

PUBLICATIONS

Book Chapters:

1. Ayssam Elkady, Mohammed Mohammed, Eslam Gebriel, and Tarek Sobh, "*Intelligent Behavior Modelling and Control for Mobile Manipulators*", in "Pervasive Computing Innovations in Intelligent Multimedia and Applications" Series: Computer Communications and Networks published by Springer Verlag, 2009, ISBN: 978-1-84882-598-7.
2. Ayssam Elkady and Tarek Sobh, "*Web-Based Control of Mobile Manipulation Platforms via Sensor Fusion*" in *Web-based Control and Robotics Education*, in Series: Intelligent Systems, Control and Automation: Science and Engineering, Vol. 38. Editor: Tzafestas, Spyros G., 2009, ISBN: 978-90-481-2504-3.
3. Ayssam Elkady, Galal Elkobrosy, Sarwat Hanna and Tarek Sobh, "*Cartesian Parallel Manipulator Modeling, Control and Simulation*", in "Parallel Manipulators, Towards New Applications", April 2008, ISBN 978-3-902613-40-0
4. Sarosh Patel, Rajeev Sanyal and Tarek Sobh, "*RISCBOT: A WWW Enabled Mobile Surveillance Telerobotic System.*", in "New Developments in Robotics Research", 2006, Nova Publishers, ISBN: 1-59454-593-6.
5. Tarek Sobh, Kurt Coble and Bei Wang, "*Experimental Robot Musician*", in "Mobile Robotics – Towards New Applications", pages 545-558, Verlag publishers, 2007.
6. Elleithy, K. and Sobh, Tarek M., "*A Framework for Reverse Engineering VLSI Chips,*" in "Intelligent Systems and Signal Processing", Elsevier Science, 2003.
7. T. Sobh, R. Mihali, P. Batra, A. Singh, S. Pathak, T. Vitulskis, and A. Rosca, "*Case Studies in Web-Controlled Devices and Remote Manipulation: Laboratory-Based Distance Learning,* in "TSI Press Series on Robotic and Manufacturing Systems; Recent Results in Research, Development and Applications", Volume 12, 2002.
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12. Tarek M. Sobh and Abdelshakour A. Abuzneid, "*A Generic Simulator/Controller for Robot Manipulators,*" in Recent Advances in Mechatronics, Springer Verlag, pp. 575-589, 1999.
13. T. M. Sobh, J. Owen, and M. Dekhil, "*Techniques in the Reverse Engineering and Inspection of Machined Parts in Manufacturing Systems,*" in Computer Aided and Integrated Manufacturing Systems Techniques and Applications. Gordon and Breach International Series in Engineering, Technology and Applied Science, 1998.
14. T. M. Sobh, M. Dekhil, and A. A. Efros, "*Robust Sensing for Mobile Robot Control,*" in Robot Control, Book Chapter, Elsevier Science, 1997.
15. Tarek M. Sobh and Xiao Hong Zhu, "*Visualization of Tolerance for Manufacturing,*" 14th Triennial IFAC Congress, Book Chapter, Elsevier Science Publishers, 1999.
16. Tarek M. Sobh, Xiao Hong Zhu, and Beat Bruderlin, "*Analysis of Tolerance for Manufacturing Geometric Objects from Sensed Data,*" 14th Triennial IFAC Congress, Book Chapter, Elsevier Science Publishers, 1999.

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4. T. M. Sobh and T. Alameldin, "Compressed Transmission Mode: An Optimizing Decision Tool," in *Informatica*, The International Journal of Computing and Informatics, Volume 18, Number 3, November 1994.
5. T. M. Sobh, "Recovering 3-D Motion and Structure," in *Informatica*, The International Journal of Computing and Informatics, Volume 18, Number 4, December 1994.
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5. Kongar, E., Sobh, T., "Prioritizing Goals Of U.S. Universities To Ensure Sustainability", *American Society for Engineering Education (ASEE) 116th Annual Conference & Exposition*, Austin Convention Center, Austin, TX, June 2009
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38. T. Abhilasha and T. Sobh, "Parametric optimization of some critical operating system functions: An approach to the study of operating system design." In Proceedings of the *2002 American Society of Engineering Education (ASEE) Annual Conference*, Montreal, Canada, June 2001.
39. T. Sobh, R. Mihali, B. Ghimire, K. Vovk, G. Gosine, P. Batra, A. Singh, S. Pathak, T. Tomas and A. Rosca, "Case Studies in Web-Controlled Devices and Remote Manipulation," In Proceedings of the *International Workshop on Intelligent Data Acquisition and Advanced Computing Systems: Technology and Applications (IDAACS 2001)*, Foros, Crimea, Ukraine, July 2001.

40. T. Sobh, A. Abuzneid, B. Ghimire, K. Vovk, G. Gosine, P. Batra, A. Singh, S. Pathak, T. Tomas, A. Rosca and R. Mihali, "Case Studies in Web-based Robotics, Automation and Prototyping," In proceedings of the *AMSE Conference on Science, Technology and Entrepreneurship*, Washington, D.C., October 2000.
41. M. Grigorian and T. M. Sobh, "A Tool for Manipulator Design, Optimization, Simulation and Control," In proceedings of the *World Automation Congress (WAC 2000)*, Hawaii, May 2000.
42. R. Mihali M. Grigorian and T. M. Sobh, "Robotic Optimization for the Formula One Tire Changing Robot (F1-T.C.R.)," In proceedings of the *World Automation Congress (WAC 2000)*, Hawaii, May 2000.
43. T. M. Sobh and Kok-Meng Lee, "New Trends in Prototyping Design and Automation," In proceedings of the *IEEE International Conference on Robotics and Automation*, San Francisco, California, April 2000.
44. R. Mihali, M. Grigorian and T. M. Sobh, "A Case Study in Manipulator Optimization: The F-1-T.C.R.," In proceedings of the *AMSE Conference on Science, Technology and Entrepreneurship*, Washington, D.C., October 1999.
45. Tarek M. Sobh and Xiao Hong Zhu, "Visualization of Tolerance for Manufacturing," Accepted for presentation in the 14th *World Congress of the International Federation of Automatic Control (IFAC)*, Beijing, P. R. China, July 1999.
46. Tarek M. Sobh, Xiao Hong Zhu, and Beat Bruderlin, "Analysis of Tolerance for Manufacturing Geometric Objects from Sensed Data," Accepted for presentation in the 14th *World Congress of the International Federation of Automatic Control (IFAC)*, Beijing, P. R. China, July 1999.
47. R. Mihali and T. M. Sobh, "A Robotic System for Wheel Changing." In proceedings of the *IEEE 1999 American Control Conference (ACC 99)*, San Diego, California, June 1999.
48. W. Zhang and T. M. Sobh, "Obstacle Avoidance for Manipulators." Accepted for presentation in the *Third International Conference on Industrial Automation*, Montreal, Canada, June 1999.
49. T. M. Sobh, M. Dekhil, T. C. Henderson, and A. Sabbavarapu, "Designing and Prototyping a Three-DOF Robot," Accepted for presentation in the *Third International Conference on Industrial Automation*, Montreal, Canada, June 1999.
50. M. Elchanani and T. Sobh, "Remote Learning: A World-Wide-Web Operated Robot Arm." In proceedings of the *IEEE 2nd International Conference on Recent Advances in Mechatronics*, Istanbul, Turkey, May 1999.
51. Tarek M. Sobh and Abdelshakour A. Abuzneid, "A Generic Simulator/Controller for Robot Manipulators." In proceedings of the *IEEE 2nd International Conference on Recent Advances in Mechatronics*, Istanbul, Turkey, May 1999.
52. R. Mihali and T. M. Sobh, "The Formula One Tire Changing Robot (F1-T.C.R.)." In proceedings of the *IEEE International Conference on Robotics and Automation (IEEE ICRA 99)*, Detroit, Michigan, May 1999.
53. M. Elchanani and T. Sobh, "World-Wide-Web Operated Robot Arm." In proceedings of the *International Conference on Web-Based Modeling and Simulation*, San Diego, January 1998.
54. Tarek M. Sobh and Abdelshakour A. Abuzneid, "A PC-Based Simulator/Controller/Monitor Software for Manipulators and Electromechanical Systems." In proceedings of the *Seventh International Symposium on Robotics with Applications (ISORA '98)*, Alaska, May 1998.
55. T. M. Sobh, T. C. Henderson, and F. Zana, "Automated Tolerance Specification Across Sensing, Design and Manufacturing." In proceedings of the *Sixth International symposium on Manufacturing with Applications (ISOMA '98)*, Alaska, May 1998.
56. T. M. Sobh, M. Dekhil, and A. A. Efros, "Robust Sensing for Mobile Robot Control." In proceedings of the *IFAC Fifth Symposium on Robot Control (SYROCO '97)*, Nantes, France, September 1997.
57. T. M. Sobh, "Discrete Event and Hybrid Systems in Robotics and Automation," *IEEE International Conference on Robotics and Automation*, Workshop on Discrete Event and Hybrid Systems, Albuquerque, New Mexico, April 1997.
58. T. M. Sobh and A. Mahmood, "Recovering Structure Uncertainties from Noisy Sense Data," In proceedings of the *1997 Measurement Science Conference*, Pasadena, California, January 1997.

59. M. Dekhil and T. M. Sobh, "Embedded Tolerance Analysis for Sonar Sensors." In proceedings of the *1997 Measurement Science Conference*, Pasadena, California, January 1997.
60. M. Dekhil, T. M. Sobh, and A. A. Efros, "Commanding Sensors and Controlling Indoor Autonomous Mobile Robots," in proceedings of the *IEEE International Conference on Control Applications*, Dearborn, Michigan, September 1996.
61. T. M. Sobh, M. Dekhil, and A. A. Efros, "Sensing Under Uncertainty for Mobile Robots," Presented in the Second World Automation Congress, *First International Symposium on Intelligent Automation and Control (ISIAC 96)*, Montpellier, France, May 1996.
62. T. M. Sobh, M. Dekhil, T. C. Henderson, and A. Sabbavarapu, "Prototyping a Three-link Robot Manipulator," Presented in the Second World Automation Congress, *Sixth International Symposium on Robotics and Manufacturing (ISRAM 96)*, Montpellier, France, May 1996.
63. T. M. Sobh, "Modeling and Recovering Uncertainties in Sense Date," In proceedings of the *Sixth International Symposium on Measurement and Control in Robotics (ISMCR 96)*, Brussels, Belgium, May 1996.
64. M. Dekhil, T. M. Sobh, and A. A. Efros, "Sensor-based Distributed Control Scheme for Mobile Robots," Invited paper, *10th IEEE International Symposium on Intelligent Control (ISIC 95)*, Monterey, California, August 1995.
65. T. M. Sobh, T. C. Henderson, and F. Zana, "A Unifying Framework for Tolerance Analysis in Sensing, Design, and Manufacturing." In proceedings of the *IEEE International Conference on Robotics and Automation*, Nagoya, Japan, May 1995.
66. M. Dekhil, T. M. Sobh, T. C. Henderson, and R. Mecklenburg, "UPE: Utah Prototyping Environment for Robot Manipulators." In proceedings of the *IEEE International Conference on Robotics and Automation*, Nagoya, Japan, May 1995.
67. T. C. Henderson, T. M. Sobh, F. Zana, B. Bruderlin, and C. Hsu, "Sensing Strategies Based on Manufacturing Knowledge," In Proceedings of the *ARPA Image Understanding Workshop*, September 1994.
68. M. Dekhil, T. M. Sobh, and T. Henderson, "URK: Utah Robot Kit – A 3-link Robot Manipulator Prototype." In proceedings of the *IEEE International Conference on Robotics and Automation*, San Diego, May 1994.
69. T. M. Sobh, M. Dekhil, and J. C. Owen, "Discrete Event Control for Inspection and Reverse Engineering." In proceedings of the *IEEE International Conference on Robotics and Automation*, San Diego, May 1994.
70. T. Sobh, "Prototyping Activities in Robotics, Control, and Manufacturing," Department of Defense Software Technology Support Center (DoD STSC) Annual Symposium, Salt Lake City, April 1994.
71. T. M. Sobh, J. C. Owen, M. Dekhil, C. Jaynes, and T. Henderson, "Industrial Inspection and Reverse Engineering." In Proceedings of *1994 IEEE 2nd CAD-Based Vision Workshop*, Pittsburgh, February 1994.
72. T. M. Sobh, M. Dekhil, C. Jaynes, and T. Henderson, "A Perception Framework for Inspection and Reverse Engineering." In Proceedings of the *IEEE Conference on Computer Vision and Pattern Recognition (CVPR '93)*, New York City, June 1993.
73. T. M. Sobh, C. Jaynes, and T. Henderson, "A Discrete Event Framework for Intelligent Inspection." In Proceedings of the *IEEE International Conference on Robotics and Automation*, Atlanta, May 1993.
74. T. M. Sobh, R. Bajcsy, and J. R. James, "Visual Observation for Hybrid Intelligent Control Implementation." In Proceedings of the *31st IEEE Conference on Decision and Control*, Tucson, Arizona, Invited Session on Hybrid Systems, December 1992.
75. T. M. Sobh, C. Jaynes, and T. Henderson, "Intelligent Inspection and Reverse Engineering." *NATO Advanced Research Workshop on Intelligent Systems*, Izmir, Turkey, August 1992.
76. T. M. Sobh and R. Bajcsy, "Visual Observation Under Uncertainty as a Discrete Event Process." In Proceedings of the *11th International Conference on Pattern Recognition*, The Hague, The Netherlands, August 1992.
77. T. M. Sobh and R. Bajcsy, "Autonomous Observation Under Uncertainty." In Proceedings of the *IEEE International Conference on Robotics and Automation*, Nice, France, May 1992.

78. T. M. Sobh and R. Bajcsy, "Observing Agents Under Uncertainty." In Proceedings of the *Vision Interface '92 Conference*, Vancouver, Canada, May 1992.
79. T. Alameldin and T. M. Sobh, "A Parallel Algorithm for Computing 3-D Reachable Workspaces." In Proceedings of the *SPIE Conference on Applications of Artificial Intelligence X: Machine Vision and Intelligent Robotics*, April 1992.
80. T. M. Sobh and R. Bajcsy, "A Model for Visual Observation Under Uncertainty." In Proceedings of the *1992 IEEE Symposium on Computer Aided Control System Design (CACSD '92)*, March 1992.
81. R. Bajcsy et al., "An Active Observer," The GRASP Lab. Overview Technical Paper and Video, In Proceedings of the *DARPA Image Understanding Workshop*, January 1992.
82. T. M. Sobh and R. Bajcsy, "A Model for Observing a Moving Agent." In Proceedings of the *Fourth International Workshop on Intelligent Robots and Systems (IROS '91)*, Osaka, Japan, November 1991.
83. T. M. Sobh, "A Model for Shape and Motion Perception," In Proceedings of the *1991 SPIE Conference on Mobile Robots*, November 1991.
84. T. M. Sobh and T. Alameldin, "3-D Perception and Recognition Under Uncertainty," In Proceedings of the *1991 SPIE Conference on High-Speed Architectures and Systems in Machine Vision*, November 1991.
85. T. M. Sobh and R. Bajcsy, "Visual Observation as a Discrete Event Dynamic System." Presented at the *12th International Joint Conference on Artificial Intelligence (IJCAI)*, Workshop on Dynamic Scene Understanding, Sydney, Australia, August 1991.
86. T. M. Sobh and R. Bajcsy, "Visual Observation of A Moving Agent." In Proceedings of the *European Robotics and Intelligent Systems Conference (EURISCON '91)*, Corfu, Greece, June 1991.
87. T. Alameldin, N. Badler and T. M. Sobh, "A Hybrid System for Computing Reachable Workspaces for Redundant Manipulators." In Proceedings of the *1990 SPIE Conference on Machine Vision Systems Integration*, November 1990.
88. T. M. Sobh and T. Alameldin, "Operator/System Communications: An Optimizing Decision Tool." In Proceedings of the *1990 SPIE Conference on Mobile Robots*, November 1990.
89. T. M. Sobh and T. Alameldin, "Structure and Motion of Entire Polyhedra." In Proceedings of the *1990 SPIE Conference on Intelligent Robots and Computer Vision*, November 1990.
90. T. M. Sobh and T. Alameldin, "An Efficient System for 3-D Object Recognition." In Proceedings of the *1990 SPIE Conference on Three Dimensional Perception and Recognition*, November 1990.
91. T. M. Sobh and T. Alameldin, Structure and Motion in the "Moving Blocks World". In Proceedings of the *1990 IASTED International Conference on Adaptive Control and Signal Processing*, October 1990.
92. T. Alameldin, N. Badler and T. M. Sobh, "An Adaptive and Efficient System for Computing the 3-D Reachable Workspace." In Proceedings of the *1990 IEEE International Conference on Systems Engineering*, August 1990.
93. T. Alameldin and T. M. Sobh, "On the Evaluation of Reachable Workspace for Redundant Manipulators." In Proceedings of the *ACM 3rd International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems*, July 1990.
94. T. M. Sobh and K. Wohn, "Recovery of 3-D Motion and Structure by Temporal Fusion." In Proceedings of the *1989 SPIE conference on Sensor Fusion*, November 1989.

Books:

1. T. M. Sobh, K. Elleithy, and A. Zaki, Editors, Proceedings of the *International Conference on Industrial Electronics, Technology and Automation (IETA 2001)*.
2. Khaled Elleithy, Tarek Sobh, Ausif Mahmood, Magued Iskander, Mohammad Karim, "Advances in Computer, Information, and System Sciences, and Engineering", Springer, 2006, ISBN: 10-1-4020-5260-X.
3. Tarek Sobh and Khaled Elleithy, "Advances in Systems, Computing Sciences and Software Engineering", Springer, 2006, ISBN: 10-1-4020-5262-6.

4. T. M. Sobh, "Discrete Event and Hybrid Systems in Robotics and Automation," Nova Science Publishers, 2006, ISBN: 1-59454-463-8.
5. Tarek Sobh, "Innovations and Advanced Techniques in Computer and Information Sciences and Engineering", Springer, 2007, ISBN: 978-1-4020-6267-4
6. Tarek Sobh, Khaled Elleithy, Ausif Mahmood, Mohammed Karim, "Innovative Algorithms and Techniques in Automation, Industrial Electronics and Telecommunications", Springer, 2007, ISBN: 978-1-4020-6265-0.
7. Tarek Sobh, Khaled Elleithy, Ausif Mahmood, Mohammed Karim, "Novel Algorithms and Techniques in Telecommunications, Automation and Industrial Electronics", Springer, 2008, ISBN: 978-1-4020-8736-3.
8. Tarek Sobh, "Advances in Computer and Information Sciences and Engineering", Springer, 2008, ISBN: 978-1-4020-8740-0.
9. Tarek Sobh, Khaled Elleithy, Ausif Mahmood, "Novel Algorithms and Techniques in Telecommunications and Networking", Springer, 2009, ISBN: 978-9-0481-3661-2
10. Tarek Sobh, "Innovations and Advances in Computer Sciences and Engineering", Springer, 2009, ISBN: 978-9-0481-3657-5
11. Navarun Gupta, Saikat Ray, and Tarek Sobh, "On Line Engineering", NOVA, 2009, ISBN: 978-1-60741-166-6.
12. Khaled Elleithy, Tarek Sobh, Magued Iskander, Vikram Kapila, Mohammad A.Karim and Ausif Mahmood, "Technological Developments in Networking, Education and Automation", Springer, 2010, ISBN: 978-90-481-9150-5.
13. Tarek Sobh and Khaled Elleithy, "Innovations in Computing Sciences and Software Engineering", Springer, 2010, ISBN: 978-90-481-9111-6.

Technical Reports:

Published over 40 Technical reports at:

- Alexandria University
- University of Pennsylvania
- University of Utah
- University of Bridgeport

SAMPLE OF PAST INVITED TALKS, SEMINARS, PANELS, COLLOQUIA, LECTURES & COURSES

- University of Utah, December 1991.
- Institute of National Economy, Ternopil, Ukraine, September 1991
- Columbia University, New York, January 1992.
- California State University at Fresno, California, March 1992.
- CAD/CAM group, University of Utah, November 1992.
- Computer Science Department Colloquium, University of Utah, November 1993.
- College of Engineering, Alexandria University, December 1994.
- Optimum Plus International, January 1995.
- Universal Trade Promoters, Ltd., Swiss Precision Manufacturing Company, and the International Traders Group, Ltd. (joint presentation), January 1995
- Monmouth University, April 1995.
- University of Texas at San Antonio, April 1995.
- University of Bridgeport May 1995.
- Duke University, May 1995.
- Panel on "Innovative Tools and Techniques for Intelligent Control." 10th IEEE International Symposium on Intelligent Control (ISIC 95), Monterey, California, August 1995.

- Polytechnic University, New York, February 1996.
- Future Engineering Systems, Utah, July 1996.
- Invited Panel member on Collaborative Power Engineering for the 1997 IEEE PICA Conference, Columbus, Ohio.
- University of Connecticut, January 1997.
- California State University Fresno, April 1997.
- San Jose State University, June 1997.
- The Instituto Tecnolico y de Estudios Superiores de Monterrey, Campus Estado de Mexico (ITESM CEM) (Technological Institute and Superior Studies of Monterrey), Ixtapa, Mexico, October 1997.
- Texas A&M University, College of Engineering, May 2001.
- Merit International Institute of Technology, Ooty, India, September 2000 and July 2001.
- Scuola Speriore G. Reiss Romoli (SSGRR) 2002 Winter and Summer International Conference on Infrastructure for e-Business, e-Education, e-Science and e-Medicine on the Internet. L'Aquila, Italy, January 2002 and July 2002.
- City University of New York, October 2003.
- Pennsylvania State University, October 2003.
- Virginia State University, 2003.
- North Carolina Central University, 2003.
- Wichita State University, 2003.
- Rensselaer Polytechnic Institute, Hartford Graduate Center, November 2003.
- Henry Cogswell College, December 2003.
- Bradley University, 2003.
- Point Park University, 2003.
- Western Michigan University, 2003.
- Texas A&M University, Commerce, TX, 2003.
- American University in Sharjah, UAE, 2003.

SAMPLE OF INVITED KEYNOTE SPEECHES AND ACADEMIC CONFERENCE & WORKSHOP PRESENTATIONS

- Invited Presentation, KCG College of Technology, India, September 2010.
- Invited Presentation, Dhaanish Ahmed College of Engineering, India, September 2010.
- Invited Presentation, DMI College of Engineering, India, September 2010.
- Invited Presentation, New L J College of Commerce, India, September 2010.
- Invited Presentation, Sabar Institute of Management, India, September 2010.
- Invited Presentation, Indus Institute of Technology & Engineering, India, September 2010.
- Invited Presentation, G H patel College of Engineering and Technology, India, September 2010.
- Invited Presentation, ARIBAS College, India, September 2010.
- Invited Presentation, SEMCOM- Management College, India, September 2010.
- Invited Presentation, Birla Vishvakarma Mahavidhyala (BVM) College, India, September 2010.
- Invited Presentation, Annamacharya Institute of Technology and Science, India, September 2010.
- Invited Presentation, Nalla Malla Reddy Engineering College, India, September 2010.
- Invited Presentation, Krishna Murthy Institute of Technolgy and Engineering, India, September 2010.
- Invited Presentation, Osmania University, India, September 2010.
- Invited Keynote Speaker, Ministry of Science and Technology, Brazil, VI-GESITI Congress (Management of Systems and Information Technology in Organizations), Campinas City, Brazil, June 2010.
- Keynote Speaker, the *2009 International Conference on Industrial Electronics, Technology & Automation (IETA 2009)*, "Research and Education Directions in Robotics, Intelligent Sensing and Mechantronics", December 2009.

- Invited Colloquium Speaker, “Robotics, Intelligent Sensing and Control: New Directions in Research and Education”, University of Denver, October 2009.
- Plenary session speaker, *Sixth International Conference on Remote Engineering and Virtual Instrumentation, (REV2009)*, University of Bridgeport, CT, June, 2009.
- Invited Keynote Speech, IEEE Symposium, University of Bridgeport, CT, April 2009.
- Plenary Session Speaker, *American Society for Engineering Education, (ASEE 2009)*, Northeast Section Conference, University of Bridgeport, CT, April 2009.
- Invited Keynote Speaker, Fourth International Conference on Intelligent Computing and Information Systems (ICICIS 2009), Ain Shams University, Cairo, Egypt, March 2009.
- Invited Keynote Speech, *6th International Conference on E-Learning Applications*, The American University in Cairo, Egypt, January 2009.
- Invited Keynote Speech - International Joint Conferences on Computer, Information and Systems Sciences and Engineering (CISSE 2008), December 2008.
- Workshop Presentation – “Online Engineering and Remote Learning”, *Conference on Remote Engineering and Virtual Instrumentation REV 2008*, Dusseldorf, Germany, 2008.
- Invited Keynote Speech - International Joint Conferences on Computer, Information and Systems Sciences and Engineering (CISSE 2007), December 2007.
- Invited Keynote Speech - International Conference on Computers, Controls and Communication, National University of Science and Technology, Pakistan, November 2007
- Invited Keynote Speech, IEEE Symposium, University of Bridgeport, CT, April 2007.
- Panel member participant on “Engineering, Education and STEM Initiatives”, IEEE Symposium, University of Bridgeport, CT, 2007.
- Invited Talk - Tenth JCIS – Joint Conference on Information Sciences, Salt Lake City, Utah, September 2007.
- Invited Panel Speaker, National Action Council for Minorities in Engineering (NACME), “Best Practices in Recruitment, Retention and Graduation of Underrepresented Minorities in Engineering”, University of Colorado, July 2007.
- Invited Keynote Speaker, *Workshops on Information Technologies and Systems: Challenges and Solutions*, (WITSCS) Colloquium, Cairo University, Egypt, July 2007.
- Invited Talk - International Conference – Remote Engineering and Virtual Instrumentation (REV), University of Porto, Portugal, June 2007
- Invited Keynote Speech - Interactive Computer Aided Blended Learning (ICBL), Florianopolis, Brazil, May 2007
- Invited Keynote Speech – Second International Conference on Interactive Mobile and Computer Aided Learning (IMCL), Amman, Jordan (IMCL), April 2007.
- Invited Keynote Speech - International Joint Conferences on Computer, Information and Systems Sciences and Engineering (CISSE 2006), December 2006.
- Invited Keynote Speech, “The World is Virtually Flat: New Directions in On-Line Collaborative Engineering, Research and Education”, Remote Engineering and Virtual Instrumentation (2006 REV) International Symposium, Slovenia, June 2006.
- Invited Keynote Speaker, *NATO ARW Workshop*, Lviv, Ukraine, September 2003.
- Invited Keynote Speaker, the *International Workshop on Intelligent Data Acquisition and Advanced Computing Systems: Technology and Applications (IDAACS 2001)*, Foros, Crimea , Ukraine, July 2001.
- Invited Plenary talk, *Merit International Institute of Technology, Engineering School Opening Ceremony*, Ooty, India, September 2000.
- “New Trends in Prototyping Design and Automation,” invited Symposium plenary talk, IEEE International Conference on Robotics and Automation, San Francisco, California, April 2000.
- “Robotics in the Next Millennium”, “6th. Simposio Internacional de Sistemas Computacionales” (6th International Computer Systems Symposium). Invited by the Asociacin de Estudiantes de Sistemas Computacionales (AESC) (Computer Systems Students Organization), The Instituto Tecnolico y de Estudios Superiores de Monterrey, Campus Estado de Mexico (ITESM CEM) (Technological Institute and Superior Studies of Monterrey), Ixtapa, Mexico, October 1997.

- “Introducing Laboratory-Based Classes in Distance Learning Programs,” Center for Teaching Excellence, California State University, April 1997.
- “Discrete Event and Hybrid Systems in Robotics and Automation,” invited workshop plenary talk, IEEE International Conference on Robotics and Automation, Albuquerque, New Mexico, April 1997.
- “Recovering Structure Uncertainties from Noisy Sense Data,” 1997 Measurement Science Conference, Pasadena, California, January 1997.
- “Prototyping Activities in Robotics, Control, and Manufacturing,” invited presentation, Department of Defense Software Technology Support Center (DoD STSC) Annual Symposium, Salt Lake City, April 1994.
- “Utah Robot Kit (URK) and the Utah Prototyping Environment (UPE).” Included in the IEEE International Conference on Robotics and Automation, Workshop on Advanced Manufacturing, San Diego, May 1994.
- “Prototyping Hybrid Distributed Control Schemes for Sonar-Based Mobile Robots,” 10th IEEE International Symposium on Intelligent Control (ISIC 95), Monterey, California, August 1995.
- “Prototyping Activities at the University of Utah,” invited demonstration at the University of Chicago during the NSF CISE Infrastructure annual meeting, June 1993.
- “Intelligent Inspection,” NATO Advanced Research Workshop on Intelligent Systems, Izmir, Turkey, August 1992.
- “Discrete Event Observers,” Hybrid System Workshop, Mathematical Sciences Institute, Cornell University, March 1991.

SAMPLE OF PAST ACADEMIC CONFERENCE & WORKSHOP RESEARCH PRESENTATIONS

- “Are We Accepting the Right Students to Graduate Engineering Programs: Measuring the Success of Accepted Students Via Data Envelopment Analysis”, *American Society for Engineering Education (ASEE) Conference*, Pittsburgh PA, June 2008.
- “Prototyping, Modeling, Simulation and Analysis in Robotics”, *American Society for Engineering Education (ASEE) Regional Conference*, Rhode Island, 2007.
- “Online Automation and Control: An Experiment in Distance Engineering Education”, the *International Remote Engineering, Virtual Instrumentation Symposium (REV 06)*, Maribor, Slovenia, June, 2006.
- “An Electronic Web-Based Assessment System”, *The Annual New England Association of Schools and Colleges (NEASC) Fall Forum*, Bentley College, Waltham, Massachusetts, November, 2004.
- “Simulation of Memory Management Using Paging Mechanisms in Operating System,” the *American Society of Engineering Education (ASEE) New England Section Spring Conference*, Orono, Maine, May 2003.
- “Case Studies in Web-Controlled Devices and Remote Manipulation: Laboratory-Based Distance Learning”, the 8th *International Symposium on Manufacturing with Applications (ISOMA '02)*, Florida, May 2002.
- “Effective Simulation and Control Techniques for Alleviating Problems in Accessing High-Cost Manipulators Wireless Control Perspectives”, the 8th *International Symposium on Manufacturing with Applications (ISOMA '02)*, Orlando, Florida, May 2002.
- “Fully Autonomous Web Based Virtual Robot Prototyping and Manufacturing”, the 8th *International Symposium on Manufacturing with Applications (ISOMA '02)*, Orlando, Florida, May 2002.
- “Web Based Virtual Robot Prototyping and Manufacturing.” *International Conference on Industrial Electronics, Technology and Automation (IETA 2001)*, Cairo, Egypt, December 2001.
- “E-Learning: Case Studies in Web-Controlled Devices and Remote Manipulation.” *International Conference on Industrial Electronics, Technology and Automation (IETA 2001)*, Cairo, Egypt, December 2001.

- “Ergonomic and Efficient Software Alternatives for High Cost Manipulators - Direct Wireless and Networked Control Techniques.” *International Conference on Industrial Electronics, Technology and Automation (IETA 2001)*, Cairo, Egypt, December 2001.
- “SKED: A Course Scheduling and Advising Software.” *2001 American Society of Engineering Education (ASEE) Annual Conference*, Albuquerque, New Mexico, June 2001.
- “Distance Learning: Case Studies in Web-based Robotics, Automation and Prototyping,” *AMSE Conference on Science, Technology and Entrepreneurship*, Washington, D.C., October 2000.
- “A Tool for Manipulator Design, Optimization, Simulation and Control,” *8th International Symposium on Robotics and Applications (ISORA 2000)*, Hawaii, May 2000.
- “Robotic Optimization for the Formula One Tire Changing Robot (F1-T.C.R.),” *8th International Symposium on Robotics and Applications (ISORA 2000)*, Hawaii, May 2000.
- “A Case Study in Manipulator Optimization: The F-1-T.C.R.” *AMSE Conference on Science, Technology and Entrepreneurship*, Washington, D.C., October 1999.
- “Remote Learning: A World-Wide-Web Operated Robot Arm.” *IEEE 2nd International Conference on Recent Advances in Mechatronics*, Istanbul, Turkey, May 1999.
- “A Generic Simulator/Controller for Robot Manipulators.” *IEEE 2nd International Conference on Recent Advances in Mechatronics*, Istanbul, Turkey, May 1999.
- “The Formula One Tire Changing Robot (F1-T.C.R.)” *IEEE International Conference on Robotics and Automation (IEEE ICRA 99)*, May 1999, Detroit, Michigan.
- “A PC-Based Simulator/Controller/Monitor Software for Manipulators and Electromechanical Systems.” *Seventh International Symposium on Robotics with Applications (ISORA '98)*, Alaska, May 1998.
- “Automated Tolerance Specification Across Sensing, Design and Manufacturing.” *Sixth International Symposium on Manufacturing with Applications (ISOMA '98)*, Alaska, May 1998.
- “Discrete Event and Hybrid Systems Applications,” *IEEE International Conference on Robotics and Automation*, Albuquerque, New Mexico, April 1997.
- “Recovering Structure Uncertainties from Noisy Sense Data,” *1997 Measurement Science Conference*, Pasadena, California, January 1997.
- “Commanding Sensors and Controlling Indoor Autonomous Mobile Robots,” Presented in the *IEEE International Conference on Control Applications*, Dearborn, Michigan, September 1996.
- “Sensing Under Uncertainty for Mobile Robots,” Presented in the Second World Automation Congress, *First International Symposium on Intelligent Automation and Control (ISIAC 96)*, Montpellier, France, May 1996.
- “Prototyping a Three-link Robot Manipulator,” Presented in the Second World Automation Congress, *Sixth International Symposium on Robotics and Manufacturing (ISRAM 96)*, Montpellier, France, May 1996.
- “Modeling and Recovering Uncertainties in Sense Date.” *Sixth International Symposium on Measurement and Control in Robotics (ISMCR 96)*, Brussels, Belgium, May 1996.
- “A Unifying Framework for Tolerance Analysis in Sensing, Design, and Manufacturing.” *IEEE International Conference on Robotics and Automation*, Nagoya, Japan, May 1995.
- “Discrete Event Control for Inspection and Reverse Engineering.” *IEEE International Conference on Robotics and Automation*, San Diego, May 1994.
- “Prototyping Activities in Robotics, Control, and Manufacturing,” *Department of Defense Software Technology Support Center (DoD STSC) Annual Symposium*, Salt Lake City, April 1994.
- “Industrial Inspection and Reverse Engineering.” *1994 2nd CAD-Based Vision Workshop*, Pittsburgh, February 1994.
- “A Discrete Event Framework for Intelligent Inspection,” *IEEE International Conference on Robotics and Automation*, Atlanta, Georgia, May 1993.
- “Autonomous Observation Under Uncertainty,” *IEEE International Conference on Robotics and Automation*, Nice, France, May 1992.
- “A Model for Visual Observation Under Uncertainty,” *IEEE Symposium on Computer Aided Control System Design (CACSD '92)*, March 1992.
- “A Model for Shape and Motion Perception,” *SPIE Conference on Mobile Robots*, November 91.

- “Visual Observation of A Moving Agent,” *The European Robotics and Intelligent Systems Conference (EURISCON '91)*, Corfu, Greece, June 1991.
- “A Hybrid System for Computing Reachable Workspaces for Redundant Manipulators,” *SPIE Conference on Machine Vision Systems Integration*, November 1990.
- “Operator/System Communications: An Optimizing Decision Tool,” *SPIE Conference on Mobile Robots*, November 1990.
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