

## Curriculum Vitae: Lalit K. Mestha

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### NATIONALITY

US Citizen

### EDUCATIONAL QUALIFICATIONS

- 2018 *Nominated for Fellow of National Academy of Inventors*
- 2011 *IEEE Fellow*
- 2010 *Certified Black Belt, Design for Lean Six Sigma (DfLSS) for Electro-Mechanical Systems*
- 1985 *Ph.D. in Electrical Engineering, The University of Bath, England, United Kingdom*
- 1981 *B.E., Bachelors in Electrical Engineering, The University of Mysore, Mysore, India*

### WORK/RESEARCH EXPERIENCES

- 2018 – Present Director of Biometric Research, KinetiCor, Inc., Honolulu, Hawaii, Affiliated Faculty, UT Arlington, Texas
- 2015 – 2018 Principal Engineer, GE Global Research, Niskayuna, New York
- 2013 – 2015 Research Fellow, Palo Alto Research Center, Webster, New York
- 1994 – 2013 Principal Scientist, Project Leader at the Xerox Research Center Webster -- Responsible for creating new technologies for multi-intelligent sensing, optimization and control for healthcare, transportation and printing systems
- 1989 – 1994 Group Leader at the Superconducting Super Collider Laboratory -- Responsible for delivering Beam servo control & Synchronization systems
- 1987 – 1989 Senior Professional Technology Officer at the Rutherford Appleton Laboratory -- Responsible for development of signal processing and accelerator control systems
- 1985 – 1987 Research Fellow at University of Bath – Research in control of power electronic systems

### IEEE ACTIVITIES: OFFICES HELD, COMMITTEE MEMBERSHIPS

#### External conferences:

1. Invited Session Organizer, Security and Privacy in Control Systems, IEEE CCTA, Aug 29<sup>th</sup> 2017
2. Invited Session Organizer and Co-Chair, 36<sup>th</sup>, 37<sup>th</sup>, and 40<sup>th</sup> IEEE Engineering in Medicine and Biology Conference Conferences, 2012-2015
3. Vice Chair for Special Sessions, 2013 ACC, Washington DC, 2013
4. Gold Sponsor for ACC, Organized a Special Session on “Control Opportunities in Services”, Montreal, 2012
5. Chair, AACC Control Engineering Practice Award subcommittee, 2010, 2011, 2012, 2013
6. Chair, IEEE CSS Transition to Practice Award subcommittee, 2010, 2011, 2012
7. Publication Chair, IEEE Conference on Decision and Control, Atlanta, 2010
8. Member of IEEE Control System Society Board Of Governors, 2009 [Initiated permanent “IEEE CSS Transition to Practice” Award]
9. Chair, IEEE MSC Best Student-Paper Award Committee, and Translational Control Research Award Committee ([http://conferenze.dei.polimi.it/msc08/msc\\_committee.htm](http://conferenze.dei.polimi.it/msc08/msc_committee.htm)), San Antonio, Sept, 3-5, 2008
10. Committee Member, IEEE Control System Technology Award Committee for 2007
11. Chair, IEEE MSC Best Student-Paper Award Committee, and Translational Control Research Award Committee Singapore, Oct, 1-3, 2007, ([http://msc2007.nus.edu.sg/stu\\_awd.htm](http://msc2007.nus.edu.sg/stu_awd.htm))
12. Chair, IEEE CCA, ISIC, CACSD, Best Student Paper Award Committee, Munich, Germany, Oct, 4-6, 2006
13. Committee Member, IEEE Control System Technology Award Committee, 2005
14. Chair, IEEE CCA Best Student Paper Award Committee, Toronto, Canada, Aug, 28-31, 2005
15. Exhibits Chair, IEEE Conference on Decision and Control, Paradise Island, Bahamas, Dec 14-17, 2004
16. Panel Session Chair, Industry-University Interactions, IEEE Conference on Decision and Control, Paradise Island, Bahamas, Dec 14-17, 2004
17. Chair, IEEE CCA/ISIC/CACSD Best Student Paper Award Committee, Taipei, Taiwan, Sept, 2-4, 2004
18. Invited Session Organizer, IEEE Conference on Decision and Control, Maui, Hawai’i, Dec 9-12, 2003
19. Program Committee Member, IEEE Conference on Decision and Control, Maui, Hawai’i, Dec 9-12, 2003
20. Chair, IEEE CCA Best Student Paper Award, Istanbul, Turkey, June 23-25, 2003
21. Associate Editor, IEEE Transactions on Control System Technology journal, 1999, 2000, 2001, 2002
22. Chair, IEEE CCA Best Student Paper Award, Glasgow, Scotland, Sept 17-20, 2002
23. Vice Chair for I&A, Organized 9 International Tutorial Sessions at the American Control Conference, Arlington, VA, June 25-27, 2001
24. Publications Chair, IEEE Conference on Control Applications, Anchorage, Alaska, Sept 25-27 2000

25. Workshop Chair, Organized 12 International Workshops at the IEEE Conference on Decision and Control, Phoenix, Dec 1999
26. Exhibits Chair, IEEE Conference on Control Applications, Kohala Coast-Island of Hawai'i, Aug 22-27, 1999
27. Session Organizer, Control application session at the IEEE Conference on Control Applications, Trieste, Italy, 1998
28. Session Organizer, Process control session at the IEEE Conference on Decision and Control, Kobe, Japan, Dec 11-13, 1996
29. Program Committee, IEEE Conference on Control Applications, Dearborn, Michigan, Sept 15-18, 1996

*[MSC–Multiple-conference on Systems and Control; CCA–Conference on Control Applications; CACSD–Conference on Computer Aided Control System Design; ISIC–International Symposium on Intelligent Control]*

**Xerox Innovation Group Conferences:**

1. 2008: Created and presented 8 papers
2. 2010: Created and presented 2 papers
3. 2010: Member of Conference operating committee
4. 2010: Organized birds of feather session on Intelligent Sensing
5. 2010: Mentored Marina Tharayil in organizing birds of feather session on Controls & System Solutions
6. 2011: Organized birds of feather session on Smart Healthcare Systems
7. 2011: Mentoring Jack Elliott in organizing birds of feather session on System Science
8. 2011: Created and presented 5 papers
9. 2015: Created 6 papers

**NON-IEEE ACTIVITIES: AWARDS, PROFESSIONAL SOCIETY MEMBERSHIPS, AND COMMITTEE MEMBERSHIPS**

**Awards:**

- Dec 2017: Invention-Fulcrum of Progress – Gold Award, General Electric Award to Inventors (for filing 20+ GE Patent Applications), Dec 2017
- April 2015: 2014 Engineer of the Year Award, Rochester Engineering Society, April 11<sup>th</sup> 2015
- April 2014: Best Poster Paper Award, International Society for Computerized Electrocardiology's (ISCE) annual conference, April 26-30<sup>th</sup> 2014
- Dec 2011: Anne Mulcahy Inventor Award, for contributions to inline-sensing and color profiling, Dec 13<sup>th</sup> 2011 Patent Award Celebration, Xerox Corporation
- Aug 2011: Inducted to Xerox Hall of Fame, 100-patent milestone
- 2010: Certified Black Belt, *Design for Lean Six Sigma (DfLSS) for Electro-Mechanical Systems*
- Jan 2011: Elevated to IEEE Fellow “for contributions to digital printing systems control”, 2011
- Nov 2010: Anne Mulcahy Inventor Award, for contributions to color accuracy in Xerox production printing devices, Nov 29<sup>th</sup>, 2010 Patent Award Celebration, Xerox Corporation
- Oct 2009: Invited to participate at the “International Workshop on the Impact of Control”, Sponsored by Institute for Advanced Study (IAS) and IEEE CSS, October 18-20, 2009, Berchtesgaden, Germany
- Mar 2007: Finalist for “Engineer of the Year Award” by Rochester Engineering Society. Award at the 45<sup>th</sup> annual award ceremony on March 24<sup>th</sup> 2006 (<http://www.roceng.org/>)
- 2006: IEEE Control System Technology Award (Citation reads: "For his outstanding contributions in applying control systems technology to Particle Accelerators and Digital Printing Systems" (<http://www.ieeecss.org/awards/csta.html>))
- 2006: R&D 100 Award: Recognition as one of the 100 most technologically significant new products of the year by R&D Magazine
- 2006: "AMA Sensor Award for Innovation 2006" (finalist)
- 2003, 2007: Received “2007 Service Excellence Award” and “2003 Past Chairman Award”, India Community Center of Rochester
- Sept 1996: Invitee for Second Annual Symposium on Frontiers of Engineering, National Academy of Engineering
- 1996, 95, 94, 04: Received THREE Special Recognition Awards and ONE Excellence in Science and Technology Award, Wilson Center for Research & Technology, Xerox Corporation
- 1982-1985: Recipient of Overseas Research Award by the Committee of the Vice Chancellors and Principals, United Kingdom; Recipient of University Research Studentship Award, University of Bath, Bath, United Kingdom
- 1981: Awarded Second Rank by the University of Mysore (Top 1%) for Bachelor's degree in Engineering

**Professional Consulting, Teaching & Thesis Supervising:**

- 1994–Current: Adjunct Professor for Department of Biomedical Engineering, Department of Computer Engineering, and Adjunct Professor for Department of Electrical Engineering, Rochester Institute of Technology; Courses taught: Dynamics and Control of Biomedical Systems (2 times), State Space Control, Modern Nonlinear

- systems, Digital Control System (4 times), Linear Systems (2 times), Phase-locked loop systems (3 times), Matrix Methods in EE (6 times), Stable Adaptive Controls (2 times), Electronics Etc
- 2010 – 2015: Research Consultant, MKS Instruments, Rochester, NY
- 2007 – Current: Member of Industry Advisory Board, ECE, Binghamton University, Binghamton, NY
- 2014 – 2018: Member of Industry Advisory Board, Biomedical Engineering Department, Rochester Institute of Technology, Rochester, NY
- 1997 – 1999: RIT Master’s Thesis Advisor for three graduate students; Online System Identification using an Adaptive Algorithm to Control Color Drift in a Marking Device, Gamut Mapping with Ray-based Control Model, Automated Spot Color
- 1990 – 1994: Adjunct Professor for Department of Electrical Engineering, University of Texas at Arlington, Tx; Courses taught: Adaptive systems, Phase-locked loop systems, Electronics
- 1991 – 1993: PhD Co-Supervisor for Dr. Chiman Kwan with Prof. K.S. Yeung of University of Texas at Arlington, Tx

**Professional & Community Service beyond IEEE:**

- Jul 2012/14/15: Review panelist for National Science Foundation, Smart and Connected Health panel, Arlington, Virginia (3 times)
- Jul 2014: Panelist for NSF, Scalable Nanomanufacturing panel, Arlington, Virginia
- April 2012-17: Invited Reviewer for Engineering Research Center “NSF NERC for Nanomanufacturing Systems for Mobile Computing and Energy Technologies (NASCENT)” – Site Visit, Austin, Texas (6 times)
- Feb 23-24 2004: Review panelist for National Science Foundation, Dynamic Systems and Control panel, Arlington, Virginia
- Jan 2000 – 2003: Chairman, & Board of Trustees, India Community Center of Rochester
- Sept 23-24 1999: Review panelist for National Science Foundation Small Business Innovative Research (SBIR) proposals, Arlington, Virginia

**External Research Activities:**

- Oct 15 – Sept 19: Principal Investigator, Cyber-Attack Detection and Accommodation for Energy Delivery System, Department of Energy, Office of Electricity & Reliability, NETL, Morgantown, West Virginia
- Aug 14 – July 19: Co-Principal Investigator, Unobtrusive and Affordable Blood Pressure Monitoring Via Pulse Transit Time, National Institute of Health/National Institute of Biomedical Imaging and Bioengineering, Research Award, Bethesda, Maryland
- Apr 14 – Aug 15: Industry Principal Investigator, Non-contact Video-based Detector of cardiac arrhythmias: A proof-of-concept study, University of Rochester Medical Center, Rochester, NY
- Jun 12 – May 13: Industry Principal Investigator, Atrial Fibrillation and Non-Contact Detection and Monitoring, University of Rochester Medical Center, Rochester, NY
- Aug 11- Dec14: Principal Investigator, Blood content modeling, Xerox Technology Incubation Network, Manipal University, Manipal, India
- Sept 10-Aug 12: Co-Principal Investigator, Extensible Linear Distributed Controllers for Large Multi-Input-Multi-Output Systems with Applications to Control of Networked Printers, National Science Foundation, EAGER grant
- Dec 10- May11: Principal Investigator, Digital Triage, Xerox Technology Incubation Network, Phase I grant, Rochester Institute of Technology, Rochester, NY
- Sept 10-Aug 11: Co-Principal Investigator, Object and Image Segmentation of Thermal and Multispectral/Hyperspectral Images, New York State - Center for Advanced Technology grant, Rochester Institute of Technology, Rochester, NY
- Sept 09-Aug 10: Co-Principal Investigator, An Automatic Smart Image Segmentation and Rendering, New York State - Center for Advanced Technology grant, Rochester Institute of Technology, Rochester, NY
- Sept 08-Aug 09: Co-Principal Investigator, Image Indexed Rendering, New York State - Center for Advanced Technology grant, Rochester Institute of Technology, Rochester, NY
- Jan 05-Dec 10: Industry Liaison Officer, Standardized Architecture and Abstractions for Printing, Xerox Foundation Grant with University of Illinois, Urbana-Champaign; “Xerox Faculty Awards” at University of Illinois, Urbana-Champaign
- Sept 07-Aug 08: Co-Principal Investigator, Data Dimensionality Reduction using Nonlinear Principal Component Analysis (PCA) with Applications to Imaging and Control, New York State - Center for Advanced Technology grant, Rochester Institute of Technology, Rochester, NY
- Sept 06-Aug 07: Co-Principal Investigator, Adaptive Multiple-Input-Multiple Output (MIMO) Model Based Predictive Control and its Applications to Xerography, New York State - Center for Advanced Technology grant, Rochester Institute of Technology, Rochester, NY
- Sept 05-Aug 06: Co-Principal Investigator, Model-Based Predictive Control and its Application to Xerography, New York State - Center for Advanced Technology grant, Rochester Institute of Technology, Rochester, NY
- Sept 04-Aug 05: Co-Principal Investigator, Development of a Drift Model of a Digital Color Printer for Optimizing 1-D, 2-D and 3-D Inverse Maps Over Time, New York State - Center for Advanced Technology grant, Rochester Institute of Technology, Rochester, NY

- Sept 03-Aug 04: Co-Principal Investigator, 'Inline profile generation using reduced measurements based on end-to-end deltaE optimization', New York State - Center for Advanced Technology grant, Rochester Institute of Technology, Rochester, NY
- Sept 02-Aug 03: Co-Principal Investigator, 'Fixed-Point Implementation of Recursive Least Square Algorithm', New York State - Center for Advanced Technology grant, Rochester Institute of Technology, Rochester, NY
- Sept 01-Aug 02: Co-Principal Investigator, 'Benchmarking of Inverse Mapping Algorithms', New York State - Center for Advanced Technology grant, Rochester Institute of Technology, Rochester, NY
- Sept 00-Aug 01: Co-Principal Investigator, 'Generalized SLI Design to Vector Valued Multidimensional Color Functions', New York State - Center for Advanced Technology grant, Rochester Institute of Technology, Rochester, NY
- Sept 96-Sept 99: Co-Principal Investigator, 'Modeling, Sensing and Algorithm Design for Color Xerographic Process Control', GOALI 96, National Science Foundation, University of Michigan, Michigan.
- Mar 93-April 94: Co-Principal Investigator, 'Application of Time-Domain State-Space Techniques to the Design of Beam Feedback Loops', Texas National Research Laboratory Commission, Dallas, Texas

## PUBLICATIONS

### Controls for accelerator systems (US Patents, Papers)

#### Journals & books (Refereed)

1. W. Yan, L.K. Mestha, M. Abbaszadeh, "Attack Detection for Energy Cyber Physical Systems Security", The Special Issue on Energy Cyber Physical Systems, Journal of Applied Energy By Elsevier, Submitted, Sept 2018
2. O.M. Anubi, L.K. Mestha, H. Achanta, "Robust Resilient Signal Reconstruction under Adversarial Attacks", arXiv preprint arXiv:1807.08004, July 2018, <https://arxiv.org/abs/1807.08004>
3. A.P. Prathosh, P. Praveena, L.K. Mestha, S. Bharadwaj, "Estimation of respiratory pattern from video using selective ensemble aggregation", IEEE Transactions on Signal Processing, Nov 2016
4. Seetharam Shiva Prasad, L Ramachandra, Vijay Kumar, Aniket Dave, Lalit K Mestha, Krithika Venkatarmani, "Evaluation of efficacy of thermographic breast imaging in breast cancer: A pilot study", Journal 'Breast Disease', Oct 2016
5. R. Mukkamala, O.T. Inan, Jin-Oh Hahn, L.K. Mestha, S. Kyal, "Towards Ubiquitous Blood Pressure Monitoring via Pulse Transit Time: Theory and Practice", IEEE Transactions on Biomedical Engineering, Aug 2015
6. S. Zhu, S. Dianat, L.K. Mestha, "End-to-end system of license plate localization and recognition", Journal of Electronic Imaging, Vol 24, Issue 2, March 2015
7. Jean-Philippe Couderc, Survi Kyal, Lalit K. Mestha, Beilei Xu, Derick R. Peterson, Xiaojuan Xia, Burr Hall, "Detection of Atrial Fibrillation Using Contactless Facial Video Monitoring", Heart Rhythm, Vol 12, Issue 1, Pages 195-201, Jan 2015
8. T. Tanaka, C. Langbort, L.K. Mestha and A.E. Gil, "Blind Source Separation by Nuclear Norm Minimization and Local Recoverability Analysis", IEEE Signal Processing Letters, Vol 20, Issue 8, Aug 2013
9. G.R. Tsouri, S. Kyal, S.A. Dianat, and L.K. Mestha, "Constrained-ICA Approach to Non-Obtrusive Cardiac Pulse Measurements", Journal of Biomedical Optics, 17(7), 077011, July 2012
10. L.K. Mestha, contributed article in "The Impact of Control Technology: Overview, Success Stories, and Research Challenges", Book released for publication in 2011, <http://ieeecs.org/main/loCT-report>
11. L.K. Mestha and A.E. Gil, Color Control – An advanced feedback system, Book Chapter published in "The Control Handbook, Second Edition (three volume set)", appeared in volume titled "Control System Applications", by CRC Press, Taylor and Francis Group, ISBN 978-1-4200-7366-9, December 2010
12. L.K. Mestha and S.A. Dianat, Control of Color Imaging Systems, Published by: CRC Press, Taylor and Francis Group, ISBN 978-0-8493-3746-8, May 2009
13. L.K. Mestha, University-Industry Interactions, IEEE Control Systems Magazine, Aug 2005
14. E. Saber, S. Dianat, L.K. Mestha, P.Y. Li, DSP Utilization in Digital Color Printing, IEEE Signal Processing Magazine, July 2005
15. D.E. Viassolo, S. Dianat, L.K. Mestha, Y.R. Wang, Practical algorithm for the inversion of an experimental input-output color map for color correction, SPIE Journal of Optical Engineering, March 2003
16. L.K. Mestha, Book Chapter in The SSC Low Energy Booster, H. Ulrich Wienands Editor, IEEE Press, New York, NY, pp. 192-206, 1997
17. L.K. Mestha, C.M. Kwan and K.S. Yeung, Interactions of Beam Control Loops With High Q Local RF Loops Under Heavy Beam Loading, Particle Accelerators, Vol. 47, no.1, 1994
18. L.K. Mestha, C.M. Kwan and K.S. Yeung, Fixed-Structure Suboptimal Feedback Control for Particle Accelerators, Particle Accelerators, Vol. 47, no. 2, 1994
19. L.K. Mestha, C.M. Kwan and K.S. Yeung, Instabilities in Beam Control Feedback Loops in Proton Synchrotrons, Particle Accelerators, Vol. 42, No. 1, pp.1-43, 1993
20. L.K. Mestha, P.D. Evans, Analysis of on-state losses in PWM inverters, IEE Proceedings, Vol, 136, Pt. B., No. 4, July 1989
21. P.D. Evans, L.K. Mestha, Analysis of conventional snubber circuits for PWM inverters using bipolar transistors, IEE proceedings, Vol. 135, Pt. B. No. 4, July 1988

#### Conference (Refereed)

1. W Yan, L Mestha, J John, D Holzhauer, M. McKinley, M Abbaszadeh, "Cyberattack Detection for Cyber Physical Systems Security – A Preliminary Study", Annual Conference of the Prognostics and Health Management Society, Sept 2018
2. M. Abbaszadeh, L.K. Mestha, "Forecasting and Early Warning for Adversarial Targeting in Industrial Control Systems", Accepted for publication in Proceedings of IEEE Conference on Decision and Control, Dec 2018
3. L.K. Mestha, A.M. Olugbenga, M. Abbaszadeh, "Cyberattack Detection and Accommodation Algorithm for Energy Delivery Systems", Accepted for publication in Proceedings of IEEE Conference on Control Technology and Applications, Aug 2017
4. D. Hartman, L.K. Mestha, "A Deep Learning Framework for Model Reduction of Dynamical Systems", Accepted for publication in Proceedings of IEEE Conference on Control Technology and Applications, Aug 2017

5. B. Xu, H. Madhu, L.K. Mestha, "A study of the effect of subject motion to pulse rate estimation", IEEE 38th Annual International Conference of the Engineering in Medicine and Biology Society, Orlando, Florida, Aug 16 2016
6. B. Xu, H. Madhu, R.S. Kulkarni, L.K. Mestha, "Evaluating and Improving the Robustness of a Video-Based PR/RR Monitoring System for a Clinical Environment", IEEE-NIH 2016 Special Topics Conference on Healthcare Innovations and Point-of-Care Technologies, Cancun, Mexico, Nov 9 2016
7. L.F. Polania, L.K. Mestha, D.T. Huang, J.P. Couderc, "Method for classifying cardiac arrhythmias using photoplethysmography", Conf Proc IEEE Eng Med Biol Soc, 2015
8. K. Venkataramani, L.K. Mestha, G. Manjunath, S. Sharma, H. Madhu, A.K. Parthasarathy, "Semi-automated Breast Cancer Tumor Detection with Thermographic Video Imaging", Published in the proceedings of The Quantitative Infrared Thermography (QIRT)-Asia Conference, July 6-10 2015
9. L.F. Polania, L.K. Mestha, K. Venkataramani, L. Ramachandra, S.S. Prasad, V. Kumar, "Method for classifying cancerous and normal regions in breast thermography for small size tumors", Published in the proceedings of The Quantitative Infrared Thermography (QIRT)-Asia Conference, July 6-10 2015
10. K. Venkataramani, L.K. Mestha, L. Ramachandra, S.S. Prasad, V. Kumar, "Semi-automated Breast Cancer Tumor Detection with Thermographic Video Imaging", Accepted, 37<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Milan, Italy, Aug 25-29 2015
11. L.F. Polania, L.K. Mestha, D.T. Huang, J.P. Couderc, "Method for classifying cardiac arrhythmias using photoplethysmography", Published in the 37<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Milan, Italy, Aug 25-29 2015
12. Jean-Philippe Couderc, Survi Kyal, Lalit K. Mestha, Beilei Xu, Derick R. Peterson, Xiaojuan Xia, Burr Hall, "Pulse Harmonic Strength of Facial Video Signal for the Detection of Atrial Fibrillation", Computing in Cardiology, 41<sup>st</sup> Annual Conference, Cambridge, Massachusetts, September 7-10 2014
13. L.K. Mestha, S. Kyal, B. Xu, L. Lewis, V. Kumar, "Towards Continuous Monitoring of Pulse Rate in Neonatal Intensive Care Unit with a Webcam", Proceedings of 36th Annual Int. Conf. of the IEEE Engineering in Medicine and Biology Society, Chicago, August 26-30 2014
14. L.K. Mestha, B. Xu, S. Kyal, P.R. Austin, X. Wen, M. Kehoe, P. Maeda, R. Kulkarni, "VPG & PPG Based System for Extracting Pulse Transit Time", Proceedings of 36th Annual Int. Conf. of the IEEE Engineering in Medicine and Biology Society, Chicago, August 26-30 2014
15. H. Fang, S. Dianat, L.K. Mestha, A. Radomski, "Developing a Linear Model of RF Power Generators with Pseudo Random Binary Signals (PRBS)", Proceedings of International Conference on Control, Automation and Systems, Kintex, Korea, Oct 22-25 2014
16. E.A. Bernal, L.K. Mestha, E. Shilla, "Non-Contact Monitoring of Respiratory Function via Depth Sensing", IEEE Engineering in Medicine and Biology Society "2014 International Conference on Biomedical and Health Informatics", Valencia (Spain), 1-4, June 2014
17. S. Kyal, L.K. Mestha, B. Xu, J.P. Couderc, "A Method to Detect Cardiac Arrhythmias with a Webcam", IEEE Signal Processing in Medicine and Biology Symposium (SPMB13), Polytechnic Institute of New York University, Brooklyn, NY 11201, Dec 7 2013
18. B. Xu, L.K. Mestha, and R.P. Loce, "Vascular Pattern Localization via Temporal Signature", Proceedings of 35<sup>th</sup> IEEE EMBS, July 3-7 2013, Osaka, Japan
19. S. Krisna, K. Chatti, L.K. Mestha and R.R. Galigekere, "Algorithms for Automatic & Non-contact Assessment of the Cardiovascular System in Zebrafish Embryos", IEEE EMBS Special Topic Conference on Point-of-Care Healthcare Technologies, Bangalore, India January 16-18 2013
20. L.K. Mestha, A.E. Gil, and P.K. Gurram, "Adaptive Gamut Mapping Retrieval for Imaging Devices", 3<sup>rd</sup> XIG Research Conference, April, 27-29 2010
21. J.E. Elliot, P. Paul, and L.K. Mestha, "Xerographic Dmax Controls", 3<sup>rd</sup> XIG Research Conference, April, 27-29 2010
22. E. Dalal, W. Wu, L.K. Mestha, A.E. Gil, P. Crean, H. Madhu, G. Pennington, O. Vargas, T. Wade, C. Blair, "Minimizing spectrophotometer impact on Spot Color Accuracy", 3<sup>rd</sup> XIG Research Conference, April, 27-29 2010
23. S. Zhu, S.A. Dianat, and L.K. Mestha, "Point-and-click region based method for color editing and control for digital color printers", 2010 IEEE Int. Conf. on Image Processing, September 26-29 2010
24. S.A. Dianat, B. Brewington, L.K. Mestha, "A multidimensional smooth curve fitting algorithm with applications to digital color printers", 2009 IEEE International Conference on Image Processing (ICIP2009), Cairo, Egypt, Nov 7-10 2009
25. L.K. Mestha, A.E. Gil, Y.R. Wang, M.S. Maltz and R. Bala, "Recent developments towards control-based color profiling technology", IS&T's 25<sup>th</sup> International Conference on Digital Printing Technologies (NIP25), Louisville, KY, Sept 20-24 2009
26. S.A. Dianat, and L.K. Mestha, "Model Predictive Control Methods for Toner Concentration Control System", IS&T's 25<sup>th</sup> International Conference on Digital Printing Technologies (NIP25), Louisville, KY, Sept 20-24 2009
27. Gary Skinner, L.K. Mestha, Paul Bonino, Stuart Schweid, "Thermo-chromaticity & Spectral Compensation methods for inline embedded spectrophotometers", Proceedings of 2nd Annual Xerox Research & Technology Conference, Webster, NY, May 13-15 2008
28. Alvaro Gil, L.K. Mestha, Matthew Hoffmann, "Spot color rendition with Automated Spot Color Editor Technology", Proceedings of 2nd Annual Xerox Research & Technology Conference, Webster, NY, May 13-15 2008
29. L.K. Mestha, G. Skinner and M. Maltz, "Hyper-extended gamut for extending the color measurement gamut of inline spectrophotometers", Proceedings of 2nd Annual Xerox Research & Technology Conference, Webster, NY, May 13-15 2008
30. Alvaro Gil, L.K. Mestha, Marty Maltz, "Merit based Gamut Mapping for Rendering Chromatic Colors", Proceedings of 2nd Annual Xerox Research & Technology Conference, Webster, NY, May 13-15 2008
31. Alvaro Gil, L.K. Mestha, "Cooperative Neighbor Driven Profiling for High Quality Color Printing", Proceedings of 2nd Annual Xerox Research & Technology Conference, Webster, NY, May 13-15 2008
32. H. Hindi, J. Liu, L.K. Mestha, "A Poisson partial differential equation (PDE) approach to function approximation and learning for color modeling", Proceedings of 2nd Annual Xerox Research & Technology Conference, Webster, NY, May 13-15 2008
33. L.K. Mestha, Z. Fan, R. Bala, A. Gil, Y.R. Wang, M. Maltz, S. Schweid, "Efficient printer color management techniques for multiple media and halftones based on principal components analysis", Proceedings of 2nd Annual Xerox Research & Technology Conference, Webster, NY, May 13-15 2008
34. L.K. Mestha, Marty Maltz, Raja Bala, Alvaro Gil, Yao Rong Wang, Stuart Schweid, Matthew Hoffmann, Debbie Wickham, Richard Howe, "Advances towards high quality color profiling, Proceedings of 2nd Annual Xerox Research & Technology Conference", Webster, NY, May 13-15 2008
35. P.M. Gulvin, P. Lin, L.K. Mestha, Y.R. Wang, "MEMS Fabry-Perot Hyperspectral Sensor", Proceedings of the Xerox Innovation Group Conference, Rochester, New York, October 10-12 2006

36. L.K. Mestha, FF. Hubble III, T.L. Love, G Skinner, K.J. Mihalyov, D.A. Robbins, and D.M. Diehl, "Low Cost LED Based Spectrophotometer", ICIS '06, International Congress of Imaging Science, Rochester, New York, May 7-12 2006
37. S. Dianat, L.K. Mestha, A. Mathew, "Dynamic Optimization Algorithm for Generating Inverse Printer Maps with Reduced Measurements", IEEE Int. Conference on Acoustics, Speech, and Signal Processing, May 14-19, 2006, Toulouse, France
38. L.K. Mestha, E.R. Viturro, Y.R. Wang, S.A. Dianat, "Gray Balance Control Loop for Digital Color Printing Systems", IS&T's 21<sup>st</sup> International Conference on Digital Printing Technologies (NIP21), Baltimore, MD, Sept 18-22 2005
39. P.K. Gurram, S.A. Dianat, L.K. Mestha, R. Bala, "Comparison of 1-D, 2-D and 3-D Printer Calibration Algorithms with Printer Drift", IS&T's 21<sup>st</sup> International Conference on Digital Printing Technologies (NIP21), Baltimore, MD, Sept 18-22 2005
40. L.K. Mestha, "Control Advances in Production Printing and Publishing Systems", Proceedings of the International Conference on Digital Printing Technologies (NIP20), The Society for Imaging Science and Technology, Oct 31– Nov 5 2004
41. L.K. Mestha, M. Enzien, C.B. Duke, D. Platteter, S.B. Bolte, J. Lanphere, D. Viassolo, K. Mihalyov, R. Scarlata, L. Purvis, B. Mara, D. Thompson, M. Martin, D. Pavlovic, M. Adiletta, M. Webster, M. Gwaltney, "Control elements in production printing and publishing systems", Proceedings of IEEE Controls and Decision Conference, Dec 2003
42. L.K. Mestha, Y.R. Wang, M.A. Scheuer, T.E. Thieret, "A Multilevel Modular Control Architecture for Image Reproduction", Proceedings of IEEE Conference on Controls Applications, Sept 1998
43. L.K. Mestha, Y.R. Wang, S. Dianat, E. Jackson, T. Thieret, P.P. Khargonekar, D.E. Koditschek, "Toward a Control Oriented Model of Xerographic Marking Engines", Proceedings of IEEE Controls and Decision Conference, Dec 1996
44. Y.R. Wang and L.K. Mestha, "Modified Kalman Filter for Reducing the Effect of Noise in Toner Concentration Control", Proceedings of IEEE Controls and Decision Conference, Dec 1996
45. L.K. Mestha, "Control Engineering for Color Printing", Proceedings of IEEE Conference on Controls Applications, Sept 1996
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31. M. Abbaszadeh, C.J. Bushey, L.K. Mestha, D.F. Holzhuier, "Cluster-based decision boundaries for threat detection in industrial asset control system", June 2016
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35. W. Yan, L.K. Mestha, "Multi-modal multi-disciplinary feature discovery to detect cyber threats in electric power grid", April 2016
36. L.K. Mestha, D.F. Holzhuier, J.V. John, J. Thatcher, "Domain level threat detection for industrial asset control system", April 2016
37. K. Yasaman, L.K. Mestha, A.E. Gil, R. Palghat, "Estimating vectors of skin parameters from a video of exposed skin", March 2016
38. P.A. Prasad, L.K. Mestha, H.J. Madhu, "Estimating Respiratory Phase from a video of a subject", Dec 2015
39. L.K. Mestha, X. Wen, A. Pattekar, F. Linn, "Representing a subject's state of mind using a psychophysiological model", Aug 2015
40. L.K. Mestha, S. Bharadwaj, P.A. Prasad, T.D. Bengali, H.J. Madhu, S. Kuppuswamy, "Generating a respiration gating signal from a video", Aug 2015
41. P.A. Prasad, L.K. Mestha, H.J. Madhu, "Determining a respiratory pattern from a video of a subject", June 2015
42. L. Polania, L.K. Mestha, "Classifying a time-series signal as ventricular premature contraction", March 2015
43. L.K. Mestha, L. Polania, "Method for assessing patient risk for ventricular tachycardia", March 2015
44. L. Polania, L.K. Mestha, "Classifying a time-series signal as ventricular premature contraction and ventricular tachycardia", March 2015
45. L.K. Mestha, M. Hoover, S. Kyal, "Selecting a region of interest for extracting physiological parameters from a video of a subject", Jan 2015
46. L.K. Mestha, N. Piratla, X. Wen, "Wearable device for stress assessment and management and method of its use", Dec 2014
47. L.K. Mestha, E. Shilla, EA. Bernal, G. Pennington, H. Madhu, "Breathing pattern identification for respiratory function assessment", Nov 2014
48. L.K. Mestha, K. Venkataramani, "System and method for detecting cancerous tissue from a thermal image", Nov 2014
49. L.K. Mestha, B. Xu, S. Kyal, "System and method for determining respiration rate from a video", Oct 2014

50. S. Kyal, L.K. Mestha, B. Xu, "System and method for detecting an arrhythmic cardiac event from a cardiac signal", Oct 2014
51. B. Xu, S. Kyal, L.K. Mestha, "Identifying a type of cardiac event from a cardiac signal segment", Sept 2014
52. L.K. Mestha, S. Kyal, "Determining arterial pulse wave transit time from VPG and ECG/EKG signals", May 2014
53. R. Bala, L.K. Mestha, B. Xu, E.A. Bernal, "System and method for embedding a physiological signal into a video", April 2014
54. L.K. Mestha, B. Xu, P.R. Austin, "Determining cardiac arrhythmia from a video of a subject being monitored for cardiac function", March 2014
55. S. Kyal, L.K. Mestha, "Cardiac pulse rate estimation from source video data", Mar 2014
56. L.K. Mestha, S. Kyal, "System and method for determining arterial pulse wave transit time", Mar 2014
57. E.A. Bernal, E. Shilla, H. Madhu, L.K. Mestha, R.P. Loce, "Non-contact monitoring of spatio-temporal respiratory mechanics via depth sensing", Feb 2014
58. L.K. Mestha, B. Xu, "Assessing peripheral vascular disease from a thermal image", Jan 2014
59. V. Rajan, O. Deshmukh, L.K. Mestha, S. Kyal, B. Xu, N. Piratla, "System and method for remote determination of acute respiratory infection", Jan 2014
60. E. Bernal, W. Wu, L.K. Mestha, "Depth map reconstruction in an adaptive depth sensing system utilizing active stereo imaging", Dec 2013
61. E. Bernal, W. Wu, L.K. Mestha, "An adaptive depth sensing system for depth map reconstruction via passive stereo imaging", Dec 2013
62. R. Bala, B. Xu, L.K. Mestha, G. Pennington, S. Schweid, "Improving a physiological measurement obtained from video images captured by a camera of a handheld device", Nov 2013
63. L.K. Mestha, E. Shilla, E.A. Bernal, G. Pennington, H. Madhu, "Breathing pattern identification for respiratory function assessment", Oct 2013
64. L.K. Mestha, E. Shilla, E.A. Bernal, H. Madhu, "Generating a flow-volume loop for respiratory function assessment", Sept 2013
65. E.N. Dalal, W. Wu, L.K. Mestha, "System and method for performing a remote medical diagnosis", Aug 2013
66. B.P. Mandel, L.K. Mestha, P.Nystrom, "Method and apparatus for monitoring a subject for functional blood oxygen saturation", June 2013
67. L.K. Mestha, B.P. Mandel, P.Nystrom, "Method and apparatus for monitoring a subject for fractional blood oxygen saturation", June 2013
68. L.K. Mestha, R. Palghat, A.E. Gil, "Control-based inversion for estimating a biological parameter vector for a biophysics model from diffused reflectance data", Jan 2013
69. E. Caruthers, G. Brewington, L.K. Mestha, "Method for coating non-uniform substrates incorporating by reference", Oct 2012
70. L.K. Mestha, Y.R. Wang, "Standardized multi-intent color control architecture", Oct 2012
71. E.A. Bernal, L.K. Mestha, B. Xu, "Minute ventilation estimation based on chest volume", June 2012
72. G.C. Cardoso, L.K. Mestha, M.S. Cantelli, E.A. Bernal, "Video-based determination of vehicle component failure due to overheating", March 2012
73. L.K. Mestha, and B. Xu, "System and method for non-contact heart rate sensing", Sept 2011
74. E.N. Dalal, L.K. Mestha, W. Wu, "Compensating for spectral differences between two spectrophotometers for accurate color management", May 2011
75. Y.R. Wang, Z. Fan, L.K. Mestha, "Determining a total number of people in an IR image obtained via an IR image", Feb 2011
76. L.K. Mestha and W. Dong, "Automatic learning control system for improving process color and stability", June 2009
77. P.J. Donaldson, L.K. Mestha, T. Love, Ta-Chen Hsu, "Off-Gray balance calibration for extended color gamut", May 2009
78. L.K. Mestha, P.K. Gurrum, A.E. Gil, P. Ramesh, "Method, apparatus and system for matching color gamuts of multiple image transfer devices", Feb 2009
79. L.K. Mestha, A.E. Gil, "A method and algorithm to produce consistent spot colors automatically for multi-color (six or higher) print engines with ink limits", June 2008
80. L.K. Mestha, M. Hoffmann, "An adaptive tuning of memory colors for preference matching in single/multiple print engines", June 2008
81. A.E. Gil, L.K. Mestha, "Improve color appearance by cooperatively controlling multi-machine actuators", June 2008
82. L.K. Mestha, P.S. Fisher, "A web enabled color management service system and method", May 2008
83. L.K. Mestha, A.E. Gil, M. Hoffmann, "Method for classifying gamuts and method for determining spot colors are located inside or outside the gamut", Aug 2007
84. Y.R. Wang, L.K. Mestha, Z. Fan, A.E. Gil, "Method of updating profile lookup tables using augmented principal component analysis", July 2007
85. L.K. Mestha, P.S. Fisher, A.E. Gil, T. Love, "A printing job control system and method", July 2007
86. Y.R. Wang, L.K. Mestha, Z. Fan, A.E. Gil, "Method of infield profile lookup table updating for a fixed multi-UCR/GCR strategy using augmented principal component analysis", June 2007
87. P. Lin, L.K. Mestha, P. Gulvin, Y.R. Wang, "Fabry-perot tunable filter", Mar 2006
88. E.R. Viturro, L.K. Mestha, "Online gray balance with dynamic highlight and shadow controls", March 2005
89. L.K. Mestha, Tonya Love, Ta-Chen Hsu, Pat Donaldson, "Systems and methods for printing images outside a normal color gamut in image forming devices", March 2005

#### **NON-Technical Publications:**

1. L.K. Mestha, "Brink of bankruptcy to new age of prosperity", article published in the newsletter, India Community Center of Rochester, Oct-Dec 2003
2. Editor of quarterly newsletters, India Community Center of Rochester, 2003

#### **External/Internal Innovation Articles:**

- “Selfies Against Hypertension This Smartphone App Could Measure Blood Pressure Just By Scanning Your Face and Hand”, <https://www.ge.com/reports/ai-hypertension-smartphone-app-measure-blood-pressure-just-scanning-skin/> , Feb 27<sup>th</sup> 2018
- “GE Is Using Biomed Engineering To Strengthen Cybersecurity”, <https://www.fastcompany.com/3065066/most-innovative-companies/ge-is-using-biomed-engineering-to-strengthen-cybersecurity> , Oct 29<sup>th</sup> 2016
- “These Scientists Are Hacking The Immune System To Fight to Hackers”, <http://www.gereports.com/these-scientists-hacked-the-immune-system-to-fight-cyberattacks/> , Sept 15<sup>th</sup> 2016
- “Healthcare goes wireless”, <http://www.washingtonpost.com/sf/brand-connect/wp/enterprise/cutting-the-cord-in-healthcare/>, Washington Post, Oct 2014
- “Face Time” for the Heart Diagnoses Cardiac Disease, <http://www.urmc.rochester.edu/news/story/index.cfm?id=4147>
- “Helping Find New Ways to Measure Blood Pressure”, Xerox Spotlight Article, August 2014
- “Xerox Patents Pave the Way for Innovative Services”, <http://finance.yahoo.com/news/xerox-patents-pave-way-innovative-153000418.html> , July 31<sup>st</sup> 2014
- “Xerox Image Research Impresses Cardiologists at Recent Conference”, <http://private.xrcw.xerox.com/About-XRCW/News/Xerox-Image-Research-Impresses-Cardiologists-at-Recent-Conference>, Published on Xerox Website, May 5<sup>th</sup> 2014
- “Xerox, Manipal to Develop Non-contact Diagnostics Solutions”, Deccan Chronicle, Feb 7<sup>th</sup> 2014
- “Xerox develops remote health sensing technology” <http://www.ciol.com/ciol/news/208462/xerox-develops-remote-health-sensing-technology>, The Economic Times/ DNA/ Express Healthcare/ CIOL/ EFY Times/ Infotech Lead/ Yahoo/ Silobreaker/ IT Voice/ Newsr, Feb 6<sup>th</sup> 2014
- XIG Spotlight article “XRCW Researchers Use Video Cameras to Detect Irregular Heartbeats”, Dec 13<sup>th</sup> 2013
- Xerox Fellow Uses Webcam to Monitor Vital Health Signs <http://www.indiawest.com/news/10923-xerox-fellow-uses-webcam-to-monitor-vital-health-signs.html>, IndiaWest, May 14<sup>th</sup> 2013
- Innovation Contactless Vital Sign Sensing, <http://mms.tveyes.com/PlaybackPortal.aspx?SavedEditID=dae8af36-4787-4c4b-9ab1-1744f3cedecd>, WUHF Fox News; Fox First at 10, April 8<sup>th</sup> 2013
- Xerox developing web cam technology to read vital signs, [http://rochesterhomepage.net/fulltext?nxd\\_id=382162](http://rochesterhomepage.net/fulltext?nxd_id=382162) , April 8<sup>th</sup> 2013
- Xerox develops webcam that can check your pulse, <http://triblive.com/business/headlines/3656658-74/technology-xerox-webcam#axzz2Pso7smKP> , April 7<sup>th</sup> 2013
- Remote monitoring: webcam will see you now, <http://www.economist.com/blogs/babbage/2013/03/remote-monitoring> , The Economist, March 26<sup>th</sup> 2013
- Matthew Daneman, From eureka to shelf: Area R&D driving companies’ futures, <http://www.democratandchronicle.com/apps/pbcs.dll/article?AID=2013303240011> , Democrat and Chronicle, March 23<sup>rd</sup> 2013
- You can monitor your vitals with webcam, <http://www.goerie.com/article/20130319/BUSINESS05/303199951/You-can-monitor-your-vitals-with-webcam> , Erie Times News, March 19<sup>th</sup> 2013.
- Knowledge of printer and copier creates innovation <http://www.wiwo.de/technologie/forschung/valley-talk-basis-fuer-ferndiagnose/7933106-2.html>, Wirtschafts Woche, Mar 18<sup>th</sup> 2013
- Suzette Norris, Could Kinect One Day Save Your Life? For Real? <http://realbusinessatxerox.blogs.xerox.com/2013/03/18/could-kinect-one-day-save-your-life-for-real/#.UUcp2hc4u8A?CMP=SMO-EXT> , Xerox Blogs, March 18<sup>th</sup> 2013
- 13WHAM News, Measure Your Blood Pressure With A WebCam? <http://www.13wham.com/news/local/story/Measure-Your-Blood-Pressure-With-A-WebCam/HzZXvwiF7kynCedOCGUFwQ.csp?autoplay=1> , March 14<sup>th</sup> 2013
- Kapa Lenkov, Xerox Developing Tech for Non-Contact Collection of Vital Signs, <http://www.medgadget.com/2013/03/xerox-developing-tech-for-non-contact-collection-of-patient-vitals.html>, medGadget, Mar 12<sup>th</sup> 2013
- Troy Wolverton, Monitoring your vitals with a webcam, [http://www.mercurynews.com/ci\\_22742589/wolverton-monitoring-your-vitals-webcam?IADID=Search-www.mercurynews.com-www.mercurynews.com](http://www.mercurynews.com/ci_22742589/wolverton-monitoring-your-vitals-webcam?IADID=Search-www.mercurynews.com-www.mercurynews.com) , Mercury News, Mar 11<sup>th</sup> 2013
- Xerox Innovation Day at Palo Alto Research Center, <http://www.health2news.com/2013/03/09/xerox-innovation-day-at-palo-alto-research-center/> , Health 2.0, March 9<sup>th</sup> 2013
- PARC Hard at Work to Solve Problems in Health Care, Batteries, Traffic, <http://www.eweek.com/cloud/slideshows/parc-hard-at-work-to-solve-problems-in-health-care-batteries-traffic/?kc=EWKLNNAV03112013STR1>, eWEEK, March 7<sup>th</sup> 2013
- Dean Takahashi, Researcher uses a Xbox 360’s Kinect game sensor to measure your breathing, <http://venturebeat.com/2013/03/07/researcher-uses-kinect-game-sensor-to-measure-your-breathing/> , VentureBeat, Mar 7<sup>th</sup> 2013
- “What’s next from the people who invented the PC?”, a CNET News, Neonatal ICU monitoring with video cameras, [http://news.cnet.com/8301-30966\\_3-57544841-262/whats-next-from-the-people-who-invented-the-pc/](http://news.cnet.com/8301-30966_3-57544841-262/whats-next-from-the-people-who-invented-the-pc/) , Nov 4<sup>th</sup> 2012
- “Xerox is Way Ahead of the Pack in Patents”, Interview article, Democrat and Chronicle, Nov 4<sup>th</sup> 2012
- XIG Internal News, “Innovation Plays a Key Role in Keeping Costs Down” <http://www.webboard.xerox.com/Insight/Press.cfm?release=841CB34E-0D04-4C79-ABA2-5B6E47E9856A&ID=CF8CB1AE-8FD8-4309-8B1D-FD86D164DC3A&SectionID=CF8CB1AE-8FD8-4309-8B1D-FD86D164DC3A&SID=68&QPID=CD3F965BBA68799B1735DFE252444234> , Oct 30<sup>th</sup> 2012.
- Democrat and Chronicle article, “Rochester can innovate with the best of them” <http://www.democratandchronicle.com/apps/pbcs.dll/article?AID=2012201160310>, Jan 16<sup>th</sup> 2012.
- XIG Spotlight article “CiPress CMYK to CMYK tables”, Oct 2011.
- XIG Spotlight article “Improved color with Xerox Match Assure”, Oct 2011.
- XIG Spotlight article “Industry benchmark ICC profiling technology with ink limit developed for Xerox® Color 800/1000 Presses”, Dec 2010.
- Article titled “Are you in there?” published in Tolltrans magazine (<http://www.traffictechtoday.com/>) using multi-band spectral imaging research initiated by LK Mestha, 2010
- Rochester Business Journal article: <http://www.rbj.net/article.asp?aID=185862>, Nov 30<sup>th</sup> 2010.
- L.K. Mestha, Interview article in IEEE Control System Magazine, November 2010
- XIG Spotlight article “NSF Early-concept Grant for Exploratory Research in Self-Design of Controllers”, Oct 2010
- XIG Spotlight article “Color Consistency and High Productivity are powerful benefits of the DocuColor 7002/8002”, Oct 2009
- XIG Spotlight article “Translational Control Research Award to Prof. Lino Guzzella”, Sept 2009
- XIG Employee Spotlight article “Control of Color Imaging Systems: Analysis and Design, Another XIG Author”, June 24<sup>th</sup> 2009
- XIG Spotlight article “Controlling the Gloss in Xerox Production Printers”, April 8<sup>th</sup> 2009
- XIG Spotlight article “Four XRCW Inventors Surpass 50-Patent Milestone”, Dec 3<sup>rd</sup> 2008

- XIG Spotlight article “Employee Spotlight - XIG Researcher Receives Local 2007 Service Excellence”, April 2007
- A Public Relations Article on the web & trade magazines: “Seeing the Light: New Xerox Spectrophotometer-based Control System Will Let Digital Printers Calibrate Themselves, Deliver Consistent Color”,  
<http://www.rsnews.com/index.cfm?fuseaction=ShowArticle&ArticleID=1937>, April 14th 2003
- 50th Patent milestone article  
([http://www.xerox.com/go/xrx/template/inv\\_rel\\_newsroom.jsp?ed\\_name=CAN\\_News\\_01\\_16\\_2008&app=Newsroom&view=newsrelease&format=article&Xcntry=CAN&Xlang=en\\_CA](http://www.xerox.com/go/xrx/template/inv_rel_newsroom.jsp?ed_name=CAN_News_01_16_2008&app=Newsroom&view=newsrelease&format=article&Xcntry=CAN&Xlang=en_CA))
- “Consistent digital color quality Xerox Corp.’s (Rochester, NY) Automated Color Quality Suite for the DocuColor 7000AP/8000AP ensures more consistent quality”, <http://americanprinter.com/mag/new-products-0109/>, Jan 1<sup>st</sup> 2009.
- “Xerox Researcher Receives IEEE’s 2006 Control Systems Technology Award for ‘Outstanding Contributions’”, Dec 12th 2006
- “Color sensor enables closed-loop control”, Laser Focus World,  
[http://www.laserfocusworld.com/articles/article\\_display.html?id=180694](http://www.laserfocusworld.com/articles/article_display.html?id=180694), June 1<sup>st</sup> 2003.
- R&D 100 publication, Democratic & Chronicle Articles and Inside innovation articles.

### **Xerox Product announcements with L.K. Mestha’s research:**

- >50% of patents+filings are currently used in Xerox products (DC7000AP, 8000AP, DC5000, DC7002/8002, iGen3-5, 220 Perfecting Press, iGen4 Exp, Xerox 800/1000 Press, DC8080, Xerox770, MatchAssure).
- 33 patents are licensed by Xerox Corporation & Conduent Inc.,
- 4 Spinoffs in operation, created from L.K. Mestha’s research

#### *Product announcements with L.K. Mestha’s research:*

- Xerox 770 with Inline Spectrophotometer and ACQS <http://www.xerox.com/digital-printing/printers/digital-press/xerox-770/enus.html>, 2011.
- Four US Patents related to tunable 2D MEMS spectral camera and Fabry-Perot spectrophotometer are to appear in SpectralSight products for use in variety of markets (e.g., defense, agriculture and security markets).
- Ten inline LED based spectrophotometer patents are licensed to The Apcon Group, Inc., Rochester, NY., for use in printing and non-printing & non-printing applications, 2010.
- Xerox DC8080 with inline spectrophotometer and ACQS <http://www.xerox.com/digital-printing/digital-printing-press/color-printing/docucolor-8080/enus.html>, 2010.
- Xerox DC7002/8002 with inline spectrophotometer and ACQS <http://www.xerox.com/digital-printing/digital-printing-press/color-printing/docucolor-7002-8002/enus.html>, 2010
- Xerox Color 800/1000 Presses, April 20<sup>th</sup> 2010; <http://www.xerox.com/digital-printing/printers/digital-press/xerox-800-1000/enus.html>
- Xerox iGen4 220 Perfecting Press product announcement; <http://www.xerox.com/digital-printing/digital-printing-press/color-printing/xerox-igen4-220-perfecting-press/enus.html>
- “New Software Suite Offers More Color Consistency and Productivity for Xerox DocuColor 7000AP / 8000AP Digital Presses”, Xerox Web Announcement, Dec 3<sup>rd</sup>, 2008; “Consistent digital color quality Xerox Corp.’s (Rochester, NY) Automated Color Quality Suite for the DocuColor 7000AP/8000AP ensures more consistent quality”, <http://americanprinter.com/mag/new-products-0109/>, Jan 1<sup>st</sup> 2009.
- “More Color Print Volume Means More Business, Profit for Xerox iGen3 Digital Production Press Customers”, New image quality and finishing enhancements provide greater color accuracy and productivity for flagship digital press, March 3<sup>rd</sup> 2008.
- “Xerox Unveils iGen4 at drupa 2008”, [http://www.xerox-exchange.com/products\\_and\\_solutions/117/new-xerox-color-press-delivers-breakthrough-image-quality](http://www.xerox-exchange.com/products_and_solutions/117/new-xerox-color-press-delivers-breakthrough-image-quality), May 29<sup>th</sup> 2008. “Xerox introduces iGen4”, <http://www.ameinfo.com/160116.html>, June 12<sup>th</sup> 2008.
- “New Xerox Presses Meet Increased Demand for High-Quality Digital Color”, <http://finance.yahoo.com/news/New-Xerox-Presses-Meet-bw-4208500237.html?x=0&.v=1>

### **Selected Invited Talks (Universities, National Laboratories & Companies):**

- Plenary speaker, “Industrial Immune Response to Cyberattacks – Is this even possible”, International Conference on Cloud and Autonomic Computing & International Conference on Self-Adaptive and Self-Organizing Systems, Sept 20<sup>th</sup> 2017
- “Digital Ghost”, US Navy Presentation, Houston, June 29<sup>th</sup> 2017
- “Cyber-Attack Detection & Accommodation (ADA) Algorithm for Energy Delivery Systems”, IEEE Conference on Control Technology and Applications, Aug 29<sup>th</sup> 2017
- “A Deep Learning Framework for Model Reduction of Dynamical Systems”, IEEE Conference on Control Technology and Applications, Aug 30<sup>th</sup> 2017
- “Industrial Immune Response”, Air Force Research Laboratory, Wright-Patterson Air Force Base, March 6<sup>th</sup> 2017
- Invited Speaker in various commercial & academic engagements since 2013:
  - Adobe Inc (July 14<sup>th</sup> 2015)
  - IMEC Technology Forum (June 24<sup>th</sup> 2015)
  - Johnson and Johnson engagements (June 19<sup>th</sup> 2015 & July 21<sup>st</sup> 2015)
  - Indian Institution of Science Seminar (Jan 14<sup>th</sup> 2015)
  - Skanray Technologies (Jan 13<sup>th</sup> 2015)
  - Procter and Gamble (Aug 2<sup>nd</sup> 2014)
  - Renault (Nov 17<sup>th</sup> 2014)
  - Ochsner Health System (Nov 4<sup>th</sup> 2015)
  - Parkland Hospital (Oct 13<sup>th</sup> 2014; July 25<sup>th</sup> 2014)
  - Army Research Lab (Sept 30<sup>th</sup> 2014)
  - Brigham Womens Hospital (Aug 6<sup>th</sup> 2014; May 12<sup>th</sup> 2014)
  - Apollo Hospitals (June 3<sup>rd</sup> 2014)
  - Indian Council for Medical Research (May 23<sup>rd</sup> 2014)
  - Unity Health (May 9<sup>th</sup> 2014)
  - SXSW Austin (March 2<sup>nd</sup> 2014)
  - Dignity Health (Jan 15<sup>th</sup> 2014; Sept 19<sup>th</sup> 2013)
  - Time Warner Cable (Jan 10<sup>th</sup> 2014; Nov 27<sup>th</sup> 2013)



- Microsoft Corporation (Dec 5<sup>th</sup> 2013)
- Queen's Hospital (Oct 15<sup>th</sup> 2013)
- University of Alberta (Sept 21<sup>st</sup> 2013)
- United Healthcare Group (Sept 13<sup>th</sup> 2013)
- Community Health (Aug 30<sup>th</sup> 2013)
- Nottingham Spirk (May 21<sup>st</sup> 2013)
- Invited Speaker, Imaging Science and Technology Rochester Chapter Meeting, Mar 13<sup>th</sup> 2013
- Invited Speaker, Rensselaer Polytechnic Institute, Troy, NY, Oct 5<sup>th</sup> 2012
- Invited Speaker, IEEE Chapter Meeting, Bangalore, Sept 24<sup>th</sup> 2012
- Indian Institute of Science, Bangalore, India, Invited Key Note speaker, "Control of Color Imaging Systems", Second International Conference on Advances in Control and Optimization Of Dynamical Systems ACDOS – 2012, <http://acods.org/speakers.html>, Feb 16<sup>th</sup>-18<sup>th</sup> 2012
- University of Rochester, Invited Speaker at the ECE Colloquium, Nov 9<sup>th</sup> 2011
- University of Illinois, Urbana-Champaign, Invited Speaker at Cyber-Physical Systems Symposium, October 20-21 2011
- University of Minnesota, Institute of Mathematical Analysis, presented an invited talk titled "Role of Signals and Systems Theory in Solutions and Services Business", Feb 25<sup>th</sup>, 2011
- "Control of Color Imaging Systems", plenary talk at Fourth CSL Student Conference, University of Illinois at Urbana-Champaign, Jan 22<sup>nd</sup>, 2009.
- "Control of Color Imaging Systems", Graduate seminar, Mechanical and Aerospace Engineering, University at Buffalo, March 5<sup>th</sup>, 2009.
- National University of Singapore
- "Control Advances in Production Printing and Publishing Systems", ISR Control and Dynamical System Lectures, University of Maryland, June 22<sup>nd</sup>, 2004.
- Binghamton University
- UT Arlington
- KEK, Japan
- CERN, Geneva
- Fermilab, Chicago