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Visit [https://dspace.mit.edu/handle/111021](https://dspace.mit.edu/handle/1721.1/111021)

SUMMARY INFOGRAPHIC



1999-2020 ADVISING, PROFESSIONAL AND MANAGEMENT CONSULTING GROUPED BY SUB-TOPICS



SHOUMEN PALIT AUSTIN DATTA

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CURRENT POSITIONS

⇒ MIT ▪ 1999 – present (renewed 2013)
MIT Auto ID Labs ▪ Research Affiliate, Dept of Mechanical Eng, MIT ▪ <https://autoid.mit.edu/shoumen-datta>
⇒ HARVARD ▪ 2014 – present (renewed 2016)
MDPnP Scientist ▪ <http://mdpnp.mgh.harvard.edu> ▪ Massachusetts General Hospital, Harvard Medical School
⇒ PURDUE ▪ 2015 – present (renewed 2017)
NSF Center on Robots and Sensors at Purdue ▪ <https://www.purdue.edu/rosehub/RoSeHUB.contact.html>
⇒ UF ▪ 2018 – present
USDA NIFA Center of Excellence, Dept of ABE ▪ [Nano-bio sensor engineering](#) ▪ University of Florida, Gainesville, FL

EDUCATION, TRAINING & RESEARCH

1980
BSc [Honours] • Medical Physiology & Biochemistry; [Minors] Physics & Chemistry • Presidency College, India
1985
MS [eq] • Molecular Biology, Cell Biology, Virology, Molecular Genetics • University of Pittsburgh (PA, USA)
1989
PhD • RUTGERS UNIVERSITY School of Medicine [Molecular Biology, Biochemistry, Genetics, Microbiology]
1989-1991
Fellow in Medicine - Harvard Medical School, Massachusetts General Hospital (Thyroid, Neuro-Endocrinology)
1991-1994
Research Associate - Massachusetts Institute of Technology, Whitehead Institute (Transcription, Human Genome)
1994-1995
Research Scientist - University of California San Francisco School of Medicine and UCSF School of Pharmacy
1995
University of California, Berkeley. Communications Network [Audit] • Electrical Engineering (EECS)
1998
Pharm D (award) • University of California San Francisco School of Medicine • UCSF School of Pharmacy

R&D COLLABORATIONS WITH INDUSTRY MANAGEMENT ORGANIZATIONAL SKILLS LEADERSHIP

- MIT Auto ID Center, Technology Board (1999-2004) • IoT (Internet of Things) & RFID (radio frequency id)
- MIT Forum for Supply Chain Innovation (2001-2009) • Digital Supply Chain
- MIT Data Center (2003-2006) • Semantics and Big Data
- MIT Sloan School of Management, Executive Education in Strategy and Management (programs 2002-2007)
- Medical Device Interoperability Program (MDPnP Lab), Massachusetts General Hospital, Harvard Medical School
- IoT in industry sponsored organization (Industrial Internet Consortium, 2013-2016)

ATTRIBUTES

- Excellence in communication, medical and digital transformation
- Progress of industrial internet of things (IoT for manufacturing, healthcare, energy, retail)
- Provides thought leadership for convergence (AI, Data Analytics, Digital Twins, Cybersecurity)
- Executive education for strategy, digital operations and innovation in supply chain management
- Strategy guidance for STEM education, digital transformation and democratization of data

PAST EXPERIENCES

2013 – 2016

Founding Senior VP, OMG and Senior VP, Industrial Internet Consortium • *Next generation of the industrial internet of things* • <http://bit.ly/IIC-2015-REVIEW> • www.iiconsortium.org • <http://bit.ly/IIC-2013-2016-SD>

2000 – 2010

Massachusetts Institute of Technology, Cambridge, Massachusetts 02139 • MIT Affiliate, Visiting Research Scientist, Engineering Systems Division, Department of Civil and Environmental Engineering, MIT • Co-Founder and Executive / Research Director, MIT Forum for Supply Chain Innovation, School of Engineering, MIT

- ✚ Intelligent Decision Systems; Forecasting; Real-time technologies; Sensors in Energy and Healthcare
- ✚ Academia-Industry-Government Liaison; RFID Systems; Healthcare Informatics; Energy Efficiency
- ✚ MIT Sloan School of Management Executive Education in Strategy and Management • MIT Auto ID Center
- ✚ Research Scientist, Engineering Systems Division, Massachusetts Institute of Technology
- ✚ MIT Auto ID Center (Technology Board Member for Standardization of RFID)
- ✚ MIT Forum for Supply Chain Innovation (Co-Founder, Executive Director, Research Director)
- ✚ MIT Sloan School of Management (Executive Education in Strategy and Management, Supply Chain)
- ✚ MIT Data Center (2003-2006) - http://web.mit.edu/edmund_w/www/DATACENTERpeople.htm
- ✚ MIT Energy Initiative (2008-2009) - <http://energy.mit.edu/>

- Leading change and growth in business and technology through global innovation due to RFID (radio frequency identification) of objects and internet of things (IoT) as a result of the ecosystem created by RFID and its integration with software and ERP for real-time data and analytics coupled with potential applications of ML.
- Developed models of operational transparency which could generate new business models and created tools.
- I acted in advisory capacity to Fortune 500 companies, US government agencies, foreign governments & global academic institutions to articulate, communicate and educate strategic nodes and points of influence with respect to [a] new tools to create new dimensions of socio-economic growth, [b] technologies that may benefit from tech transfer systems, [c] creation of intellectual property (IP) due to advances that may stem from some of these fundamental proceedings, [d] integration of this wealth of knowledge with K-16 education (necessary to maintain the supply chain of talent to continue to reap the harvest from future innovation).

2000 – 2013

MIT Affiliate – Advisor, Teaching and Consulting for Internet Futures • Energy and Intelligent Systems (GE Global Research • Government of Taiwan • Sannerwind • Chalmers University of Technology (Sweden) • Bordeaux Ecole de Management (France) • NCKU (Taiwan) • Entrepreneurship & Start-ups in Energy, Health, SCM • CatConGlobal KEDGE Business School • Undergraduate education in Chemistry, Biology, Anatomy, Physiology and Biotechnology

1999 - 2002

Principal Investigator, Strategic Innovation, Global Strategic Initiative and Global Management, SAP AG / SAP Labs

- ✚ Supply Chain Management; E-commerce; Semiconductor Industry; Strategic Technology Advice
- ✚ Executive Consulting; Innovation in Adaptable Business Networks via Agents & RFID Technology

1996 - 1999

President and Co-Founder, Associated Scientists

Founder & Executive Director, Glenn T Seaborg Endowment for Excellence in Education

- ✚ Association for rigorous mathematics and science standards; Foundation to improve teacher training
- ✚ Seaborg, Glenn T (Archives - Library of Congress) <http://hdl.loc.gov/loc.mss/eadmss.ms006039> (Box 276)

1998 - 1999

Director, Office of Public Understanding of Science; Member, Senior Advisory Council, Eagle Alliance Department of Nuclear Engineering, Texas A&M University, College Station, Texas

- ✚ Public literacy of the looming energy crisis and the under-utilization of safe nuclear energy

1997 - 1998

Visiting Fellow, Cisco Systems (Cisco Networking Academy) San Jose, California

- ✚ IT workforce development and US government programs

1997 - 1998

Chairman, National Information Technology Task Force

US Departments of Commerce; Labor; Education; White House Council of Economic Advisors and ITAA

- ✚ Policy advisory task force; global economic impact of IT; US initiatives for workforce development

1995 - 1997

Special Assistant [Title XV], Superintendent of Schools, City and County of San Francisco

Director of Development and Strategic Technology, San Francisco Unified School District, San Francisco, California

- ✚ Management and administration of technology infrastructure, hiring, curriculum & development grants
- ✚ Co-founded Cisco Networking Academy, Thurgood Marshall Academic High School, SFUSD (San Francisco)
- ✚ Interactive University Project (MOOC) with UC Berkeley & SFUSD supported by US Dept of Commerce

1994 - 1995

Research Scientist, University of California at Berkeley and UCSF School of Medicine (San Francisco, California)

UCSF - UC Berkeley Program in Molecular Parasitology and Infectious Diseases

- ✚ Research in infectious diseases • Instructor in Human Genetics, UCSF School of Medicine

1991 - 1994

Research Associate, Whitehead Institute, Massachusetts Institute of Technology (MIT), Cambridge, Massachusetts

- ✚ Molecular genetics of transcriptional regulation in yeast; cancer research (<http://web.wi.mit.edu/young/>)
- ✚ Human Genome Project; artificial chromosomes (<http://www.broad.mit.edu/about/bios/bio-lander.html>)
- ✚ RNA Polymerase II dependent gene expression (www.hms.harvard.edu/dms/bbs/fac/buratowski.html)

1990 - 1993

Instructor in Medicine, Harvard Medical School, Boston, Massachusetts

- ✚ Teaching medical (MD) students [molecular medicine; biochemical physiology; metabolic regulation]

1989 - 1991

Research Fellow, Harvard University, Cambridge, Massachusetts

Research Fellow in Medicine, Harvard Medical School, Massachusetts General Hospital, Boston, Massachusetts

- ✚ Molecular endocrinology; endocrine tumors; molecular medicine; transcriptional regulation by THR
- ✚ http://www.ups.upenn.edu/news/News_Releases/2010/09/dr-j-larry-jameson-to-lead-penn-medicine/

1989 PhD • RUTGERS UNIVERSITY School of Medicine [Molecular Biology, Biochem, Genetics, Microbiology]
Research Collaboration - Department of Molecular Biology, Princeton University, Princeton, NJ 08544

1986 Visiting Student, University of Cambridge, Cambridge, UK (Program in DNA Tumour Viruses)

1983 Visiting Student, University of Paris VI, France at UPMC (Institut de Cancerologie et Immunogenetique)

1980 BSc [Honours] Medical Physiology & Biochemistry; [Minors] Physics & Chemistry. Presidency College, IN

1976 ISC School Leaving Certificate, University of Cambridge Local Examinations Syndicate, Cambridge, UK

Recent Research Publications (2018-2020)

1. Y. Rong, A.V. Padrona, K. J. Hagerty, N. Nelson, S. Chic, N. O. Keyhani, J. Katz, S.P.A. Datta, C. Gomes, and E.S. McLamore (2018) **Post Hoc Support Vector Machine Learning for Impedimetric Biosensors Based on Weak Protein–Ligand Interactions**. *The Analyst*, vol. 143, no. 9, 2018, pp. 2066–2075 doi:10.1039/C8AN00065D <https://pubs.rsc.org/en/content/getauthorversionpdf/C8AN00065D>
2. McLamore, E.S., S.P.A. Datta, V. Morgan, N. Cavallaro, G. Kiker, D.M. Jenkins, Y. Rong, C. Gomes, J. Claussen, D. Vanegas, E.C. Alocilja (2019) **SNAPS: Sensor Analytics Point Solutions for Detection and Decision Support**. *Sensors*, vol. 19, no. 22, November 2019, p. 4935 ♦ www.mdpi.com/1424-8220/19/22/4935/pdf ♦ <https://dspace.mit.edu/handle/1721.1/123983>
3. Victoria Morgan, Liseth Casso-Hartman, David Bahamon-Pinzon, Kelli McCourt, Robert G. Hjort, Sahar Bahramzadeh, Irene Velez-Torres, Eric McLamore, Carmen Gomes, Evangelyn C. Alocilja, Shoumen Palit Austin Datta and Diana C. Vanegas (2019) **Sensor-as-a-Service: Convergence of Sensor Analytic Point Solutions (SNAPS) and Pay-A-Penny-Per-Use (PAPPU) Paradigm as a Catalyst for Democratization of Healthcare in Underserved Communities**. *Diagnostics* 2020, 10 (1), 22 <https://doi.org/10.3390/diagnostics10010022> “SNAPS TRILOGY” MIT Libraries <https://dspace.mit.edu/handle/1721.1/123983>
4. Eric S. McLamore, R. Huffaker, Matthew Shupler, Katelyn Ward, Shoumen Palit Austin Datta, M. Katherine Banks, Giorgio Casaburi, Joany Babilonia, Jamie S. Foster (2019) **Digital Proxy of a Bio-Reactor (DIYBOT) Combines Sensor Data and Data Analytics for Wastewater Treatment and Wastewater Management Systems**. *Nature Science Reports* 10, 8015 (2020). <https://doi.org/10.1038/s41598-020-64789-5> ♦ PDF from MIT Libraries <https://dspace.mit.edu/handle/1721.1/123983>
5. E. S. McLamore, J. Jones, Y. G. Yingling, S.P.A. Datta (2020) **Systems Engineering Paradox in Sensor Design: Divergence between Sensor-as-a-Product versus Sensor-as-a-Service (manuscript in preparation)**
6. E. S. McLamore and S.P.A. Datta (2020) **SENSEE: Sensor Search Engine and Sensor Semantics (manuscript in preparation)**
7. Enoch Kuo, Kelli McCourt, Nicholas Cavallaro, Victoria Morgan, Ariel Alyssa, Shoumen P.A. Datta & Eric S. McLamore (2020) **COBOTS: All-carbon origami box array for multiplex sensing (manuscript in review)**
8. Datta, S. (2020) **Canary in the Coal Mine – A Post-Pandemic Paradigm?** Draft copy “CITCOM+” from MIT Libraries DSpace <https://dspace.mit.edu/handle/1721.1/111021> (in press for publication as book chapters; ISBN 978-0-323-85174-9, Elsevier)
9. Cassie A. Giacobassi, Daniela A. Oliveira, Cicero C. Pola, Dong Xiang, Yifan Tang, Shoumen Palit Austin Datta, Eric S. McLamore and Carmen Gomes (2020) **Sense-Analyze-Respond-Actuate (SARA) systems span nanoscale and macroscale actuation for detection of *Escherichia coli* in water (in press)**.
10. Datta, S. (2020) **Aptamers for Detection and Diagnostics (ADD): Proposed mobile app acquiring optical data from aptamers conjugated with quantum nanodots may detect harmful molecules as well as SARS-CoV-2 (submitted)**

BOOK CHAPTERS

DIGITAL TRANSFORMATION • HEALTHCARE INNOVATION • OPERATIONS MANAGEMENT

- Datta, S. et al (2020) **Atoms to Bits Is Not Enough (manuscript in press, publication date November 2020, WILEY)**
- Datta, S. (2020) **Porous Pareto Partitions** in ‘*Advances in Measurements and Instrumentation: Reviews*’, Vol. 2, Book Series, IFSA Publishing (Barcelona, Spain). Draft copy “P3” from MIT Libraries - <https://dspace.mit.edu/handle/1721.1/123984>
- Datta, S. (2017) **Haphazard Reality – IoT is a Metaphor** • MIT Libraries - <https://dspace.mit.edu/handle/1721.1/111021>
- Datta, S. and Goldman, J.M. (2017) **Healthcare - Digital Transformation of the Healthcare Value Chain: Emergence of Medical Internet of Things (MIoT) may need an Integrated Clinical Environment**, ICE (World Health Strategy e-book • www.fhti.org) Listed as (pdf) “Healthcare” - MIT Libraries - <https://dspace.mit.edu/handle/1721.1/107893>
- Datta, S. (2013) **Conscience and Common Sense** • <http://bit.ly/Book-by-S-Datta> • ISBN 978-1492857242
- Datta, S. (2011) **Future of Healthcare: Bio-Informatics, Nano-Sensors and Emerging Innovations (Chapter 8 in *Nanosensors: Theory and Applications in Industry, Healthcare & Defense* ed TC Lim) CRC Press** <http://dspace.mit.edu/handle/1721.1/58972> <http://www.crcpress.com/product/isbn/9781439807361> and <http://esd.mit.edu/WPS/2008/esd-wp-2008-17.pdf>
- Datta, S., Graham, D.P., Sagar, N., Doody, P., Slone, R. and Hilmola, O-P. (2009) **Forecasting and Risk Analysis Supply Chain Management: GARCH Proof of Concept (Chapter 10 in *Supply Chain Risk and Vulnerability: Tools and Methods for Supply Chain Decision Makers* editors Wu, T. and Blackhurst, J.) Springer-Verlag** <http://dspace.mit.edu/handle/1721.1/43948>
- Datta, S., et al (2003) **Adaptive Value Network (Chapter 1 in *Evolution of Supply Chain Management: Symbiosis of Adaptive Value Networks and ICT* (Information Communication Technology). www.wkap.nl/prod/b/1-4020-7812-9?a=1**

- Datta, S.** (2008) Auto ID Paradigm Shifts from Internet of Things to Unique Identification of Individual Decisions in System of Systems (ESD-WP-2008-09) MIT Library <https://dspace.mit.edu/handle/1721.1/57508>
- Datta, S.** (2008) Will Nano-Butlers Work for Micro-Payments? Innovation in Business Services Model may Reduce Cost of Delivering Global Healthcare Services (ESD-WP-2008-17) Published by CRC Press
- Datta, S.** (2008) A Portfolio Approach for Purchasing Systems: Impact of Switching Point (ESD-WP-2008-07)
- Datta, S.** (2007) Decision Support and Systems Interoperability in Global Business Management (ESD-WP-2007-24)
- Datta, S.** (2007) Unified Theory of Relativistic Identification of Information in a Systems Age: Proposed Convergence of Unique Identification with Syntax and Semantics through Internet Protocol version 6 (ESD-WP-2007-17)
- Datta, S.** (2007) Advances in Supply Chain Management: Potential to Improve Forecasting (ESD-WP-2006-11)
- Datta, S.** (2006) Advances in Supply Chain Management Decision Support Systems: Potential for Improving Decision Support Catalyzed by Semantic Interoperability between Systems (ESD-WP-2006-10)

PAPERS – ARTICLES – ESSAYS – IoT • ENERGY • HEALTHCARE • RFID • SUPPLY CHAIN • INDUSTRIAL INTERNET IIoT • SYSTEMS

- Datta, S.** (2018) Unleashing the New Wealth of Nations in “*FUSION*” • <https://dspace.mit.edu/handle/1721.1/111021>
- Datta, S.** (2017) DEX 2.0 (Digital Enterprise X.0) in *CHAPTERS* • <https://dspace.mit.edu/handle/1721.1/111021>
- Datta, S.** (2017) Digital in 4D in *Healthcare and Medical IoT* • <https://dspace.mit.edu/handle/1721.1/107893>
- Datta, S.** (2017) Digital Transformation • <https://dspace.mit.edu/handle/1721.1/111021>
- Datta, S. et al** (2017) Technology Assessment – Internet of Things ▪ www.gao.gov/products/GAO-17-75
- Datta, S.** and Goldman, J.M. (2017) Healthcare - Digital Transformation of Healthcare Value Chain: Emergence of Medical IoT (World Health Strategy ebook • www.fhti.org) See “Healthcare” MIT Library <https://dspace.mit.edu/handle/1721.1/107893>
- Datta, S.** (2016) Digital Diffusion • in *CHAPTERS* • <https://dspace.mit.edu/handle/1721.1/111021>
- Datta, S.** (2016) Cybersecurity • in *CHAPTERS* • <https://euagenda.eu/upload/publications/cybersecurity.pdf>
- Datta, S.** (2016) Digital Twins • <https://arxiv.org/ftp/arxiv/papers/1610/1610.06467.pdf> and in *CHAPTERS*
- Datta, S.** (2016) Intelligence in Artificial Intelligence • <https://arxiv.org/ftp/arxiv/papers/1610/1610.07862.pdf>
- Datta, S.** (2016) Medical Errors in an Age of Ubiquitous Computing and Connectivity • <http://bit.ly/Primum-non-nocere>
- Datta, S.** (2015) The Commencement • in *CHAPTERS* • <https://dspace.mit.edu/handle/1721.1/111021>
- Datta, S.** (2015) L’Internet des Objets : la troisième révolution industrielle. *Logistique and Management* **23** n°3 29-33 DOI: 10.1080/12507970.2015.11742760 • <http://www.tandfonline.com/doi/abs/10.1080/12507970.2015.11742760>
- Datta, S.** (2015) Dynamic Socio-Economic Disequilibrium. *Journal of Innovation Management* **3** **3** 4-9 [French, Spanish, Italian and Mandarin (Chinese) available in “CHAPTERS” from MIT Library <https://dspace.mit.edu/handle/1721.1/111021>
- ENGLISH publication – <http://feupedicoes.fe.up.pt/journals/index.php/IJMAI/article/view/190/133>
 - FRENCH translation – <http://www.tandfonline.com/doi/abs/10.1080/12507970.2015.11742760>
 - SPANISH translation – <http://journal.poligran.edu.co/index.php/puntodevista/article/view/845/688>
 - ITALIAN translation – <https://www.industriaitaliana.it/come-l-iot-potra-cambiare-la-societa-e-leconomia/>
 - CHINESE interpretation – “IoT is a Metaphor” book from MIT Library <https://dspace.mit.edu/handle/1721.1/111021>
- Datta, S.** (2014) Humanity Needs Dreamers - *L’humanité a besoin rêveurs* • <http://dspace.mit.edu/handle/1721.1/86935>
- Datta, S.** (2012) Unified Theory of Relativistic Identification of Information in a Systems Age: Convergence of Unique Identification with Syntax and Semantics through Internet Protocol version 6 (IPv6). *International Journal of Advanced Logistics* **1** 66-82 MIT ESD <http://dspace.mit.edu/handle/1721.1/41902> and in *CHAPTERS*
- Datta, S.** (2011) BIO-INSPIRED ENERGY FUTURE – QUEST FOR INTELLIGENT MITOCHONDRIA AND LIQUID FUELS. *International Journal of Electronic Business Management* **9** 1-10 <http://dspace.mit.edu/handle/1721.1/59804>
- Datta, S.** (2011) Energy Self-Sufficiency: Catalyst for Energy Agnostic Global Economy. *International Journal of Novel Materials* **2** 39-45 <http://dspace.mit.edu/handle/1721.1/62217> and <http://dspace.mit.edu/handle/1721.1/62251>

- Datta, S.** (2011) Hydrogen in the Energy Economy. *International Journal of Novel Materials* **2** 47-52 <http://dspace.mit.edu/handle/1721.1/62217> and <http://dspace.mit.edu/handle/1721.1/62251>
- Datta, S.** (2011) Carbonomics : Trinity of Elements 6, 92 and 94 May Re-Define the World Economy. *International Journal of Novel Materials* **2** 53-56 <http://dspace.mit.edu/handle/1721.1/62217> and <http://dspace.mit.edu/handle/1721.1/62251>
- Datta, S.** (2011) Being Digital – Business Services in Emerging Technologies <http://dspace.mit.edu/handle/1721.1/62251>
- Datta, S.** (2011) Paradigms Driven by Paradoxes – Vertically Integrated Health <http://dspace.mit.edu/handle/1721.1/62251>
- Datta, S.** (2011) Neuro-Sensory Networks in SoS – Analytics of Big Data http://www.mediafire.com/shoumen_datta
- Datta, S.** (2011) Micro-Scale Renewable Energy Manufacturing – Photo Bio Butanol (C4) and Photo Bio Glucose (C6)
- Datta, S.** (2010) Entrepreneurial Innovation as a Catalyst for Change <http://dspace.mit.edu/handle/1721.1/54837>
- Datta, S.** (2008) WiFi Meet FuFi: Disruptive Innovation in Logistics Catalyzed by Energy. *International Journal of Electronic Business Management* **6** 117-119 <http://dspace.mit.edu/handle/1721.1/41897>
- Datta, S.** (2008) Identification of Information in Decision Systems (CIDS) <http://dspace.mit.edu/handle/1721.1/41910>
- Datta, S.,** Lyu, J. and Chen, P-S. (2007) Decision Support and Systems Interoperability in Global Business Management. *International Journal of Electronic Business Management* **5** 255-265 <http://dspace.mit.edu/handle/1721.1/41917>
- Datta, S.,** Granger, C. W. J., Barari, M. and Gibbs, T. (2007) Management of Supply Chain: an alternative modeling technique for forecasting. *Journal of the Operational Research Society* **58** 1459-1469 <http://dspace.mit.edu/handle/1721.1/41906>
Online published version <http://www.tandfonline.com/doi/full/10.1057/palgrave.iors.2602419>
- Datta, S.,** and Granger, C. W. J. (2006) *Improvements in Forecasting* ESD WP <https://dspace.mit.edu/handle/1721.1/102799>
- Datta, S.** (2006) Charlie's Skypeout Strategy (TEKES Report, Govt of Finland) <http://dspace.mit.edu/handle/1721.1/56251>
- Datta, S.** (2006) Risk in the Global Supply Chain <http://dspace.mit.edu/handle/1721.1/419162>
- Datta, S.** (2005) UWB and UWB+NB with SDR as an LPS Solution <http://dspace.mit.edu/handle/1721.1/57508>
- Datta, S.** (2004) Adapter, optimiser, prévoir - La convergence des concepts, des outils, des technologies et des normes peut-elle accélérer l'innovation? *Logistique and Management* **12** n°2 (<http://dspace.mit.edu/handle/1721.1/41907>)
- Datta, S.** (2002) Agents: Where Artificial Intelligence Meets Natural Stupidity <http://dspace.mit.edu/handle/1721.1/41914>
- Datta, S.** (2001) RFID: An Incomplete Saga <http://dspace.mit.edu/handle/1721.1/41915>
- Datta, S.** (2000) Why Supply Chain <http://dspace.mit.edu/handle/1721.1/41919>

PAPERS

MOLECULAR MEDICINE

- Datta, S.** (1989) Transcriptional Activities of the 289 amino acid Adenovirus 2 E1A Protein in vitro (PhD thesis) Rutgers University School of Medicine, UMDNJ Graduate School of Biomedical Sciences, Rutgers University, New Jersey, USA
- Datta S,** Soong CJ, Wang DM, Harter ML. 1991. Purified Adenovirus 289R E1A Protein Stimulates Pol III Transcription in vitro by altering transcription factor IIIC. *J. Virology* **65** 5297-5304 (<http://jvi.asm.org/cgi/reprint/65/10/5297>)
- Datta S,** Magge S, Madison L, Jameson JL. 1992. Thyroid Hormone Receptor Mediates Transcriptional Activation and Repression of Different Promoters. *Molecular Endocrinology* **6** 815-825 <http://dspace.mit.edu/handle/1721.1/42834>
- Putlitz J, **Datta S,** Madison L, Jameson JL. 1991. Human Thyroid Hormone Receptor Produced in Recombinant Baculovirus-infected Insect Cells. *Biochem & Biophys Research Communication* **175** 285-290 <http://dspace.mit.edu/handle/1721.1/42901>
- Chatterjee VKK, Nagaya T, **Datta S,** Madison L, Rentoumis A, Jameson JL. 1991. Thyroid Hormone Resistance Syndrome: Inhibition of Normal Receptor Function by Mutant Thyroid Hormone Receptors. *J. of Clinical Investigation* **87** 1977-1984 <http://dspace.mit.edu/handle/1721.1/42900>
- Rentoumis A, Chatterjee VKK, Madison L, **Datta S,** Gallagher G, DeGroot LJ, Jameson JL. 1990. Negative and Positive Transcriptional Regulation by Thyroid Hormone Receptor Isoforms. *Molecular Endocrinology* **4** 1522-1531 <http://dspace.mit.edu/handle/1721.1/42902>

Datta S, Spangler R, Bruner M, Harter ML. Activation of viral and non-viral promoters by the Adenovirus 289R E1A protein in cell-free extracts. ICRF Tumor Virus Meeting, 1987. Cambridge, UK.

Datta S, Chatterjee P, Losada MC, Flint SJ, Harter ML. An E. coli produced E1A 289R protein and a synthetic E1A 49R peptide variably regulates Pol II and Pol III transcription in vitro. Tumor Virus Meeting, 1988. Cold Spring Harbor Lab

Datta S, Wang DM, McGrath M, Westerdahl C, Harter ML. Bacterially produced E1A 289R activates Pol III transcription through TFIIC. ICRF Tumor Virus Meeting, 1989. Cambridge, UK.

Chatterjee VKK, Madison L, Rentoumis A, **Datta S**, Gallagher G, Jameson JL. Negative regulation by thyroid hormone receptors. American Association for Cancer Research, 1990. San Diego, CA.

Jameson JL, Nagaya T, Madison L, Chatterjee VKK, **Datta S**. Transcriptional activation and repression by thyroid hormone receptors. Abstract. ICN-UCLA Symposia, 1991. Keystone, CO.

Nagaya T, Chatterjee VKK, Madison L, **Datta S**, Rentoumis A, Jameson JL. Generalized Thyroid Hormone Resistance. MGH Symposium, 1991. Boston.

Datta S, Magge S, Putlitz J, Jameson JL. Transcriptional activation and repression by thyroid hormone receptors: Development of an in vitro transcription assay. MGH Symposium, 1991. Boston, MA.

Datta S, Magge S, Putlitz J, Jameson JL. Repression of a-TSH promoter activity by thyroid hormone receptor in an in vitro transcription assay. Endocrine Society Meetings, 1991. Washington, DC.

Nagaya T, **Datta S**, Madison L, Ahlquist JAO, Magge S, Hwang YT, Jameson JL. Structural determinants of thyroid receptor interactions with DNA. American Thyroid Association 1991. Boston.

EDUCATION

Datta, S. (2011) Ethical Profitability Framework for Economic Growth and Development of Small Learning Organizations. <http://tinyurl.com/ethical-profitability> and <http://tinyurl.com/shoumen>

Datta, S. (2010) Entrepreneurial Innovation as a Catalyst for Change <http://dspace.mit.edu/handle/1721.1/54837>

Waltar AE, Beaumont P, Earl B, Peddicord KL, **Datta S.** 1999. What The Public Wants to Know. Proceedings of the American Nuclear Society. Long Beach, CA.

Datta, S. (1998) National Task Force (US) Report. US Department of Commerce & ITAA, Washington, DC

Datta, S. (1998) Community Colleges as Catalysts for Economic Growth through IT Centers

Datta, S. (1997) Integrated Network for Education [Web-Based Education Commission, US Senate, 1999]

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Datta, S. (1997) Public Education [Interview]

Datta, S. (1996) Good Teaching [Letter] Science **271** 1789

Datta, S. (1996) Retrofit Public Education: Science and Technology Education Partnership for Schools

Datta, S. (1996) Standards: The Widening Gulf Between Concepts and Implementation

Datta, S. (1995) Partnership for International Public Health: Molecular Diagnostics and Public Issues

Datta, S. (1995) Art and Education: Value of Public Museums to Science Education

Datta, S. (1995) Interactive Mathematics: Experimental Concept Gone Awry

Global Business Experience and Management of Technology Innovation

Business innovation and catalyzing profitable growth through strategy and management of technology • Demonstrated expertise in steering organizational change through strategy, management and leadership of multi-national teams across diverse cultures • Experience in public sector and significant bio-medical expertise.

Sales and Revenue Growth Channel Management Product Development Commercialization Innovation Index
 Strategic Planning Change Management Market Assessment Bio-medical Research Partnership Development

1999-2002

SAP Labs (Palo Alto, CA) and SAP AG (Waldorf, Germany)

\$10 billion global corporation offering ERP products

High Tech Business Unit - SAP Labs Palo Alto, California

Revenue Growth estimated at \$1 million +

- [a] Development consultant for high tech IBU
- [b] Pre-sales support for semiconductor industry – highest growth vertical included CRM, DRM, PLM, MES
- [c] Global management of liaison with SAP Japan

High Tech Accounts – SAP Japan (Tokyo, Japan)

Revenue Growth estimated at \$10 million +

- [a] Major customers - SONY, HITACHI and MITSUBISHI
- [b] Specifically served as the SAP SCM (APO suite) pre-sales support team for SONY Semiconductors, SONY Electronics, SONY Global Logistics, SONY Computer Entertainment
- [c] Defined SAP-SONY APO needs for sales strategy
- [d] Major sales growth for SAP Japan
- [e] Consulting Revenue for SAP Labs Palo Alto

SCM Business Unit – SAP AG (Waldorf, Germany)

Revenue Growth estimated a \$100 million +

- [a] Introduced RFID innovation for SAP real-time SCM
- [b] RFID SCM partnership with P&G and SONY (Japan)
- [c] Co-created business plan for SAP SCM RFID integration
- [d] Helped SAP adoption of RFID in multiple suites
- [e] Represented SAP at RFID Technology Board at MIT
- [f] Inspired SAP to publish at least 2 books on RFID:

Adapt or Die and *RFID and Beyond* (Claus Heinrich)

2000-2003

MIT Auto ID Center, Member of Technology Board

- ☑ RFID Vision - Real-Time Intelligent Data, IoT
- ☑ Strategic and Business Applications of RFID
- ☑ RFID as a Real-Time Data Tool for Supply Chain
- ☑ RFID next generation applications and evolution
- ☑ RFID Consulting with Wal-Mart, US DoD, P&G, Kimberly-Clark, Tesco, UniLever, Gillette, Deloitte, Accenture, PWC, Hitachi, Philips, GlaxoSmithKline, Government of Taiwan

2001-2010

MIT Forum for Supply Chain Innovation, Co-Founder

MIT School of Engineering & MIT Sloan School of Management

1 – Thought leadership for supply chain innovation

2 – Company specific solutions and consulting

- SAP → Revenue Growth estimated at \$10 million +
- Intel → Revenue Growth estimated at \$10 million +
- P&G → Revenue Growth estimated at \$10 million +
- GE → Revenue Growth estimated at \$10 million +
- CapGemini
- Deloitte
- Mitsubishi (Japan)
- Sony (Japan)
- TEPCO (Japan)
- Chi-Mei (Taiwan)
- Volvo (Sweden)
- TCS (India)
- Tata Iron & Steel (India)
- Siam Cement (Bangkok)
- TEKES (Finland)
- Michelin (France)
- Hitachi (USA)
- ITRI & III (Taiwan)

3 – Country specific advising for governments and global organizations

- US Department of Defense (US Army Materiel Command, Fort Belvoir, Virginia)
- US Department of Homeland Security (US Customs, Transportation Security Agency)
- World Customs Organization (Brussels)
- United Nations - UNDP (New York, Shanghai)
- Government of Finland (Council on Science and Technology - TEKES)
- Government of Taiwan (Ministry of Economic Affairs, Industrial Development Board)
- Government of Thailand (Ministry of Science and Technology)
- Government of Ireland (Innovation Ireland, Office of the Taoiseach – Prime Minister)
- Government of India (Customs - Ministry of Finance, Bureau of Energy Efficiency)
- GS1 Hong Kong (China)
- President's Science and Technology Advisory Group (Ministry of Home Affairs, Taiwan)

1999-2002

Global Operations Management

- SAP Labs, Palo Alto, California
 - High Tech Business Unit
 - Software Development Consultant
 - CRM and SCM pre-sales support
 - SCM consulting with SAP Japan
 - SAP internship coordinator

- SAP AG, Waldorf, Germany
 - RFID innovation and university research liaison
 - SCM real-time data leadership with P&G
 - SAP lead at MIT Auto ID Center
 - SCM partnership with Intel and Metro AG

- SAP Japan, Tokyo
 - SCM sales consulting (SONY, MITSUBISHI)
 - SCM pre-sales support and thought leadership
 - SCM presentations
 - SCM public communications

2001-2003

- SCM RFID - MIT Auto ID Center
 - Technology Board
 - RFID Standardization
 - SCM real-time RFID, IoT
 - SAP SCM thought leadership
 - SAP SCM RFID in intelligent planning
 - RFID in public interest communications
 - Intelligent software agents in inventory planning
 - Connecting atoms to bits • networked physical world

Co-Founder, MIT Forum for Supply Chain Innovation, School of Engineering, MIT (Cambridge, Massachusetts)

- Executive Director (2002-2006) and Research Director (2007-2010)
- SCM global thought leadership and major advances in forecasting
- Worldwide consulting – SCM, RFID, Logistics and Intelligent DSS
- Project partnerships for SCM advances, tools and technology
- SCM advising for governments and organizations
 - US Department of Defense (US Army Materiel Command, Fort Belvoir, VA)
 - US Department of Homeland Security
 - World Customs Organization (Brussels)
 - United Nations
 - UNDP (Shanghai, China)
 - Government of Finland (TEKES, Ministry of Science and Technology)
 - Government of Taiwan (Ministry of Economic Affairs, STAG)
 - Government of Thailand (Department of Science and Technology)
 - Government of Ireland (Office of the Prime Minister)
 - Government of India (Ministry of Finance – Customs; Energy)
 - GS1 Hong Kong (China)
 - ITRI & III (Taipei, Taiwan)
- SCM and intelligent data analytics in RFID-SCM decision systems consulting
 - SAP
 - Intel
 - P&G
 - IBM
 - GE
 - CapGemini
 - Deloitte
 - Mitsubishi (Tokyo, Japan)
 - Sony (Tokyo, Japan)
 - TEPCO (Tokyo, Japan)
 - Chi-Mei (Tainan, Taiwan)
 - Volvo (Goteborg, Sweden)
 - Tata Consultancy Services (Mumbai, India)
 - Tata Iron & Steel Co (Jamshedpur, India)
 - Siam Cement Group (Bangkok, Thailand)
- SCM Innovation, Strategy & Management – Executive Education & SCM MBA Courses
 - MIT Sloan School of Management (Cambridge, Massachusetts)
 - Haas School of Business, University of California (Berkeley, California)
 - Chalmers University of Technology (Goteborg, Sweden)
 - Ecole Supérieure des Sciences Economiques et Commerciales (Paris, France)
 - Institut Supérieur de Logistique Industrielle, BEM (Bordeaux, France) KEDGE BS
 - National Taiwan University (Taipei, Taiwan)
 - National Cheng Kung University (Tainan, Taiwan)
 - Indian Institute of Management (Ahmedabad, India)
 - Trinity College (Dublin, Ireland)
 - University College Dublin (Dublin, Ireland)
 - University of Cambridge (Cambridge, UK)
 - Helsinki University of Technology (Helsinki, Finland)
 - Lappeenranta University of Technology (Lappeenranta, Finland)
 - University of Iceland (Reykjavik, Iceland)
 - Indian Institute of Management (Ahmedabad, India)

Industry Advisory Roles – Disclosure of topics, statement of work and agreements are prohibited (in compliance with NDA)

IBM	Digital Value Networks
GE	Industrial IoT ▪ RFID, UWB, Sensors ▪ Predictive Analytics ▪ Digital Supply Chain Management ▪ IPv6
P&G	Transparency of SCM ▪ Design of Data Flow ▪ RFID in Supply Demand Network ▪ Agents in SCM
Koch	Digital Transformation ▪ IoT and Industrial IoT Data, AI, Analytics ▪ Sensors, robotics, nanotech
PepsiCo	Supply Chain Management (SCM)
Xerox	Intelligent PLM (product life cycle management)
Intel	RFID and digital SCM in retail stores of the future ▪ Autonomous Transportation ▪ Industrial IoT
Volvo	Intelligent Decision Systems
Tata (Tata Steel)	Supply Chain Planning and Optimization
Siam Cement	Supply Chain Planning and Optimization ▪ Energy Efficiency ▪ Sensor Networks ▪ Asset Management
Michelin	Inventory Optimization ▪ Operations Management ▪ RFID in Asset Management
Hitachi	RFID in track and trace ▪ IoT and the industrial internet ▪ Digital Transformation ▪ Transportation
Airbus	RFID in track and trace ▪ Spare parts inventory management
General Motors	RFID in track and trace ▪ Spare parts inventory management
AAR	RFID in track and trace ▪ SCM inventory management ▪ Digital Transformation ▪ Data, Analytics, AI
Kone	Intelligent PLM (product life cycle management) and coupling with digital supply chain management
Nokia	Intelligent PLM (product life cycle management) and coupling with digital supply chain management
Chi-Mei	Digital interfaces in healthcare infrastructure
LogicaCMG	SCM and the evolution of value networks
CapGemini	RFID and digital supply chain ▪ IoT
Sony	RFID in semiconductor industry transparency ▪ Global Logistics ▪ SCM software ▪ Decision Systems
Mitsubishi	RFID in heavy industry
TEPCO	Internet infrastructure ▪ IPv6 ▪ Semantic Interoperability between systems ▪ Intelligent Systems
Huawei	IoT and Industrial IoT ▪ Digital Transformation ▪ Data, Analytics, AI and Intelligent Decision Systems
TCS	Data and Artificial Intelligence ▪ Digital Transformation ▪ Robotics and Automation
Fujitsu	IoT and Industrial Internet ▪ Data, Analytics and AI
TechMahindra	IoT and Industrial Internet ▪ Data, Analytics, AI ▪ Medical Devices ▪ Interoperability ▪ Cybersecurity
Accenture	IoT and Industrial Internet ▪ Data, Analytics and AI ▪ Digital Twins and Digital Transformation of SCM
Deloitte	Healthcare Information Technology (HIT)
Braun	Medical Devices ▪ Interoperability ▪ Cybersecurity
Infosys	IoT and Industrial Internet ▪ Data, Analytics, AI ▪ Autonomous Transportation
Governments	
AOK (DE)	Digital Transformation in Healthcare ▪ Cybersecurity ▪ Data, Analytics, AI
WCO (EU)	Security and Cybersecurity in multi-modal transportation ▪ Standards for security harmonization
DHS (US)	Risk in security ▪ ACE Program
ITRI (TW)	IoT and Industrial Internet ▪ SCM ▪ Sensors and energy efficiency
III (TW)	RFID, IoT, IIoT ▪ Digital SCM ▪ Data, Analytics, AI ▪ Cybersecurity ▪ FinTech ▪ Blockchain ▪ Transport
MOEA (TW)	IoT and Industrial Internet ▪ Digital SCM ▪ Data, Analytics, AI ▪ Education Technology
STAG (TW)	RFID and Digital SCM
TEKES (FI)	Ministry of Science and Technology (Innovation, SCM, PLM, Data, Analytics, IoT, Cybersecurity)
Ireland	Prime Minister’s Task Force for Innovation (Energy)
India	Customs Bureau, Ministry of Finance
DoD (US)	US Army Materiel Command
GAO, NAS (US)	Cybersecurity ▪ IoT and Industrial IoT
DoC (US)	Workforce and Education for Economic Growth (National Task Force for Clinton Administration)
State of California	Special Assistant to Mayor of San Francisco for Public K-12 Education (SFUSD) http://bit.ly/SD-K12

1980-1994

Molecular Biology • Biochemistry • Protein Chemistry • Genetics • Biotechnology • Microbiology • Virology • Cell Biology • Tissue Culture

☑ UNIVERSITY OF CALIFORNIA, SAN FRANCISCO • UCSF SCHOOL OF MEDICINE
INSTRUCTOR MD PROGRAM • MEDICAL GENETICS

☑ UNIVERSITY OF CALIFORNIA, SAN FRANCISCO • UCSF SCHOOL OF MEDICINE
RESEARCH SCIENTIST • MOLECULAR PARASITOLOGY • INFECTIOUS DISEASES

Unpublished work represents an attempt to study RNA Polymerase specificity of transcription in the parasite *Trypanosoma brucei* which is known to cause Trypanosomiasis (also referred to as sleeping sickness). *T. brucei* cell-free extracts were prepared and transcriptional analyses were performed with RNA Pol I, RNA Pol II and RNA Pol III promoters from parasite, human and DNA virus. Functional *in vitro* transcription systems generated transcripts which suggested that RNA polymerase from *T. brucei* was likely to be less specific in its choice of promoters for initiation of transcription. Use of known transcription inhibitors had a range of concentration dependent effects which suggests that the RNA polymerase in *T. brucei* may use related but different mechanism(s) of action to initiate transcription from promoters.

☑ MASSACHUSETTS INSTITUTE OF TECHNOLOGY • MIT HUMAN GENOME PROJECT • WHITEHEAD INSTITUTE
RESEARCH SCIENTIST • MOLECULAR BIOLOGY OF TRANSCRIPTION • YEAST ARTIFICIAL CHROMOSOMES (YAC)

Unpublished work represents a successful attempt to reconstitute bonafide RNA Polymerase II initiation of transcription *in vitro* using protein complexes of purified transcription factors fractionated from cell free extracts of *Saccharomyces cerevisiae* (yeast). Reconstitution mapped the order of association and sequence of transcription factor complex formation for initiation and elongation of transcription for RNA Polymerase II promoter. Unpublished work from the Human Genome Project (1994) was focused on optimization on packaging of increasingly large pieces of human genomic DNA (>10 MB) in yeast artificial chromosomes and successful transformation to generate viable yeast cells with these YACs.

☑ HARVARD MEDICAL SCHOOL • HARVARD UNIVERSITY
INSTRUCTOR IN MOLECULAR MEDICINE, PHYSIOLOGY & METABOLISM

☑ HARVARD MEDICAL SCHOOL • HARVARD UNIVERSITY • MASSACHUSETTS GENERAL HOSPITAL
RESEARCH FELLOW IN MEDICINE • MOLECULAR ENDOCRINOLOGY • THYROID AND NEURO-ENDOCRINE LAB

Published work which unraveled and identified the molecular mechanisms of the DNA-protein interactions responsible for the initiation of transcription which in turn regulated the steroid or thyroid hormone dependent or independent gene expression profile of the thyroid receptor genes in normal human subjects and in patients with thyroid hormone resistance syndrome or thyroid carcinoma (cancer). Taken together, this work helped to elucidate the clinical anomalies and enabled clinical improvements in the treatment of thyroid malfunctions in humans.

☑ RUTGERS • UMDNJ • NEW JERSEY MEDICAL SCHOOL • GRADUATE SCHOOL OF BIOMEDICAL SCIENCES
PhD • MOLECULAR BIOLOGY • BIOCHEMISTRY • MICROBIOLOGY • VIROLOGY

Published and unpublished research pursued for PhD thesis focused on molecular differentiation of the mechanism of actions by which cancer inducing proteins from DNA tumor viruses influence the rate of cellular gene expression from RNA Pol I, RNA Pol II and RNA Pol III promoters and enhancers in cell free extracts (*in vitro* transcriptional analysis in extracts prepared from HeLa cells). The Adenovirus oncogene E1A was bio-engineered to create a series of overlapping mutants in order to map the active sites of protein-protein or protein-DNA interactions *in vivo* (in the yeast two-hybrid system) and *in vitro* initiation of transcription. Synthetic peptides were generated to represent the minimum segment of the E1A protein (identified by mutational analysis) which could successfully alter (stimulate or inhibit) gene expression from RNA Polymerase promoters in *in vitro* transcriptional analysis (in collaboration with Department of Molecular Biology, Princeton University, NJ, USA).

☑ UNIVERSITY OF PITTSBURGH
CELLULAR & MOLECULAR BIOLOGY • BIOCHEMISTRY • GENETICS • MICROBIOLOGY • VIROLOGY

Unpublished work [1] creating monoclonal antibodies in cell culture. [2] Genetic and DNA sequencing analysis of mutations induced in the cloned large T antigen (oncogene) of the SV40 DNA tumor virus using cell culture assay to detect tumor inducing effect (*in vitro* cell culture). Truncated versions of large T antigen were tested to map and differentiate steps in the progression of the induction of tumor in cell culture. [3] Translational control of protein synthesis in bacteria which identified various types of small RNAs in the translation complex with proteins which could have interfered with the translation of the mRNA in the bacteria. Characterization of the small interfering RNAs were incomplete.

1990-1994

Public Education and Technology • K-12 Outreach • Harvard Medical School • Massachusetts Institute of Technology • Boston Latin School

Activities (below) were undertaken while I was a Research Fellow in Medicine at Massachusetts General Hospital, Harvard Medical School and Research Associate at Whitehead Institute, Massachusetts Institute of Technology.

- Research host for middle school student internship from public schools in Dorchester and Roxbury
- Created partnership programs between middle school and Harvard Medical School K-12 outreach
- Research guide for high school students from Boston Public Schools
- Helped in the formation of Teacher's Program at the Whitehead Institute, MIT
- Secured multi-year funding for Boston Latin School from Edwin Rowland Foundation
- Focused my personal efforts on Boston Latin School to improvement science laboratories
- Created a program to inspire students by organizing talks by Nobel Prize winners (13 participated)

1996-1999

Public Service • K-12 Education • Special Assistant to SFUSD • California Math & Science Standards • National Taskforce Workforce (Federal)

Helped plan Thurgood Marshall Academic High School with mandatory graduation requirements in language, science and mathematics. An instructional success at this school was the cover story of US News & World Report [2 Dec 1996] and this pre-engineering program segued to evolve as the first hands-on Cisco Networking Academy. www.theatlantic.com/issues/97jul/computer.htm and www.cnn.com/TECH/computing/9902/25/schoolwork.idg/

Instituted mentorship and internship program for students as well as teachers with help from Carol Christ, Vice-Chancellor of UC Berkeley and Condoleeza Rice, Provost of Stanford University. Recruited highly qualified teachers in language arts, mathematics, science and technology to uphold academic excellence. Secured funding from Silicon Graphics to supplement teacher salaries in cooperation with and 'blessed' by the local teacher's union.

Professional development partnership to enable teachers to take courses for credit at UC Berkeley at no cost to teacher or SFUSD. Josephine Miles Fellowship funded and sponsored by Carol Christ, Vice-Chancellor, UC Berkeley. Collaboration catalyzed by Charles Townes, Professor of Physics, UC Berkeley.

http://articles.sfgate.com/1996-01-02/opinion/17765856_1_berkeley-pledge-uc-berkeley-regents-decision

Partnership with Pacific Bell to upgrade network infrastructure (\$2.5 million) to enable Clinton-Gore Net Day 1996 and introduce internet in the classroom. Detwiler Foundation donated 1000 computers for students to take home as a part of a collaboration for the school district computer literacy program for students and parents. NASA donated several hundred computers and other scientific equipment for school laboratories (NASA Moffett Field) including an electron microscope (at Burton High School, San Francisco Unified School District, San Francisco, CA).

☑ Established joint venture with UC Berkeley Interactive University Program to benefit students and teachers from UC Berkeley resources that could be accessed remotely and UC students to provide real-time online tutoring to school students (point-to-point systems using remote webcam). Received NTIA-TIIAP grant award (\$650,000) from US Department of Commerce for public school technology innovation in collaboration with the Interactive University Program at UC Berkeley (online education technology).

☑ Worked with UC Berkeley Chancellor Chang Lin Tien and Vice Chancellor Carol Christ to shape Berkeley Pledge activities to help Bay Area students (SFUSD) gain broader access to advanced academic opportunities, inspiration and vision. Catalyzed by Glenn Seaborg, Emeritus Director of Lawrence Berkeley Laboratory at UC Berkeley.

☑ Nominated by US Department of Commerce and Information Technology Association of America to Chair the National Task Force on Mathematics and Science Education and its Impact on Workforce Development. 1997 National Information Technology Convocation sponsored by the US Department of Commerce and White House Council of Economic Advisors. Strategic planning and economic impact of IT workforce. Convened at UC Berkeley.

☑ Formed **ASSOCIATED SCIENTISTS** (co-founded with Glenn Seaborg and Stan Metzenberg) which was catalytic in changing the K-12 mathematics and science standards for State of California. These standards received a perfect score from the American Federation of Teachers [AFT] in their 1998 report **Making Standards Matter**. Review ASSOCIATED SCIENTISTS in Seaborg, Glenn T (2001) *Adventures in The Atomic Age*, pages 293-294 (ISBN 0-374-29991-9) and Seaborg, Glenn (Archives) Library of Congress **Box 276** <http://hdl.loc.gov/loc.mss/eadmss.ms006039>

ARTICLES RELATED TO EDUCATION • <http://shoumendatta.wordpress.com/>

Datta, S. (2011) Ethical Profitability Framework for Economic Growth and Development of Small Learning Organizations. <http://tinyurl.com/ethical-profitability> and <http://tinyurl.com/shoumen>

Datta, S. (2010) Entrepreneurial Innovation as a Catalyst for Change <http://dspace.mit.edu/handle/1721.1/54837>

Waltar AE, Beaumont P, Earl B, Peddicord KL, **Datta S.** 1999. What The Public Wants to Know. Proceedings of the American Nuclear Society. Long Beach, CA.

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Datta, S. (1995) Art and Education: Value of Public Museums to Science Education

Datta, S. (1995) Interactive Mathematics: Experimental Concept Gone Awry

RESEARCH SUPERVISION and STUDENT ADVISING

Year	Student	Purpose	Field	Institution
1982-83	L. Pallan	Senior Thesis	Pre-Med	University of Pittsburgh, Neuro-Surgeon
1987-88	M. Losada	Junior Thesis	Molecular Biology	Rutgers University, Merck Research
1989	S. Saha	Outreach	Medicine	Harvard University, UCSF
1990-91	S. Magge	Senior Thesis	Medicine	Harvard University, Yale, Endocrinologist
1992	T. Galvao	Advising	Molecular Biology	MIT, University of Cambridge
1992	N. Tang	Advising	Chemistry	MIT, Yale University
1993	S. Magge	Advising	Medicine	Harvard University, Yale, Neuro-Surgeon
1993	A. Mukherjee	Advising	Medicine, Law	Harvard University
1994	L. O'Brien	PhD Research	Infectious Diseases	UCSF Medical School
1997	A. Pritikin	Advising	General Studies	Harvard University
1998	H. Fu	Advising	Engineering, Environ	MIT, Harvard University
2001	Y. Soga	Internship	Business	Oxford University, Finance
2001	A. Vora	Advising	General Studies	Harvard University
2004	H. Fu	Sponsor	Policy	British Parliament
2004	T. Shean	Advising	Physics	University of Cambridge
2004	D. Graham	Research	Econometrics	Institute for Defense Analysis
2005	K. Phillip	Research	Management	Trinity College Dublin (Ireland)
2007	K. Zukova	MS Thesis	Supply Chain	Chalmers University (Sweden)
2008	M. Marchena	PhD Thesis	Data Analytics	University of Sao Paulo (Brazil)
2013	T. Peerson	Advising	Chemistry	Johns Hopkins University
2014	A. Boy	Advising	Operations Management	KEDGE Business School (Bordeaux, France)
2015	L. Gorantala	Advising	Neuroscience, Chemistry	University of Washington, Seattle, USA
2017	A. Boussera	Advising	Public Policy	United Nations (NY), UNESCO (Paris, France)
2017	A. Eladl	Advising	Economics, Neurology	Yale University
2018	S. Swanson	Advising	Computer Science	University of Florida, BlackRock
2019	C. Johnson	Advising	Engineering	MIT

SELECT TEACHING EXPERIENCES

1981 – 1985	Teaching Assistant in Genetics, Microbiology and General Biology, University of Pittsburgh
1985 – 1988	Instructor in Molecular Biology and Microbiology, Rutgers University
1990 – 1993	Instructor in Molecular Medicine, Harvard Medical School, Harvard University
2000	Guest Lecturer, MBA Program, Haas School of Business, University of California, Berkeley
2000	Lecturer, MBA Program, L'Ecole Supérieure des Sciences Economiques et Commerciales (ESSEC), Paris
2001	Visiting Lecturer, School of Engineering, University of Cambridge, UK
2002 – 2004	Guest Lecturer, Logistics and Supply Chain (MIT Graduate Course 1.270 / ESD.273)
2002 – 2004	Co-Lecturer, Supply Chain Strategy and Management, MIT Sloan School of Management, MIT
2003 – 2004	Co-Lecturer, Advanced Logistics and SCM Strategies, MIT-Singapore Alliance, MIT
2004 – 2005	Lecturer in Strategic Innovation, MIT Sloan Fellows Program, MIT Sloan School of Management
2004	Guest Lecturer, Auto-ID in Supply Chain Management, HEC, Montreal, Canada
2005 – 2007	Visiting Lecturer, MBA Program, Trinity College, Dublin
2006 – 2007	Faculty, Supply and Demand Chain Design and Management, Chalmers University of Technology (Sweden)
2006 – 2007	Guest Lecturer, Innovation in Operations Management, Indian Institute of Management, Ahmedabad, India
2006 – present	Innovation SCM, Institut Supérieur de Logistique Industrielle, Bordeaux Ecole de Management, France Visiting Faculty SCM Innovation, Management and Operations • KEDGE Business School, Bordeaux
2010 – 2013	Adjunct Instructor (Florida) • Chemistry, Biological Sciences, Anatomy and Physiology, Biotechnology Visiting Assistant Professor Chemistry UNF • Instructor in Chemistry JU • Teacher (Chemistry, DCPS)

THOUGHT LEADERSHIP – INNOVATION – INVITED TALKS – KEYNOTES

1995	Berkeley Pledge Steering Committee, Education Outreach, University of California Berkeley
1996	National Net Day Organizing Committee
1996-1999	Eagle Alliance, Advisory Board
2000	Guest Lecturer, Haas School of Business, University of California at Berkeley
2000	Guest Lecturer, MBA Program, ESSEC, University of Paris, Paris, France
2001	Guest Lecturer, University of Cambridge School of Engineering, Cambridge, UK
2002-2004	Lecturer, Supply Chain Management Executive Programs, MIT Sloan School
2002-2004	Guest Lecturer, Logistics & Supply Chain (MIT Graduate Course 1.270/ESD.273)
2002	Keynote Address, Supply Chain Council (SCOR), Mexico City, Mexico
2002	Keynote Address, Supply Chain Summit, Montreux, Switzerland
2002	Executive Program (Future of SCM), Saint Gobain (www.saint-gobain.com)
2003	Chairman, Executive Advisory Board, Telecommunication Summits
2003	Keynote Address, IP Summit, The Hague, The Netherlands
2003	Plenary Address, LogiChem, Frankfurt, Germany
2003	Invited Address, Supply-Chain World of North America, Atlanta, Georgia, USA
2003	Chairman, European Supply Chain Summit, Luzern, Switzerland
2003	Session Chair & Invited Speaker, InterLog Conference, Dusseldorf, Germany
2003	Chairman, Retail Revolution Europe Conference, The Hague, Netherlands
2003	Panelist, 3 rd INTEL Executive Summit, San Francisco, California, USA
2003	Invited Seminar, GE Global Research, New York
2003	Chair and Keynote Speaker, LogiCon Interactive Conference, Barcelona, Spain
2003	Invited Keynote Speaker, LogicaCMG Forum, Amsterdam, The Netherlands
2003	Invited Keynote Speaker, Forum on Automation Technologies, Government of Taiwan
2003-2004	Team Lecturer, MIT-Singapore Alliance (Advanced Logistics & SCM Strategies), MIT
2004	Board of Overseers, MIT-Chile Project (MIT alliance with Government of Valparaiso, Chile)
2004	Keynote Address, Electronics Manufacturers Association, San Jose, California
2004	Keynote Address, Government of Finland Science and Technology Council, TEKES (Helsinki, Finland)
2004	Invited Panelist (AAIA), Technical Excellence in Aviation, Missiles and Space (TEAMS), Huntsville
2004	Invited Speaker, Redstone Arsenal-Huntsville Military Operations Research Section (ORSA), AL
2004	Invited Speaker, MIT-INFORMS Practice Conference, Cambridge, Massachusetts
2004	Invited Panelist, CIO Roundtable, Airline Transportation and Retail Industries, Dallas (TX, USA)
2004	Invited Speaker, National Economic and Social Development Board, Government of Thailand
2004	Invited Keynote Speaker, E-Business Forum, Ministry of Economic Affairs, Government of Taiwan
2004	Keynote Speaker, Fourth SCM Forum (Helsinki, Finland)
2004	Executive Workshop, KONE Corporation (Espoo, Finland)
2004	Keynote Speaker, 4 th SCM CEO Summit, Hong Kong Article Nomenclature Association, GS1 Hong Kong
2004	Guest Speaker, MIT Sloan Fellows Program
2004	Executive Workshop, PoweredCom Inc (Tokyo Power and Electric Company, Japan)
2004	Advisor, TagArray Inc
2005	Keynote Speaker, ICT-RFID Summit, California Polytechnic State University, San Luis Obispo, California
2005	Invited Speaker, École des Hautes Etudes Commerciales of Montreal (HEC, Montreal)
2005	Keynote Speaker, World Customs Organization IT Conference, Istanbul (Turkey)
2005	UN-UNDP Mission to China (Invited Expert Group for South-South Technical Cooperation)
2005	Invited Member, President of Taiwan Science and Technology Advisory Group, Taiwan (ROC)
2005	Visiting Scholar, IIS, Trinity College, Dublin (Ireland)
2005	Advisor, SandLinks Inc
2005	Seminar, Transparency in the Supply Chain, US Department of Homeland Security, Washington DC
2005-2007	Keynote Speaker and Co-Organiser, SCM Forum, Helsinki (Finland)
2005	Invited Speaker, Council of Members, World Customs Organization, Brussels (Belgium)
2005-2006	Advisor to the Secretary General, World Customs Organization, Brussels (Belgium)
2006	Keynote Speaker, Chalmers University Executive Education Program, Gothenberg, Sweden
2006	Invited Speaker, Innovation in Logistics, Ministry of Transport and Communication, Helsinki, Finland
2006	Co-organizer, WCO Education Series in Globalisation and Interoperability, Brussels, Belgium
2006-2011	Advisor, Technical Strategy and Innovation, Decision Systems Lab, GE Global Research, NY
2006	Invited Speaker, 6 th Agribusiness Summit, Lexington (Kentucky, USA)
2006	Member, Advisory Committee, California Agricultural Leadership Foundation (Sacramento, California)
2006	Advisor, State Board, California Department of Agriculture (Advisory Committee)
2006	Keynote Speaker, World Customs Organization IT Conference, Bangalore, India
2006	Invited Speaker, IIS-Intel Conference, Trinity College Dublin, Ireland
2006	Lecturer, Dept of Technology Management & Economics, Chalmers University, Goteborg, Sweden
2006-2007	Co-Investigator, SMART Project (Funded by European Commission, EU), Trinity College Dublin, Ireland

2006 - present	Innovation in SCM, Institut Supérieur de Logistique Industrielle, Bordeaux Ecole de Management KEDGE Business School
2007	Visiting Lecturer, MBA Program, Trinity College Dublin, Ireland
2007	Invited Speaker, Indian Institute of Management, Ahmedabad, India
2007	Invited Keynote Speaker, ELTRUN Supply Chain Innovation and RFID Symposium, Athens, Greece
2007	Visiting Lecturer, Athens University of Economics and Business, Athens, Greece
2007	Invited Speaker and Research Paper, NOFOMA Annual Conference, Reykjavik, Iceland
2007	Guest Speaker, Educator's Day, University of Iceland and Reykjavik University, Iceland
2007	Advising, Pervasive Decisioning Systems Laboratory, GE Global Research, New York
2007	Invited Speaker & Visiting Faculty, Lappeenranta University of Technology (Kouvola Research Unit), Finland
2007	Seminar, US Department of Homeland Security, Washington DC
2008	Member, Editorial Board, International Journal of Electronic Business Management (IJEBM)
2008	Invited Speaker, DRIVE for Growth Conference (Killarney, Ireland)
2008-2009	Research Advising and Entrepreneurship, Institute of Technology, Tralee and Kerry Technology Park
2008-2009	Co-Founder, Centre for Innovation in Distributed Systems (CIDS) at ITT (www.cids.ie → www.imar.ie)
2008	Co-Organizer, <i>Is Connecting Bits to Atoms Sufficient?</i> Centre for Innovation in Distributed Systems, ITT
2008	Visiting Lecturer in International Business, School of Business Studies, Trinity College Dublin, Ireland
2008	Co-Organizer, <i>Is Forecasting Necessary?</i> Centre for Innovation in Distributed Systems www.cids.ie
2008	Co-Organizer, <i>A Sense of Silence in Medicine?</i> Centre for Innovation in Distributed Systems www.cids.ie
2008	Co-Founder and Start-up Advisor, DCS ENERGY SAVINGS PVT LIMITED (www.dcsenergysavings.com)
2009	Invited Speaker, SCM Forum IX, Helsinki (Finland)
2009-2010	Member and Affiliate, MIT Energy Initiative
2009	Start-up Advisor, InGRID ENERGY LLC (Palos Park, IL)
2009	Visiting Lecturer, National Cheng Kung University and National University of Tainan (Taiwan, ROC)
2011	Invited Seminar, Dept of Technology Management & Economics, Chalmers University of Technology, Goteborg, Sweden
2012	Chair, Biofuel Engineering, 2 nd World Congress of Bio-Energy, China
2013	Keynote • Institut Supérieur de Logistique Industrielle, École Supérieure de Commerce de Bordeaux www.kedgebs.com
2014	Keynote • MOOC & Digital Education - Presidents' Forum of Southeast, South Asian and Taiwan Universities (Taiwan)
2014	The Industrial Internet of Smart Things – Institute for Information Industry, Taipei (Taiwan) http://web.iii.org.tw/
2014	Senior Advisor at Catalyst Constellations (www.catconglobal.com)
2014	Invited Speaker and Panelist at the CSC Aspire Conference on IoT
2014	Invited Seminar Speaker on Cyberphysical Systems at ISIS, Vanderbilt University
2014	Invited Keynote Speaker, IoT Forum at MIT (www.iot-conference.org/iot2014/keynote-speakers/)
2014	EU-US Summit Speaker at the IoT Forum at MIT (BILAT USA 2014)
2014	Organizer • IIC Forum – <i>A Sense of the Future</i> (Austin, Texas) www.iiconsortium.org
2015	Invited Keynote – Planning the Future Together – 25th Forum at Institut Supérieur de Logistique Industrielle, KEDGE BS
2015	Invited Speaker - Future Strategies Workshop at Huawei Corporation
2015	Invited Speaker - Future Strategies Workshop at Mitsubishi Corporation
2015	Invited Panelist – STEM Education sponsored by the National Robotics Initiative at The White House (OSTP)
2015	Invited Keynote • NITRD Ontology Summit at NSF • http://ontolog.cim3.net/OntologySummit/2015/schedule.html
2015	Invited Keynote • EU IoT Week in Lisbon, Portugal • http://iot-week.eu/events/iot-week-lisbon/
2015	Invited Keynote • CEA LETI in Grenoble, France • http://bit.ly/GRENOBLE-24JUNE2015
2015	Invited Keynote • Tokyo University of Science, Tokyo, Japan • http://bit.ly/TUS-IOT-DATTA
2015	Invited Keynote • Global Forum , Oulu, Finland • https://www.youtube.com/watch?v=1A2xTluGPiM
2015	Invited Keynote • Tampere University of Technology • www.openlivinglabs.eu/event/global-forum-shaping-future-2015
2015	Invited Keynote • TEKES (Helsinki, Finland) • https://tapahtumat.tekes.fi/event/internationalcollaboration
2015	Invited Speaker • Institute for Information Industry, Taipei (Taiwan) • http://web.iii.org.tw/
2015	International Telecommunication Union Forum on IoT • http://bit.ly/ITU-GENEVA-IoT • http://bit.ly/ITU-GENEVA-SG20
2015	Invited Speaker • Korea Aerospace University (South Korea)
2015	Invited Keynote • South Korea IoT 2015 • http://www.iot-conference.org/iot2015/program/
2015	Invited Speaker • Strategic Advisory Council – Huawei Corporation
2015	Invited Speaker • University of Salamanca (Spain)
2015	Invited Keynote • III – Big Data Conference (Taipei, Taiwan)
2015	Invited Keynote • Healthcare IoT Forum at NCKU (Tainan, Taiwan)
2016	Invited Speaker • Mobile World Congress (Barcelona, Spain)
2016	Keynote and Organizing Committee – Industrial Chair for ILS, Bordeaux, FR • http://ils2016conference.com/committee/
2016	Invited Keynote • Industrial IoT Summit • www.industrialiotseries.com/usa/
2016	Invited Keynote • Future Manufacturing World Summit – Shanghai • www.futuremanufacturingworld.com/
2016	Invited Speaker • Strategic Advisory Board – TE Connectivity • www.te.com/usa-en/home.html
2016	Invited Speaker • Huawei STW (Science and Technology Workshop) Shenzhen, China
2016	Panel Member • US GAO / National Academy of Science / National Academy of Engineering – Expert Panel on IoT Policy
2016	Invited Plenary • Global IoT CESIS (Berlin) • www.vdi-wissensforum.de/en/cesis-global-internet-of-things-conference/

2017	Invited Speaker • CIO/CTO Council • Koch Industries “Translational Engineering” (pdf “Trans Eng” http://bit.ly/IOT-MIT)
2017	Panel Member • ISPIIM Toronto - Smart Cities • https://www.ispim-innovation-forum.com/
2017	Advisor • Advanced Silicon Group • http://www.advancedsilicongroup.com/
2017	Invited Keynote • International Conference on Genetic and Evolutionary Computing (ICGEC), Kaoshiung, Taiwan
2017	Invited Speaker • Kaoshiung University of Applied Sciences, Kaoshiung, Taiwan
2017	Invited Speaker • Tajen University, Yanpu, Taiwan
2017	Invited Speaker • National Dong Hwa University, Hualien, Taiwan
2017	Invited Speaker • Mingshin University of Science and Technology, Xinfeng Hsinchu, Taiwan
2017	Invited Speaker • National Taipei University of Technology, Taipei, Taiwan
2017	Invited Speaker • Daikin - Hotai Development, Taipei, Taiwan
2017	Invited Speaker • Kaison Green Electric Technology Company, Taichung, Taiwan
2018	Co-organizer • Nanotech in Food Production • https://emclamor.wixsite.com/mclamorelab/copy-of-confoma
2020	NSF I-CORPS • IoT Project, School of Engineering Technology, Purdue Polytechnic, PURDUE UNIVERSITY (Cohort 1)

GRANTS • PUBLIC CONTRACTS • REVIEW PANELS • STEERING COMMITTEE • ADVISORY BOARDS

1996-1997	Award → US Department of Commerce, National Telecommunications Information Infrastructure Authority (NTIIA) Project → Interactive University Program (online university – high school partnership for students and teachers) Collaborators → University of California, Berkeley and City and County of San Francisco Public Schools
1998-1999	Contract → State of California, Department of Education Program → State Standards for Mathematics & Science Collaborator → Associated Scientists (Co-Founders : Shoumen Datta, Glenn Seaborg, Stan Metzenberg)
2006-2009	Award – European Union (EU) Commission on Intelligent Systems • FP6 Project – SMART • RFID Integration • http://cordis.europa.eu/projects/rcn/80467_en.html Collaborators – Trinity College, Dublin and MIT Forum, Massachusetts Institute of Technology
2014-2015	Steering Committee, Time Aware Applications, Computation and Communication Systems • www.taaccs.org CPS, PWG • NIST (National Institute of Standards and Technology), US Department of Commerce • www.nist.gov
2015	US DoT ITS DTFH6115R00003 – IIC Proposal for Connected Vehicles • http://bit.ly/IIC-2013-2016-SD
2015	Advisory Boards • ICE Alliance (www.icealliance.org) • EU IoT 2.0 (http://www.ict-citypulse.eu) • U-IoT (EU H2020)
2016	Advisory Boards • EU-Japan Horizon 2020 project BigCloudT • EU – S Korea Horizon 2020 project WiseloT EU Horizon 2020 Project [a] Healthcare Data (SC1-PM-04) [b] Smart Cities / Smart Living (Scale UP IoT) Coordinated grants and funding relevant to the Industrial Internet Consortium in US and EU (table below) • IIC LSTB Summary Report - http://bit.ly/IIC-2013-2016-SD • http://bit.ly/IIC-SC-NRT • http://bit.ly/SD-IIC-1-100 • IIC Letters of Support (LoS) for EU Horizon 2020 proposals (2015-2016) http://bit.ly/IIC-LoS
2017	US Government Accountability Office and US National Academy of Sciences – Panel on Technology Assessment of IoT requested by US Senate • Technology Assessment – Internet of Things • www.gao.gov/products/GAO-17-75
2017	Cybersecurity for Medical Devices • US Department of Homeland Security and FDA (PI - Dr Julian Goldman, MGH, HMS)

Proposal Related Documentation History http://bit.ly/SD-IIC-1-100	Government Agency (submission/preparation)	Funding Approved <i>includes IIC members</i>	Comments / Information
Autonomous Transportation http://bit.ly/DOT-DOT-DOT	US Dept of Transportation (submitted 3/2015; prep 3/2014 to 3/2015)		Did not receive rejection or funding (\$20 million)
BigCloudT EU-JP http://bit.ly/Project-Brief	EU Horizon 2020 (submitted 12/2015; prep 4/2014 to 12/2015)	€ 3 million	Funding Starts Sep/Oct 2016
WiseloT EU-SK http://bit.ly/Project-Brief	EU Horizon 2020 (submitted 12/2015; prep 4/2014 to 12/2015)	€ 4 million	Funding Starts Sep/Oct 2016
ACTIV AGE http://bit.ly/Project-Brief	EU Horizon 2020 (submitted 4/2016; prep 4/2015 to 4/2016)	€ 20 million	Funding Starts Sep/Oct 2016
Internet of Food http://bit.ly/Project-Brief	EU Horizon 2020 (submitted 4/2016; prep 4/2015 to 4/2016)	€ 30 million	Funding Starts Sep/Oct 2016
WLIVE Wearables http://bit.ly/Project-Brief	EU Horizon 2020 (submitted 4/2016; prep 4/2015 to 4/2016)		Not funded for FY 2016
LSP Scale-up-IoT http://bit.ly/SCPPP-07	EU Horizon 2020 (submitted 4/2016; prep 4/2015 to 4/2016)		Not funded for FY 2016
Healthcare Data http://bit.ly/HCP-04	EU Horizon 2020 (submitted 4/2016; prep 9/2015 to 4/2016)		Not funded for FY 2016
Healthcare Robotics	EU Horizon 2020 (submitted 4/2016; prep 9/2015 to 4/2016)		Not funded for FY 2016

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Datta, Shoumen

Now showing items 1-4 of 4

Authors Name
DATTA, SHOUMEN [9]
Datta, Shoumen [57]
Datta, Shoumen Pa [2]
Datta, Shoumen Palit Austin [7]

NIH and NSF formatted
bio-sketches are attached.

NIH (National Institute of Health) BIO-SKETCH

Provide the following information for senior/key personnel and other significant contributors. DO NOT EXCEED 5 PAGES.

NAME: Datta, Shoumen Palit Austin

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Research Affiliate

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	Completion MM/YYYY	FIELD OF STUDY
Presidency College, University of Calcutta, India	B.Sc.	08/1980	Biochemistry and Physiology (Physics and Chemistry)
Rutgers University School of Medicine, New Jersey, USA	Ph.D.	07/1989	Molecular Biology, Microbiology & Virology
Harvard Medical School, Massachusetts General Hospital, Boston, Massachusetts, USA	Fellow in Medicine	06/1991	Molecular Medicine: Thyroid and Neuro-Endocrinology, Molecular Oncology
Massachusetts Institute of Technology, Whitehead Institute, Cambridge, Massachusetts, USA	Postdoctoral Associate	11/1994	Molecular Biology and Human Genome Project
University of California San Francisco (UCSF), CA, USA	Research Associate	12/1995	Molecular Parasitology and Infectious Diseases

A. Personal Statement

My background includes basic science, biomedical sciences, molecular biology and medicine, in addition to bit of engineering and commerce. Scientific training includes [I] human genome project (DNA sequencing, creating yeast artificial chromosomes), [II] transcriptional regulation and genetics [{1} regulation of gene expression by DNA tumor virus oncogenes, {2} yeast genetics for transcription factor analysis in vivo, {3} in vitro reconstitution of transcription initiation complex, {4} protein chemistry of eukaryotic transcription factors, {5} recombinant protein expression in and purification from baculovirus, {6} regulation of thyroid hormone receptor gene expression in patients with thyroid carcinoma, {7} glucocorticoid and steroid receptor gene expression in pituitary carcinoma, {8} molecular parasitology of infectious diseases using parasite Trypanosoma brucei]. I have also used my [A] basic science fundamentals to build bridges into engineering domains (radio frequency, data and decisions, networks, systems, operations and industrial management) and [B] communication skills in {i} administration of public science education {ii} workforce development issues in state and federal government and {iii} advising corporations and friendly foreign governments (Finland, Ireland, Taiwan, to name a few).

My penchant for science and research, as a lifelong purpose, is unchanged but strengthened by my collective experience in science, medicine, engineering, commerce and government or wherever the convergence of knowledge, communication and administration was/is necessary as a part of the mission. My lack of overt greed for personal wealth creation, my ability to perform as a relatively unbiased science and engineering observer and my ability to view issues as a “global” citizen with a moderate sense of the future, are reasons for my involvement with consortiums involving global academia, industry and governments, on a range of topics such as standardization of radio frequency identification, internet of things and industrial internet, data and semantics, operations and supply change management. The confluence of ideas in the proposed research seeks trans-disciplinary convergence to create end-to-end systems that I have discussed, in principle, in my publications, and exemplified in practice as a member of the hospital medical device community where the problems of data and failure of data interoperability in decision systems are contributing to fatal mistakes (which makes the latter the [third leading cause of death in the US](#)). During 2008-2009 my life was gravely disrupted by colon cancer. After a few years of convalescence, I resumed my activities with encouragement from friends ([Sanjay Sarma](#), [Joe Salvo](#)) and re-started advising in science, technology and engineering as well as teaching (operations management, supply chain, decision systems, innovation, entrepreneurship). I also re-engaged in research publications with erudite collaborators ([Eric Scott McLamore](#)) to further my professional horizon, in the realm of global public goods, enabling the tools of science to better serve society.

Selected Publications in Support of Personal Statement

01. Datta, S. (2020) Porous Pareto Partitions in 'Advances in Measurements and Instrumentation: Reviews', Vol. 2, Book Series, IFSA Publishing, Barcelona, Spain (*in press*). "P3" from MIT Libraries - <https://dspace.mit.edu/handle/1721.1/123984>
02. Victoria Morgan, Lisseth Casso-Hartman, David Bahamon-Pinzon, Kelli McCourt, Robert G. Hjort, Sahar Bahramzadeh, Irene Velez-Torres, Eric McLamore, Carmen Gomes, Evangelyn C. Alocilja, Shoumen Palit Austin Datta and Diana C. Vanegas (2019) *Sensor-as-a-Service: Convergence of Sensor Analytic Point Solutions (SNAPS) and Pay-A-Penny-Per-Use (PAPPU) Paradigm as a Catalyst for Democratization of Healthcare in Underserved Communities*. *Diagnostics* 2020, 10 (1), 22 <https://doi.org/10.3390/diagnostics10010022> "SNAPS TRILOGY" MIT Libraries <https://dspace.mit.edu/handle/1721.1/123983>
03. Eric S. McLamore, R. Huffaker, Matthew Shupler, Katelyn Ward, Shoumen Palit Austin Datta, M. Katherine Banks, Giorgio Casaburi, Joany Babilonia, Jamie S. Foster (2019) Digital Proxy of a Bio-Reactor (DIYBOT) Combines Sensor Data and Data Analytics for Wastewater Treatment and Wastewater Management Systems. *Nature Science Reports* 10, 8015 (2020). <https://doi.org/10.1038/s41598-020-64789-5> ♦ PDF from MIT Libraries <https://dspace.mit.edu/handle/1721.1/123983>
04. McLamore, E.S., S.P.A. Datta, V. Morgan, N. Cavallaro, G. Kiker, D.M. Jenkins, Y. Rong, C. Gomes, J. Claussen, D. Vanegas, E.C. Alocilja (2019) SNAPS: Sensor Analytics Point Solutions for Detection and Decision Support. *Sensors*, vol. 19, no. 22, November 2019, p. 4935 ♦ www.mdpi.com/1424-8220/19/22/4935/pdf ♦ <https://dspace.mit.edu/handle/1721.1/123983>
05. Y. Rong, A.V. Padrona, K. J. Hagerty, N. Nelson, S. Chic, N. O. Keyhani, J. Katz, S.P.A. Datta, C. Gomes, and E.S. McLamore (2018) Post Hoc Support Vector Machine Learning for Impedimetric Biosensors Based on Weak Protein–Ligand Interactions. *The Analyst*, vol. 143, no. 9, 2018, pp. 2066–2075 doi:10.1039/C8AN00065D <https://pubs.rsc.org/en/content/getauthorversionpdf/C8AN00065D>
06. Datta, S. (2017) *Haphazard Reality – IoT is a Metaphor* • MIT Libraries - <https://dspace.mit.edu/handle/1721.1/111021>
07. Datta, S. and Goldman, J.M. (2017) Healthcare - Digital Transformation of the Healthcare Value Chain: Emergence of Medical Internet of Things (MIoT) may need an Integrated Clinical Environment, ICE (World Health Strategy e-book • www.fhti.org) Listed as (pdf) "Healthcare" - MIT Libraries - <https://dspace.mit.edu/handle/1721.1/107893>
08. Datta, S. et al (2017) Technology Assessment – Internet of Things • www.gao.gov/products/GAO-17-75
09. Datta, S. (2015) L'Internet des Objets : la troisième révolution industrielle. *Logistique and Management* 23 n°3 29-33 DOI: 10.1080/12507970.2015.11742760 • <http://www.tandfonline.com/doi/abs/10.1080/12507970.2015.11742760>
10. Datta, S. (2011) Future of Healthcare: Bio-Informatics, Nano-Sensors and Emerging Innovations (Chapter 8 in *Nanosensors: Theory and Applications in Industry, Healthcare & Defense* ed TC Lim) CRC Press <http://dspace.mit.edu/handle/1721.1/58972> <http://www.crcpress.com/product/isbn/9781439807361> and <http://esd.mit.edu/WPS/2008/esd-wp-2008-17.pdf>
11. Datta, S., Graham, D.P., Sagar, N., Doody, P., Slone, R. and Hilmola, O-P. (2009) Forecasting and Risk Analysis Supply Chain Management: GARCH Proof of Concept (Chapter 10 in *Supply Chain Risk and Vulnerability: Tools and Methods for Supply Chain Decision Makers* editors Wu, T. and Blackhurst, J.) Springer-Verlag <http://dspace.mit.edu/handle/1721.1/43948>
12. Datta, S. (2007) Unified Theory of Relativistic Identification of Information in a Systems Age: Proposed Convergence of Unique Identification with Syntax and Semantics through Internet Protocol version 6 (ESD-WP-2007-17) *International Journal of Advanced Logistics* 1 66-82 MIT ESD <http://dspace.mit.edu/handle/1721.1/41902>
13. Datta, S. (2007) Advances in Supply Chain Management: Potential to Improve Forecasting (ESD-WP-2006-11)
14. Datta, S., Granger, C. W. J., Barari, M. and Gibbs, T. (2007) Management of Supply Chain: an alternative modeling technique for forecasting. *Journal of the Operational Research Society* 58 1459-1469 <http://dspace.mit.edu/handle/1721.1/41906> Online published version <http://www.tandfonline.com/doi/full/10.1057/palgrave.jors.2602419>
15. Datta, S. (2006) Advances in Supply Chain Management Decision Support Systems: Potential for Improving Decision Support Catalyzed by Semantic Interoperability between Systems (ESD-WP-2006-10) <http://dspace.mit.edu/handle/1721.1/41906>
16. Datta, S., and Granger, C. W. J. (2006) *Improvements in Forecasting*. MIT Engineering Systems Division Working Paper on Econometrics in Operations Research and Supply Chain Management <https://dspace.mit.edu/handle/1721.1/102799>
17. Datta, S. (2006) Charlie's Skypeout Strategy (TEKES Report, Govt of Finland) <http://dspace.mit.edu/handle/1721.1/56251>
18. Datta, S. (2004) Adapter, optimiser, prévoir - La convergence des concepts, des outils, des technologies et des normes peut-elle accélérer l'innovation? *Logistique and Management* 12 n°2 (<http://dspace.mit.edu/handle/1721.1/41907>)
19. Datta, S., et al (2003) Adaptive Value Network (Chapter 1 in *Evolution of Supply Chain Management: Symbiosis of Adaptive Value Networks and ICT* (Information Communication Technology). www.wkap.nl/prod/b/1-4020-7812-9?a=1
20. Waltar AE, Beaumont P, Earl B, Peddicord KL, Datta S. 1999. What The Public Wants to Know. Proc Am Nuclear Society, CA.
21. Datta, S. (1998) National Task Force (US) Report. US Department of Commerce & ITAA, Washington, DC
22. Datta, S. (1996) Good Teaching [Letter] *Science* 271 1789
23. Datta S, Magge S, Madison L, Jameson JL. 1992. Thyroid Hormone Receptor Mediates Transcriptional Activation and Repression of Different Promoters. *Molecular Endocrinology* 6 815-825 <http://dspace.mit.edu/handle/1721.1/42834>

24. Datta S, Soong CJ, Wang DM, Harter ML. A purified adenovirus 289-amino-acid E1A protein activates RNA polymerase III transcription in vitro and alters transcription factor TFIIC. *J Virol.* 1991 Oct;65(10):5297-304. doi: 10.1128/JVI.65.10.5297-5304.1991. PMID: 1832723; PMCID: PMC249009. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC249009/pdf/jvirol00053-0181.pdf> <http://jvi.asm.org/cgi/reprint/65/10/5297>
25. Putlitz J, Datta S, Madison L, Jameson JL. 1991. Human Thyroid Hormone Receptor Produced in Recombinant Baculovirus-infected Insect Cells. *Biochem & Biophys Research Communication* **175** 285-290 <http://dspace.mit.edu/handle/1721.1/42901>
26. Chatterjee VKK, Nagaya T, Datta S, Madison L, Rentoumis A, Jameson JL. 1991. Thyroid Hormone Resistance Syndrome: Inhibition of Normal Receptor Function by Mutant Thyroid Hormone Receptors. *J. of Clinical Investigation* **87** 1977-1984 <http://dspace.mit.edu/handle/1721.1/42900>
27. Nagaya T, Chatterjee VKK, Madison L, Datta S, Rentoumis A, Jameson JL. Generalized Thyroid Hormone Resistance. MGH Symposium, 1991. Boston.
28. Datta S, Magge S, Putlitz J, Jameson JL. Transcriptional activation and repression by thyroid hormone receptors: Development of an *in vitro* transcription assay. MGH Symposium, 1991. Boston, MA.
29. Datta S, Magge S, Putlitz J, Jameson JL. Repression of a-TSH promoter activity by thyroid hormone receptor in an *in vitro* transcription assay. Endocrine Society Meetings, 1991. Washington, DC.
30. Nagaya T, Datta S, Madison L, Ahlquist JAO, Magge S, Hwang YT, Jameson JL. Structural determinants of thyroid receptor interactions with DNA. American Thyroid Association 1991. Boston.
31. Rentoumis A, Chatterjee VKK, Madison L, Datta S, Gallagher G, DeGroot LJ, Jameson JL. 1990. Negative and Positive Transcriptional Regulation by Thyroid Hormone Receptor Isoforms. *Molecular Endocrinology* **4** 1522-1531 <http://dspace.mit.edu/handle/1721.1/42902>
32. Datta S, Wang DM, McGrath M, Westerdahl C, Harter ML. Bacterially produced E1A 289R activates Pol III transcription through TFIIC. Imperial Cancer Research Fund (ICRF) Tumor Virus Meeting, 1989. Churchill College, University of Cambridge.
33. Datta S. (1989) Transcriptional Activities of the 289 amino acid Adenovirus 2 E1A Protein in vitro (PhD thesis) Rutgers University School of Medicine, UMDNJ Graduate School of Biomedical Sciences, Rutgers University, New Jersey, USA
34. Datta S, Chatterjee P, Losada MC, Flint SJ, Harter ML. An E. coli produced E1A 289R protein and a synthetic E1A 49R peptide variably regulates Pol II and Pol III transcription in vitro. Tumor Virus Meeting, 1988. Cold Spring Harbor Lab, NY.
35. Datta S, Spangler R, Bruner M, Harter ML. Activation of viral and non-viral promoters by the Adenovirus 289R E1A protein in cell-free extracts. Imperial Cancer Research Fund (ICRF) Tumor Virus Meeting, 1987. Churchill College, Cambridge, UK

B. Positions

1999-present (with breaks)

Research Affiliate, Auto ID Labs, Department of Mechanical Engineering, MIT ▪ <https://autoid.mit.edu/shoumen-datta>

2000-2010

Research Scientist, Engineering Systems Division, Department of Civil and Environmental Engineering • Co-Founder and Executive Research Director, MIT Forum for Supply Chain Innovation, School of Engineering, Massachusetts Institute of Technology

2014-present

Senior Scientist, MDPnP Lab ▪ <http://mdpnp.mgh.harvard.edu> ▪ Massachusetts General Hospital, Harvard Medical School

2015-present

NSF Center on Robots and Sensors for Human Well Being (RoSeHuB), School of Engineering Technology, Purdue Polytechnic, Purdue University ▪ <https://www.purdue.edu/rosehub/RoSeHUB.contact.html>

2018-present

Research Coordinator, Center of Excellence, Dept Ag & Bio Eng, University of Florida ▪

<https://emclamor.wixsite.com/mclamorelab>

1999-present (with breaks)

Research Affiliate, Auto ID Labs, Department of Mechanical Engineering, MIT ▪ <https://autoid.mit.edu/shoumen-datta>

1999 - 2002

Software Solutions, Global Strategic Innovation, Initiatives, SCM Management ▪ SAP Labs (Palo Alto), SAP German, SAP Japan

1995-1997 Special Assistant [Title XIV], Superintendent of Schools, City and County of San Francisco, San Francisco, California

1994-1995 Research Scientist, University of California at Berkeley and UCSF School of Medicine (San Francisco, California)

UCSF-UC Berkeley Program in Molecular Parasitology & Infectious Diseases • Instructor in Human Genetics UCSF School of Medicine

1991-1994 Research Associate, Whitehead Institute, Massachusetts Institute of Technology (MIT), Cambridge, Massachusetts

1990-1993 Instructor in Medicine (Biochemistry and Metabolism), Harvard Medical School, Boston, Massachusetts

1989-1991 Research Fellow, Harvard University • Research Fellow in Medicine, Massachusetts General Hospital, Boston, MA

Professional Experiences

- 1999-2004 MIT Auto ID Center, Founding Member, Technology Board • IoT (Internet of Things) & RFID (radio frequency id)
- 2001-2010 MIT Forum for Supply Chain Innovation (Co-Founder, Executive Director, Research Director) • Digital Supply Chain
- 2002-2007 MIT Sloan School of Management, Executive Ed in Strategy and Management, Supply Chain, Sloan Fellows, LMP
- 2003-2006 MIT Data Center (Co-Founder) Semantics & Data http://web.mit.edu/edmund_w/www/DATACENTERpeople.htm
- 2004-2007 Member of IIS, Trinity College, Dublin
- 2006-2009 Co-Founder, Center for Integration of Data and Systems (CIDS), Institute of Technology, Tralee, Ireland
- 2013-2016 IoT in industry sponsored organization (Industrial Internet Consortium, Founding Senior Vice President)

Public Service

- 2005-2007 Member of the Science and Technology Advisory Group (STAG), Office of the President of Taiwan, Government of Taiwan
- 2005-2006 Advisor to Secretary General, World Customs Organization, Brussels (<http://www.wcoomd.org/>)
- 1998-1999 Office of Public Understanding of Science & Advisory Council (Eagle Alliance) Dept of Nuclear Eng, Texas A&M University
- 1997-1998 Visiting Fellow, Cisco Systems, San Jose, CA (creating and promoting the global roll out of Cisco Networking Academy)
- 1997-1998 Chairman, National Information Technology Task Force. US Departments of Commerce; Labor; Education; White House Council of Economic Advisors and Information Technology Association of America. (Host: University of California, Berkeley, CA)
- 1996-1999 President/Co-Founder, Associated Scientists (Co-Founders Glenn Seaborg, UC Berkeley & Stan Metzenberg, CSUN)

C. Contribution to Science (Basic Science Research)

1. My journey in molecular biology began in 1980 and started with sequencing SV40 mutants (by hand, using Allan Maxam and [Walter Gilbert's](#) handwritten notes on how to optimize piperidine cleavage), using Hind II/III restriction endonucleases which were "made by hand" by [Ham Smith](#) and mailed to us (University of Pittsburgh, 1981) by a post-doc in [Dan Nathans](#) lab (JHU). The large T-antigen occupied most of the 5243 base pairs of this DNA tumor virus but it had too many secrets (we did not know in 1981 and [Marilyn Kozak](#) agreed) that resisted my attempts (1981-1983) to dissect T antigen in order to map structure with function, *in vivo*.
2. In 1980, a paper was published ([Phil Sharp's](#) lab; co-author [Andy Fire](#)) demonstrating cell-free extracts for transcription *in vitro* (www.pnas.org/content/pnas/77/7/3855.full.pdf). Next, Andy Fire showed (1981) that Adenovirus promoters could initiate transcription by RNA polymerase II *in vitro* (www.ncbi.nlm.nih.gov/pmc/articles/PMC256682/pdf/jvirol00165-0089.pdf). My work, circa 1985 (Rutgers University in collaboration with [S. Jane Flint](#) and [Tom Shenk](#) at Princeton University), focused on the mechanism of action of onco-proteins by which they regulate expression of oncogenes (viral and cellular). By now it was clear that the large Adenovirus E1A protein was the principal player (onco-protein). I proceeded to isolate and purify recombinant 289R E1A and then using Andy's *in vitro* cell extract system, I was able to show that the purified Adenovirus oncoprotein 289R E1A could activate promoters and repress enhancers to regulate gene expression *in vitro*. I presented the combined results ([Nikki Harter's lab](#)) in a "talk" (yes, talk, not a poster) at the Tumor Virus Meeting in 1987 organized by ICRF at Churchill College, University of Cambridge. After a vigorous Q&A following the talk, I walked out of the hall and there was Mike Fried, who stopped me and used superlatives to convey his appreciation of the science and my presentation (Mike Fried in chapter 2 <http://blueskiesbenchspace.org/index.php?pag=2>). It was the first time (?) that the *in vitro* system was capable of showing repression of transcription by an onco-protein (which was the contribution I made to extend the previous work of the lab <https://science.sciencemag.org/content/237/4818/1044>). With S. Jane Flint at Princeton University, I was able to show that the activation and repression by 289R E1A was located to a small 49 amino acid residue (49R synthetic peptide). Is it displacing a cellular factor (<https://www.jbc.org/content/263/8/3984.full.pdf>) which may bind to the enhancer region? The *in vitro* dissection of mechanism of action of proteins and deconstruction of the RNA Polymerase II initiation complex (and transcriptional reconstitution) occupied the next few years of my life at Harvard, MIT and UCSF School of Medicine.
32. [Datta S](#), Wang DM, McGrath M, Westerdahl C, Harter ML. Bacterially produced E1A 289R activates Pol III transcription through TFIIC. Imperial Cancer Research Fund (ICRF) Tumor Virus Meeting, 1989. Churchill College, University of Cambridge, UK.
33. [Datta S](#). (1989) Transcriptional Activities of the 289 amino acid Adenovirus 2 E1A Protein in vitro (PhD thesis) Rutgers University School of Medicine, UMDNJ Graduate School of Biomedical Sciences, Rutgers University, New Jersey, USA
34. [Datta S](#), Chatterjee P, Losada MC, Flint SJ, Harter ML. An E. coli produced E1A 289R protein and a synthetic E1A 49R peptide variably regulates Pol II and Pol III transcription in vitro. Tumor Virus Meeting, 1988. Cold Spring Harbor Lab, NY.

35. **Datta** S, Spangler R, Bruner M, Harter ML. Activation of viral and non-viral promoters by the Adenovirus 289R E1A protein in cell-free extracts. Imperial Cancer Research Fund Tumor Virus Meeting, 1987. Churchill College, University of Cambridge, UK.
3. In hypothyroidism and post-surgical treatment of thyroid carcinoma, there appeared to be a disconnect in the responsiveness to tri-iodo-thyronine (T3 therapy) in some patients. Part of the answer to this thyroid hormone resistance syndrome was elucidated by my work during 1989-1991 (with [J. Larry Jameson](#) at MGH, HMS, in the same endocrine unit as [Anne Klibanski](#)). We concluded single nucleotide polymorphisms (SNPs) may alter the DNA sequence of the thyroid response element (TRE) which also overlapped the TFIID binding site for initiation of transcription of the thyroid hormone receptor protein (THR). I was able to demonstrate this effect in *in vitro* transcription in HeLa cell extracts by adding thyroid hormone receptor protein (THR) produced in insect cells infected with recombinant baculovirus vector containing human THR. Addition of thyroid hormone (T3) regulated the effect of the binding of THR to the TRE. We also showed that this mechanism was not a special case for THR but applicable to glucocorticoid and steroid receptors in humans. The “novelty” of this *in vitro* finding was initially snubbed by *the-then* experts ([Bob Roeder](#), [Keith Yamamoto](#)) but later both experts and others were able to replicate and extend our first observations. The treatment regimen for some patients at MGH was changed as a result of this observation. T3 therapy alone could no longer alleviate their symptoms because no matter how much T3 is in the system and irrespective of the binding of T3 with its receptor (THR), the T3-THR complex may not bind to the TRE and fail to control the anticipated gene expression. In another scenario, the lack of THR will make addition of T3 ineffective. Relevant publications mentioned in this bio-sketch (with respect to this discussion) are number 23 and numbers 25-31.
 4. In 1991, I moved from MGH,HMS to [Richard Young’s lab](#) the Whitehead Institute at MIT, where (in collaboration with [Phil Sharp’s group](#)) I began purifying all the core RNA Polymerase II transcription factors (TFIIA, TFIIB, TFIIC, TFIID, TFIIE, TFIIIF) from yeast using protein purification and re-purification. I was able to show transcription initiation by RNA Polymerase II in vitro by sequential addition of TF’s. This work was neither recognized nor published because I had a family disaster (accidental death) and by the time I returned to the lab (several months) the lead we had was lost and my work. It was advantage [Roger Kornberg](#).
 5. Still at MIT, I joined [Eric Lander](#) (1993) who was setting up the first human genome sequencing project (inaugurated 7/27/1993). I contributed by improving human DNA packaging in YACs (yeast artificial chromosomes). The rest is history and I am a part of it.
 6. December 1994, I moved to UCSF School of Medicine. I was able to create an *in vitro* system for studying gene expression in the parasite *Trypanosoma brucei* and showed that transcription of T. brucei promoters were catalyzed by RNA Polymerase III (not RNA Polymerase II as in humans and other eukaryotes). This result was not published because it was preliminary.
 7. Inspired by [Bruce Alberts](#), in January 1996, I found myself as an Assistant to the Mayor for the City and County of San Francisco and in charge of bringing [science education](#) to public schools (www.SFUSD.edu). That contribution to science is in a different vein. It was due to [Glenn Seaborg](#). I had help from [Charles Townes](#) and [Richard Zare](#), amongst many others, but a large part of it could not have happened (1996-98) without [Carol Christ](#).

List of Published Work in MyBibliography:

<https://www.ncbi.nlm.nih.gov/myncbi/1JQE6jfmmeekiq/bibliography/public/>

D. Additional Information:

Complete CV is available from the MIT Library – PDF “ CV ” is here – <https://dspace.mit.edu/handle/1721.1/111021>

Research Support and/or Scholastic Performance

Ongoing Research Support

Research Coordinator for SmartPath: USDA-NIFA-AFRI-006304 (PI) Eric McLamore
(<https://emclamor.wixsite.com/mclamorelab>)

NSF (National Science Foundation) Bio-sketch for Shoumen Datta

One-page NSF (National Science Foundation) Bio-sketch for Shoumen Datta

Professional Preparation

Rutgers University, NJ	School of Medicine	Ph.D., 1990
University of Pittsburgh, PA	Molecular Biology	M.S., 1985
Presidency College, India	Biochemistry	B.Sc., 1980

Recent Appointments

1999-present	Research Affiliate	MIT Auto-ID Center, MIT, Cambridge, MA
2014-present	Senior Scientist	MGH, Harvard Medical School, Cambridge, MA
2001-2010	Executive Director	MIT Forum for Supply Chain, MIT, Cambridge, MA
2013-2016	Senior Vice President	Industrial Internet Consortium

Publications, closely related

1. Y. Rong, A.V. Padrona, K. J. Hagerty, N. Nelson, S. Chic, N. O. Keyhani, J. Katz, S.P.A. Datta, C. Gomesh, and E.S. McLamore (2018) Post Hoc Support Vector Machine Learning for Impedimetric Biosensors Based on Weak Protein–Ligand Interactions. *The Analyst*, vol. 143, no. 9, 2018, pp. 2066–2075 doi:10.1039/C8AN00065D <https://pubs.rsc.org/en/content/getauthorversionpdf/C8AN00065D>
2. McLamore, E.S., S.P.A. Datta, V. Morgan, N. Cavallaro, G. Kiker, D.M. Jenkins, Y. Rong, C. Gomes, J. Claussen, D. Vanegas, E.C. Alocilja (2019) SNAPS: Sensor Analytics Point Solutions for Detection and Decision Support. *Sensors*, vol. 19, no. 22, Nov. 2019, p. 4935 <https://www.mdpi.com/1424-8220/19/22/4935/pdf>
3. Victoria Morgan, Lisseth Casso-Hartman, David Bahamon-Pinzon, Kelli McCourt, Robert G. Hjort, Sahar Bahramzadeh, Irene Velez-Torres, Eric McLamore, Carmen Gomes, Evangelyn C. Alocilja, Shoumen Palit Austin Datta and Diana C. Vanegas (2019) *Sensor-as-a-Service: Convergence of Sensor Analytic Point Solutions (SNAPS) and Pay-A-Penny-Per-Use (PAPPU) Paradigm as a Catalyst for Democratization of Healthcare in Underserved Communities*. *Diagnostics* 2020, 10 (1), 22 <https://doi.org/10.3390/diagnostics10010022>
4. Eric S. McLamore, R. Huffaker, Matthew Shupler, Katelyn Ward, Shoumen Palit Austin Datta, M. Katherine Banks, Giorgio Casaburi, Joany Babilonia, Jamie S. Foster (2019) Digital Proxy of a Bio-Reactor (DIYBOT) Combines Sensor Data and Data Analytics for Wastewater Treatment and Wastewater Management Systems. *Nature Scientific Reports* 10, 8015 (2020). <https://doi.org/10.1038/s41598-020-64789-5> and <https://www.nature.com/articles/s41598-020-64789-5>
5. E. S. McLamore, J. Jones, Y. G. Yingling, S.P.A. Datta, P. Lambrianides and E. Vayn (2020) *Systems Engineering Paradox in Sensor Design: Divergence between Sensor-as-a-Product vs Sensor-as-a-Service* (in press)

Publications, additional

1. Datta S, Soong CJ, Wang DM, Harter ML. 1991. Purified Adenovirus 289R E1A Protein Stimulates Pol III Transcription in vitro by altering transcription factor IIIC. *J. Virology* 65 5297-5304 (<http://jvi.asm.org/cgi/reprint/65/10/5297>)
2. Datta S, Magge S, Madison L, Jameson JL. 1992. Thyroid Hormone Receptor Mediates Transcriptional Activation and Repression of Different Promoters. *Molecular Endocrinology* 6 815-825 <http://dspace.mit.edu/handle/1721.1/42834>
3. Putlitz J, Datta S, Madison L, Jameson JL. 1991. Human Thyroid Hormone Receptor Produced in Recombinant Baculovirus-infected Insect Cells. *Biochem & Biophys Research Communication* 175 285-290 <http://dspace.mit.edu/handle/1721.1/42901>
4. Chatterjee VKK, Nagaya T, Datta S, Madison L, Rentoumis A, Jameson JL. 1991. Thyroid Hormone Resistance Syndrome: Inhibition of Normal Receptor Function by Mutant Thyroid Hormone Receptors. *J. of Clinical Investigation* 87 1977-1984 <http://dspace.mit.edu/handle/1721.1/42900>
5. Rentoumis A, Chatterjee VKK, Madison L, Datta S, Gallagher G, DeGroot LJ, Jameson JL. 1990. Negative and Positive Transcriptional Regulation by Thyroid Hormone Receptor Isoforms. *Molecular Endocrinology* 4 1522-1531 <http://dspace.mit.edu/handle/1721.1/42902>

Synergistic Activities

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2. Datta, S. (2015) Dynamic Socio-Economic Disequilibrium. *Journal of Innovation Management* 3 3 4-9 <https://pdfs.semanticscholar.org/6309/3e17a0f4633fcdffbedd3e9876f6891e73b.pdf>
3. Datta, S. (2012) Unified Theory of Relativistic Identification of Information in a Systems Age: Convergence of Unique Identification with Syntax and Semantics through Internet Protocol version 6 (IPv6). *International Journal of Advanced Logistics* 1 66-82 ♦ <https://www.tandfonline.com/doi/abs/10.1080/2287108X.2012.11006070> ♦ <http://dspace.mit.edu/handle/1721.1/41902>
4. Datta, S., Granger, C. W. J., Barari, M. and Gibbs, T. (2007) Management of Supply Chain: an alternative modeling technique for forecasting. *Journal of the Operational Research Society* 58 1459-1469 <http://dspace.mit.edu/handle/1721.1/41906> Online published version <http://www.tandfonline.com/doi/full/10.1057/palgrave.jors.2602419>
5. Datta, S. (2004) Adapter, optimiser, prévoir - La convergence des concepts, des outils, des technologies et des normes peut-elle accélérer l'innovation? *Logistique and Management* 12 n°2 ♦ MIT Library <http://dspace.mit.edu/handle/1721.1/41907> Draft copy ♦ <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.201.8148&rep=rep1&type=pdf>