Capital Management, and others.
- Advisor to a large wireless telecom infrastructure equipment company on strategy for a specific product technology business area. Provided an external perspective on launching a new business activity with some assets they had recently acquired - state of the industry, size of the addressable market segments, items missing in their portfolio, their value-proposition, likely competition, viability of the business, potential customers, likely business models.
- Advisor to senior management of a \$1.4 B telecom company on strategic options to diversify their business portfolio. Identified two target acquisitions with market valuation in the range of \$200 M to pursue as the first option. Analyzed another option to merge with a \$2.6 B company in a complementary business. They executed on the second option in 2007.
- Advisor to a well-known global consulting firm's senior Partners on all aspects of IMS and 3GPP/3GPP2. Advised the firm's client, a wireless operator in SE Asia, on building out mobile wireless, backhaul and transmission networks, as well as the selection of a mobile handset and the associated Operating Systems vendor. Helped the firm provide vendor competitive analysis for a major Telecom OEM client in the Enterprise space.

Formerly known as Alcatel, this is the \$2 billion American subsidiary of €17 billion Paris-based Alcatel-Lucent, manufacturer of telecom equipment and solutions, with operations in 130 countries, which was formed by the 2006 merger of Alcatel and Lucent.

As a member of the Senior Management Team, provided:

**Restructuring Leadership**

- Appointed by CEO North America to restructure the North American CTO organization. Successfully managed multiple conflicting demands between North American and European management. Reduced the Plano, Ottawa and Washington DC based organization from 135 to 85 people in 3 months.

**Strategic Partnering, Strategic Planning, and M&A Analysis**

- Led formation of global partnership agreement between Alcatel and Microsoft for exclusive relationship between the two companies for IPTV, including joint development, joint sales and joint marketing activities. Consummated agreement in less than 2 months.
- Successfully partnered with MSFT in the selection of 2 joint Alcatel-MSFT global partners for Servers and Storage and IT SW and Services, from a field consisting of IBM, HP, Sun, Dell and EMC.
- Performed strategic analysis that led Alcatel to consider for acquisition a \$500 million Market Cap company.

**Location Director, Alcatel Corporate Research Center, Plano  
Corporate Global Management Team, Research & Innovation, Alcatel****Leadership**

- Recruited in 2001 from MCI to lead the Corporate Research Center in Plano, with a budget of \$15 million and a staff of 100 people. Managed technical direction, leadership development, and budget. Technologies: optical networks, Ethernet, all-optical Routers, Label-switching, Enterprise Telecom, Video.
- Provided Leadership, as General Chairman of Globecom 2004, a conference that attracted 2000 people from all over the world. Hosted Banquet Speech by Congressman Joe Barton, and Plenary Keynote speeches and Lunch Panels by telecom industry leaders. The conference was a resounding success.
- Chaired the Industry Advisory Board (IAB) of SMU CSE Department for 3 years, and the Technology Trends and Developments Committee of the IAB at UTD. Actively engaged in industry groups, ATIS.
- Negotiated Intellectual Property Rights (IPR) that drove agreements between Alcatel and UTD and Alcatel and AT&T and UC San Diego. Funded research at UTD, SMU, '01-'05, and in '03 at UC San Diego.
- Won the first ever contract for Research from the US Govt. (NIST) to Alcatel for \$3 million over 3 years.

**Strategic Partnering, Strategic Planning, M&A Analysis & Customer Relationships**

- Led efforts to explore RFID as a business opportunity for Alcatel, Sept '03 to Jun '04. Met with CEOs and top management of 15-20 RFID companies, and key academic RFID leaders in the US and Europe. Performed acquisition analysis of two RFID companies which together had a market cap of \$500 million.
- Delivered Alcatel North American Business Strategy in 2003 based on a 6-month, 6-person strategic planning team effort utilizing scenario analysis and telecom industry and technology analyses.
- Successfully performed joint activities with Advanced Technology Groups at MCI and SBC.
- Enterprise Telecom & IT and Healthcare
- Organized a small team to explore applications of Enterprise Telecom and IT to the Health sector and initiated engagement with UT SW Medical School and also with UTD. Funded a regional study of the Health sector by a UTD Professor, as part of a consortium, led by early ventures company, STARTech.
- Launched an effort and directed development of Emerging Enterprise Communications applications such as Presence and IM (Instant Messaging) merged with SIP-based desktop VoIP on top of Microsoft and IBM Enterprise desk-top software platforms.

**MCI Network Services (Richardson, TX)**

1996 - 2001

**Senior Manager, Network Architecture & Design, Network Technology & Planning**

1999 - 2001

Directed a group of 25 people that performed traffic and cost modeling of core, metro, access and VoIP networks, and trade-off analyses of various architectures utilizing advanced transmission, switching, and routing technologies for future IP traffic growth on MCI UUNET network, in the US, Europe and Brazil. Also directed similar efforts by modeling groups at equipment vendors: Lucent, Nortel and Alcatel.

**Strategic Planning and Cost Modeling**

- First group in the telecom industry to generate results that led to the beginning of the burst of the “telecom bubble”, by modeling the tens of billion dollars CAPEX needed for the claimed 10-12X/year IP traffic growth. Proved these traffic growth rates to be unsustainable, due to the needed Corporate Revenue growth rates. Results presented to the highest levels at UUNET and MCI WorldCom management.

**Senior Manager, Wireless Mobile and Fixed Access Technology & Strategy**

1996 - 1999

Managed a group of ten senior engineers responsible for advising top MCI management on issues related to Wireless Technologies for Mobile and Fixed Access, and evaluating access alternatives.

### **Strategic Planning, M&A Analysis and Due-diligence**

- Performed due-diligence of Nextel network and technology during the intended acquisition of Nextel by MCI in 1999, and of the several hundred million dollar acquisition of Skytel. Results of the analysis and recommendations made to the highest levels in the company.
- Drove analyses of the \$1.5 billion acquisition of 6 to 8 Wireless Cable companies by MCI in order to acquire their MMDS spectrum for Fixed Wireless Access, as well as the \$350 million investment in Metricom, and played a key role in the assessment of Teledesic, Skybridge and Teligent for investment by MCI.
- Led financial analyses of the then-rumored acquisition of TCI and Media One by AT&T, the projected acquisition costs, investment needed to upgrade the plant and impact on AT&T and its relevance to MCI.
- Directed business case comparisons for various Access Alternatives, such as leased and built DSL, Cable Modems, LMDS/MMDS Fixed Wireless, LEO/MEO/GEO Satellites, and Power-line Communications.

### **Strategic Partnering and Fixed and Mobile Wireless Trials**

- Managed partner and vendor, Lucent, in performing a field trial of Fixed Wireless Access –Wireless Local Loop for MCI in Richardson, Texas, in Project Pogo in early '97, with a dozen friendly customers.
- Directed British Telecom [BT] colleagues in the trial and in technology laboratory testing in the UK. Led technology strategy sharing with partners, BT, Bell Canada, Stentor, Viag Interkom in Germany, Avantel in Mexico and then WorldCom.
- Engaged in partnership between MCI and NextWave communications, a major winner in the PCS C-band auctions in the US, from whom MCI had purchased 10 B minutes of wireless air-time in 1996.

**TEXAS INSTRUMENTS** (Dallas and Houston, TX)

1979 - 1996

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### ***Manager, Business Development, Communications & Electronic Systems [C&ES]***

1994 - 1996

Corporate level team set up to assess how TI could leverage its defense electronic systems expertise to launch commercial electronic systems businesses. The team used strategic decision analysis methodology to assess various industries and recommended launching Communications Electronics Systems businesses.

### **Strategic Planning and Strategic Business Development**

- LEO/MEO/GEO Satellite Communications: Smart Antennas.
  - Analyzed size, scope, and risk of opportunity for Iridium, Globalstar, Spaceway, Odyssey & Teledesic.
- Mobile Cellular/PCS Wireless: Smart Antennas
  - Analyzed size, scope, and risk of opportunity for cellular/PCS equipment markets, analog vs. digital, GSM vs. IS-136 vs. CDMA. Monitored FCC BB-PCS A/B & C band auctions. Developed business models.
  - Analyzed end-to-end networks from the mobile to the cell-site to base station transceivers/controllers [BTS]/[BSC] to mobile switches [MSC] to the PSTN.
- Fixed Broadband Wireless Access/Local Multipoint Distribution Service [LMDS]
  - Developed business strategy and business plan. Analyzed industry market size, segments, value chain, and competitive/defensible positions for voice, data and video in domestic and international markets.
  - Analyzed telephony and cable networks and competitive position w.r.t. other broadband access: HFC, FTTN, FTTC, SDV, ADSL/Cable Modems, DBS/MMDS and Narrowband Wireless Local Loop and Low-Tier PCS: PACS/PHS/DECT Technologies.
- Presented to SBC, Bell South, Nortel, Ericsson and Lucent. Assessed Inter-Exchange Carrier [IXC], Local Exchange Carrier [LEC], and Cable Company [MSO] strategies after the Telecom Act of 1996.

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### ***Program Manager, Field Programmable Gate Arrays, Semiconductor Group***

1989 - 1994

### **Business Startup, Strategic Partnering, Strategic Planning and Cost Modeling**

- Successfully planned, organized and directed the startup of a business venture for the corporation and its strategic partner Actel Corp. Both marketed the new product line to a rapidly growing market segment.

- Launched the company into the FPGA business in '90, with '94 sales reaching \$50 million/yr and over 40% Gross Profit Margin and five-year cumulative revenues exceeding \$100 million.
- Executed a comprehensive business analysis, risk analysis and cost-to-market models. Assessed the long-term viability of the business and established an overall strategy for future generation products.

**Technology & Product Development, Product Roll-out, Process & Performance Improvement, and Implementation into Manufacturing, and Partner Relationship Management**

- Managed the selection of a production facility, the manufacturing process as well as product engineering, testing and qualification and pricing negotiations, and ultimately an annual operating budget of \$15 million. Traveled to Korea in '90 to negotiate potential foundry arrangements with Samsung and Hyundai.
- Guided the business through product introduction and multiple additional releases, managing product engineering, wafer-fab process installation and relationship with licensor of technology, Actel.

**Program Manager, CMOS/BiCMOS Technology Development in Wafer Fabs** 1984 - 1989

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- Managed programs to develop CMOS/BiCMOS from 3.0 um to 0.8 um technology nodes in DLOG and HFAB wafer fabs. Key contributor to TI's EPIC CMOS/BiCMOS process technology roadmaps. Awarded key BiCMOS technology patents, and a total of over 25 domestic and international patents. Spent ten days in Japan in '85 to transfer technology.

**Program Manager, Laser Process Technology Development in R&D Labs** 1979 - 1984

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- Managed key programs for developing and evaluating applications of lasers to the processing of semiconductor devices. Published over 50 papers.

**Education**

**CALTECH (Pasadena, CA)** 1976-1979

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Dr. Chaim Weizmann Post Doctoral Fellow

**Rice University (Houston, TX)** 1972 – 1976

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Ph.D. & MS, Electrical Engineering

**Southern Methodist University (Dallas, TX)** 1985-1987

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MBA, Executive MBA Program

**Ferguson College, Univ. of Poona (India)** 1968-1972

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B.Sc., Physics, (Math & Statistics)

**Languages**

Proficient in five languages: English, German, and 3 Indian languages

**Honors**

**California Institute of Technology (Pasadena, CA)** 1976-1979

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**Dr. Chaim Weizman Post Doctoral Research Fellow, Noyes Laboratory of Chemical Physics, Caltech**

- Sub-picosecond Tunable Dye Laser Spectroscopy
- Single-mode Tunable Dye Laser Spectroscopy of Molecular Beams

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**Research Fellow, Electrical Engineering Department**

- Holographic Data Storage in Electro-optic Crystals
- Interferometric Studies of Ultrashort Light Pulses from Nd<sup>3+</sup>:Glass Lasers

**Additional Honors**

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Selected as Corporate High Potential (CHP) at Alcatel, top 0.5 % in the company  
Selected as Member of the Summit Club at MCI WorldCom  
Senior Member Technical Staff, Texas Instruments, Inc.  
Member Group Technical Staff, Texas Instruments, Inc.  
Dr. Chaim Weizmann Post Doctoral Fellow, CALTECH, Pasadena, California  
Graduate Fellow and Research Assistant, Rice University, Houston, Texas  
National Science Talent Search Scholar, Govt. of India, India  
Selected in the top 1% in the joint entrance exam, Indian Institutes of Tech.  
Graduated top of class and city in state administered high school exam.

***Patents & Publications***

**List of 25+ patents & 50+ publications (available upon request)**

Published extensively, over 50 papers, in external technical publications such as those of:  
The American Physical Society [APS], and the Institute of Electrical and Electronics Engineers of America [IEEE], & conference proceedings of the Materials Research Society [MRS], the Electrochemical Society [ECS] etc. Co-chaired/Co-organized a conference on Laser Processing of Semiconductor Devices, under the auspices of the Society of Photo - Optical Instrumentation Engineers [SPIE] in 1983.  
Refereed papers for the IEEE and APS and proposals for the National Science Foundation [NSF].

***Community Activity***

**Local Universities**

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2002 – Present: - Member, Engineering Executive Board, School of Engineering  
Southern Methodist University [SMU]  
2002 - Present- Chairperson, Industry Advisory Board (IAB), Computer Science & Engineering (CSE)  
Southern Methodist University [SMU]  
2002 - Present: - Member, Industry Advisory Board (IAB), Electrical Engineering & Computer Science, University of Texas at Dallas [UTD]

**Chamber Of Commerce & Technology Business Councils**

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2003 -2004, Board of Directors Metroplex Technology Business Council (MTBC)  
2004, Dallas Technology Business Council (TBC)  
1996: Board of Directors, Leadership Richardson Alumni Association  
1993 - 1994: Leadership Richardson, Class IX

**Homeowners Association**

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2000 – 2003: Board of Directors, Fairways of Sherrill Park Homeowners Association [FSPHOA]  
2002-2003: Vice President, FSPHOA  
2000-2002: Secretary and Acting President, FSPHOA

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