



Borko Furht, Ph.D.

Professor

Department of Computer & Electrical Engineering and Computer Science
Director of the NSF Industry/University Cooperative Research Center for
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Areas of Expertise

Multimedia systems, Multimedia and big data, Video and image compression, Video communication, Interactive TV, Video streaming, Mobile multimedia

Positions Held

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| 1992-present | at Florida Atlantic University, Boca Raton, Florida |
| 2009-present | Director of the NSF Industry/University Cooperative Research Center for Advanced Knowledge Enablement, FAU Site |
| 1992-present | Professor of Computer Science and Engineering |
| 2009-2013 | Chairperson, Department of Computer & Electrical Engineering and Computer Science |
| 2002-2009 | Chairperson, Department of Computer Science and Engineering |
| 1992-present | Professor of Computer Science and Engineering |
| 2006-2008 | Senior Asst. VP for Engineering & Technology at FAU |
| 2003-2006 | Senior Advisor to VP for Research and Graduate Study |
| 1993-1997 | Director of CSE Graduate Programs |
| 1994-2001 | Director of Multimedia Laboratory |
| 2012 | Visiting Professor at University of Paris, France (Summer 2012) |
| 1988-1992 | Senior Director of Advanced Development and Vice-President of Research, Modular Computer Systems (Modcomp), Computer Division of Daimler Benz (Germany), Fort Lauderdale, Florida. |

- 1982-1988** Associate Professor of Electrical and Computer Engineering
University of Miami, Coral Gables, Florida
1983: Promoted from Visiting Assistant Professor to Assistant Professor
1984: Promoted from Assistant Professor to Associate Professor
- 1973-1982** Project Leader and Senior Scientist
Computer Systems Department, Institute "Boris Kidric" -Vinca,
Belgrade, Yugoslavia
- 1978-1981** Adjunct Professor of Electrical and Computer Engineering,
University of Belgrade, Yugoslavia

Education

- Ph.D. in Electrical and Computer Engineering
University of Belgrade, Yugoslavia, 1978.
- M.Sc. in Electrical and Computer Engineering
University of Belgrade, Yugoslavia, 1973.
- B.S.E.E. (Dipl. Eng.) in Electrical Engineering
University of Belgrade, Yugoslavia, 1970.

Funded Research Projects

- "NSF Industry/University Cooperative Research Center for Advanced Knowledge Enablement, Phase II" PI, \$225,000, (2015-2020).
- NSF I/UCRC Supplements, PI, \$36,000 (2016 - 2017).
- "NSF I/UCRC Project: Medical Image Analysis Using Deep Learning Techniques," Co-PI, \$60,000 (2016 -2017).
- "NSF I/UCRC Project: Machine Learning Algorithms for Uses Cases in Auto Industry," Co-PI, \$40,000, (2016-2017).
- "NSF I/UCRC Project: Developing Machine Learning Algorithms for Big Data on HPCC/ECL Platform, Co-PI, \$43,472, (2016-2017).
- "NSF RAPID: Modeling Ebola Spread and Developing Decision Support System Using Big Data Analytics," PI, \$100,000 (2015-2016).
- "NSF CC*DNI Networking Infrastructure: Enabling Multi-Campus, Data-Driven Science and Engineering through a 10Gb FAU DMZ," Co-PI, 2015, \$498,000, (2015-2017).
- "NSF I/UCRC Project: Multimedia - Image Analysis and Processing," PI, \$30,806, (2015-2016).
- "NSF I/UCRC Project: Fast Violence Detection in Surveillance Scenes," PI, \$86,840, (2015-2016)

- “NSF I/UCRC Project: Test and Validation of Signal Processing Hardware and Software,” PI, \$7,900, (2015).
- “NSF Industry/University Cooperative Research Center for Advanced Knowledge Enablement, Phase I,” PI, \$414,000 (2009-2016).
- “NSF MRI-31: Acquisition of Big Data and Research Laboratory,” NSF, Senior Investigator, \$600,000 (2014-2017).
- “NSF I/UCRC Project: Developing Innovative iOS Applications,” PI, \$66,833 (2014).
- “NSF I/UCRC Project: Big Data Techniques Applied to Databases of Videos,” PI, \$95,669 (2013-2014).
- NSF Fundamental Research Program “I/UCRC: Collaborative Research: Data Correlation and Fusion for Medical Monitoring,” total \$400,000 including \$200,000 industry cost share from Soren Technologies, jointly with Florida International University, Co-PI, (2012-13).
- “NSF I/UCRC Project: Analysis of Acquisition and Processing of Multiple Big Data Streams,” PI, \$94,795 (2013).
- “Design of Blackberry and iOS Application for Push to Talk Technology,” Co-PI, \$30,000, Motorola Mobility powered by Google (2013).
- “NSF I/UCRC Project: Vendor Image Recognition and Asset Tag Identification, Phase I and II”, PI, \$15,000 (2011-2012).
- “NSF I/UCRC Project: Mobile Video Search,” PI, \$53,251 (2011-2012).
- “NSF CORBI: A Multi-Center Distributed Cloud Computing Collaborative Feasibility Study to Provide Massive 3-D Visualization Services for Climate Data on Demand,” NSF, jointly with University of Maryland and Florida International University, Co-PI, \$100,000, (2010-11).
- “Industry/University Cooperative Research Center for Advanced Knowledge Enablement - NSF Supplement Funding,” PI, \$82,000, (2012-2015).
- Industry Projects within I/UCRC, total \$2.8 million, Companies involved: LexisNexis, Motorola Mobility, Emerson/Avocent, LSI Technologies, Aware Technologies, LastBestChance, Tecore Networks, and others (2009-2016).
- “Database-Centric Molecular Simulation”, Co-PI, National Institute for Health, \$56,000, (2010-13).
- “Global Living Laboratory for Cyber Infrastructure Application Enablement”, NSF PIRE Grant (jointly with FIU), Co-PI, \$2.3 million, (2007-2013).
- “Center for the Coastline Security Technologies”, Federal Earmark Grant, Office of Naval Research, \$6 millions (2004-07), Co-principal Investigator for the Project on Video and Image Processing Techniques for Coastline Security, \$500,000.
- “High Performance Computer Equipment Grant,” National Science Foundation, \$500,000, Co-PI (2005-2008) and PI (2008-2010).
- “The Development of Algorithms for Automatic Mouse Acceleration and KVM Benchmarking,” Avocent Corporation, Fort Lauderdale, PI, \$50,000, (2004).
- “One Pass to Production,” Motorola Corporation, \$1 million, PI (2005) and Co-PI, (2006-2008).

- “Java-Based System for Radio Communications,” Motorola, Plantation, Service Grant, 1999, (\$8,600).
- “Multimedia-Based Healthcare System - Case Study,” Racal Datacom, Fort Lauderdale, Florida, 1997-1998, (\$30,000).
- “Development of Multimedia Presentations,” Rank Xerox, London, 1995-1996. (\$15,000)
- “Development of Query by Image Content Applications Using Ultimedia Manager,” IBM Almaden Research Center, San Jose, CA, 1995-1996, (\$5,000).
- “Multimedia Laboratory,” Equipment grant, National Science Foundation, 1994-1995. (\$64,000).
- Multimedia-Based Computer Aided-Systems for Time to Market, Rank Xerox, London, 1994, (\$10,000).
- “Multimedia Development Tools,” Apple Computer, Cupertino, CA, (\$10,000).
- “Multimedia Technology in Computer-Aided Management Systems,” Rank Xerox, London, 1992-1993, (\$20,000).
- “Modeling of High-Performance Real-Time Computers for Aerospace Applications,” NASA, Florida Space Grant Consortium, 1993, (\$5,000).
- “Design of a Parallel Tree Structured Machine for Expert Systems - Umachine,” General Research Support Award, University of Miami, Coral Gables, Florida, 1985-1986, (\$5,000).
- “Arithmetic Coprocessors, Computer grant, Advanced Micro Devices,” 1983, (\$4,000).
- “Multiprocessor System for Digital Signal Processing, National Science Foundation,” Belgrade, Yugoslavia, 1979-1981, (equivalent to \$95,000).

Pending Proposals

- “NSF NRT-DESE: Towards a Data-Enabled Nation: Investigative Development of Cross-Disciplinary Data-Enabled Science and Engineering,” Co-PI, 2016-2020, (\$2,999,976).
- “NSF PFI AIR-TT: Driver Behavior Monitoring System for Improving Road Safety Using Video Data Analytics”, PI, 2016-2017, (\$200,000).

Industry Projects (at Modcomp)

- Techniques and Tools for Evaluation of Real-Time Systems, *MODCOMP Corporation*, 1990-1991, (\$400,000)
- Development of a Standard Real-Time Graphical User Interface, *MODCOMP Corporation*, 1990-1991, (\$720,000).
- Development of a Real-Time UNIX Operating System, *MODCOMP Corporation*, 1989-1990, (\$560,000).
- Development of a RISC-Based High-Availability Real-Time System, *MODCOMP Corporation*, 1988-1989, (\$1.5 million).

- The Applicability of Neural Networks in Real-Time Applications, *MODCOMP Corporation*, 1988-1989, (\$200,000).
- Multiprocessor Architectures for Real-Time Applications, *MODCOMP Corporation*, 1987-1988, (\$250,000).

Instructional Experience

Graduate courses:

- Advanced Internet Engineering (developed in 2002, FAU)
- Multimedia Systems (developed in 1993, FAU)
- Emerging Multimedia Technologies (developed in 2013, FAU)
- Multimedia System Design (developed in 1995, FAU)
- Video and Image Processing in Multimedia Systems (developed in 1995, FAU)
- Real-Time Systems (developed in 1989, University of Miami (UM))
- Advanced Computer Architecture (developed in 1987, UM)
- Parallel Computers and Programming (developed in 1987, UM)
- Software Engineering
- Expert Systems

Undergraduate courses:

- Discovering New Technologies (developed in 2014, FAU)
- Logic Design
- Introduction to Microcomputers
- Operating Systems
- Computer Architecture
- Microprocessor Systems
- Computer Organization and Design
- Interfacing and Communications
- Introduction to Computer Technology
- Programming Languages
- Numerical Analysis
- Assembly Language Programming

Thesis and Dissertations Supervised

Supervised 15 Ph.D. Dissertations and 20 M.Sc. theses to completion. Member of 22 Ph.D. Dissertation committees.

Ph.D. Dissertations Supervised:

- Hatim Aboalsamh, "A LISP-Oriented Computer Architecture", University of Miami, 1987.
- Lynnae Ehley, "Feedback-Based Multimedia Synchronization Technique for Distributed Systems", Florida Atlantic University, 1994.

- Raymond Westwater, "Real-Time Video Compression Using the Three-Dimensional Discrete Cosine Transform", Florida Atlantic University, 1996.
- Joe Celi, "The Interlaced Pixel Delta Video Codec for Videoconferencing on Very Low Bit Rate Transmission Lines", Florida Atlantic University, 1998.
- Oge Marques, "Content-Based Image Retrieval using Relevance Feedback," Florida Atlantic University, 2001.
- Pavani Chilamakuri, "Enhancing Video Quality Based on Psychophysical Studies of Smooth Pursuit Eye Movements," Florida Atlantic University, 2003.
- Edin Muharemagic, "Adaptive Two-Level Watermarking for Binary Document Images," Florida Atlantic University, 2004.
- Praveen Sanigepalli, "Innovative Error Resilient Techniques for MBMS Systems," Florida Atlantic University, 2005.
- Daniel Socek, "Permutation-Based Transformations for Digital Multimedia Encryption and Steganography," Florida Atlantic University, 2006.
- Dubravko Culibrk, "Neural Network Approach to Bayesian Background Modeling for Video Object Segmentation," Florida Atlantic University, 2006.
- Thomas Fernandez, "Innovative Techniques in Genetic Programming," Florida Atlantic University, 2006.
- Branko Petljanski, "Image Improvement Using Dynamic Optical Low-Pass Filter," Florida Atlantic University, 2010.
- David Jaramillo, "Virtualization Techniques for Mobile Systems," Main Advisor, 2013.
- Aleksandar Colic, "Image Processing Algorithms for Identifying Abnormal Behavior of Drivers," Co-Advisor, 2014.
- Esfandiar Zolghadr, "Context Based Image Concept Detection and Annotation," Main Advisor, 2016.

Major Professional Contributions

- PI for the NSF grant for the Industry/University Cooperative Research Center for Advanced Knowledge Enablement, Phase I (2009-2015), \$414,000. In the period 2009-15, signed-up memberships from 33 high-tech companies (\$2.8 million) and initiated 36 industry/university projects. Awarded for Phase II (2015-2020), \$225,000.
- Developed a new technique for video and audio broadcasting over the Internet, referred as to IP Simulcast, which represents according to leading experts in the field, the basis for the future research in cooperative computing and peer-to-peer streaming (1997-99).
- Developed an innovative real-time video compression technique, based on adaptive 3D-DCT technique. In a number of publications, the results have showed that the technique is superior over the standard MPEG compression (1996-97).
- Performed a pioneering work in early interactive television systems, jointly with researchers from Scientific Atlanta and Hewlett Packard. Published one of the

pioneering papers in the field: B. Furht, D. Kalra, F. Kitson, A.A. Rodriguez, and W.E. Wall, "Design Issues for Interactive Television Systems", *IEEE Computer*, Vol. 28, No. 5, May 1995, pp. 25-39, which was selected by readers as one of the three best papers in 1994/95.

- Principal author of the book "Video and Image Processing in Multimedia Systems" (Kluwer, 1995), which is one of the first in the field, and was adapted by many universities including Stanford University as the textbook for graduate courses on multimedia.
- Founded and served as a Director of the Multimedia Laboratory at FAU, which was funded by National Science Foundation (1994).
- Founded *International Journal of Multimedia Tools and Applications*, published by Kluwer Academic Publishers (today Springer), where he currently serves as Editor-in-Chief (1994-present).
- One of the inventors of the first Tri-Dimensional real-time computer systems for the open system industry (at Modcomp, 1990). The company sold 350 units of the Tri-Dimensional computers in USA, Germany, France, UK, Sweden, Singapore, and Venezuela. The prestigious customers included NASA, Jet Propulsion Laboratory, MIT, Boeing, Krupp, Hoechst, Thyssen, and Renault.
- A principal author of the book on "Real-Time UNIX Systems: Design and Application Guide" (Kluwer, 1991), which has been successfully used as a marketing and sales tool at Modcomp. More than 3000 copies of the book were sold and the book has also been translated to Japanese.
- Co-edited the bestseller book on "Computer Architecture" published by IEEE Press (1987).
- Wrote the textbook on "Microprocessor Interfacing and Communications", published by Prentice-Hall (1986).
- Founded *Journal of Big Data*, published by Springer, which is one of the first research journals in the area of big data. Currently serves as Editor-in-Chief (2013-present).
- Editor-in-Chief of the Encyclopedia of Multimedia, published by Springer, 1st Edition (2005), 2nd Edition (2008).
- Editor-in-Chief of Encyclopedia of Wireless and Mobile Communications, CRC Press, 1st Edition, (2008), 2nd Edition, (2013).

Awards

- 2013 FAU Researcher of the Year Award at the Professor level.
- 2013-14 Distinguished Researcher at FAU.
- Appreciation for dedication and drive in the challenging journey of the One Pass to Production (OPP) Project, Motorola, Sunrise, May 2008.
- Technical Achievement Award, presented at YuInfo Conference, Kopaonik, Yugoslavia, March 2004.

- Teaching award (TIP: Teaching Incentive Program) - at Florida Atlantic University, 1996.
- Publication award – the paper on “Design Issues for Interactive Television Systems”, IEEE Computer, April 1995, selected among the ten best papers in 1994/1995 (3rd place).
- Publication award, Modular Computer Systems, Inc., Fort Lauderdale, Florida, for the book, “Real-Time UNIX Systems: Design and Application Guide”, 1992.
- Publication award, Cordis Corporation, Miami, Florida, for the paper “Quality Control and Reliability of Critical Biomedical Software Products”, 1987.
- Annual Technical Award, Institute Boris Kidric-Vinca, Belgrade, for the Development of a Multiprocessor System for Digital Signal Processing, 1982.

Publications

TOTAL: 300+ publications

Books

1. B. Furht and F. Villanustre, “Big Data Technologies and Applications,” *Springer Science and Business Media*, New York, 2016.
2. N. Petrovska, A. Stevanovic, and B. Furht, “Innovative Web Applications for Analyzing Traffic Operations,” SpringerBrief, 2016.
3. A. Colic, O. Marques, and B. Furht, “Driver Drowsiness Detection: Systems and Solutions, Springer Briefs, 2014.
4. D. Jaramillo, B. Furht, and A. Agarwal, “Visualization Techniques for Mobile Systems,” *Springer Science and Business Media*, New York, 2014.
5. B. Furht and A. Agarwal, “Handbook of Medical and Healthcare Technologies,” *Springer Science and Business Media*, New York, 2013.
6. B. Furht, Editor-in-Chief, “Encyclopedia of Wireless and Mobile Communications,” 2nd Edition, *CRC Press*, Boca Raton, Florida, 2nd Edition, 2013.
7. B. Furht and A. Escalante, “Handbook of Data Intensive Computing,” *Springer Science and Business Media*, New York, 2011.
8. B. Furht, “Handbook of Augmented Reality,” *Springer Science and Business Media*, New York, 2011.
9. B. Furht, “Handbook of Social Network Technologies and Applications,” *Springer Science and Business Media*, New York, 2011.
10. B. Furht and A. Escalante, “Handbook of Cloud Computing,” *Springer Science and Business Media*, New York, 2010.
11. B. Furht and S. Ahson, “HSDPA/HSUPA Handbook,” *CRC Press*, Boca Raton, Florida 2011.
12. B. Furht, “Handbook of Multimedia for Digital Entertainment and Arts,” *Springer Science and Business Media*, New York, 2009.
13. B. Furht and S. Ahson, “Long Term Evolution: 3GPP LTE Radio and Cellular Technology,” *CRC Press*, Boca Raton, Florida 2009.
14. B. Furht, Editor-in-Chief, “Encyclopedia of Wireless and Mobile Communications,” *CRC Press*, Boca Raton, Florida, 1st Edition, 2008.

15. B. Furht and S. Ahson, "Handbook of Media Broadcasting," *CRC Press*, Boca Raton, Florida, 2008.
16. B. Furht, Editor-in-Chief, "Encyclopedia of Multimedia," *Springer Science and Business Media*, 2nd Edition, 2008.
17. B. Furht and D. Kirovski, "Multimedia Encryption and Authentication: Techniques and Applications," *Auerbach Publications*, 2006.
18. B. Furht and D. Kirovski, "Multimedia Watermarking Techniques and Applications," *Auerbach Publications*, 2006.
19. B. Furht, Editor-in-Chief, "Encyclopedia of Multimedia," *Springer Science and Business Media*, 1st Edition, 2005.
20. B. Furht, E. Muharemagic, and D. Socek, "Multimedia Encryption and Watermarking," *Springer*, New York, 2005.
21. B. Furht and D. Kirovski, "Multimedia Security Handbook," *CRC Press*, Boca Raton, Florida, 2005.
22. B. Furht and O. Marques, Editors, "Handbook of Video Databases," *CRC Press*, Boca Raton, Florida, 2004.
23. B. Furht and M. Ilyas, Editors, "Wireless Internet Handbook," *CRC Press*, Boca Raton, Florida, 2003.
24. O. Marques and B. Furht, "Content-Based Video and Image Retrieval," *Kluwer Academic Publishers*, Norwell, MA, 2002.
25. B. Furht, "Application Service Providers – Current Status and Future Trends," *International Engineering Consortium*, Chicago, IL, 2001.
26. B. Furht, Author and Editor-in-Chief, "Handbook of Internet Computing," *CRC Press*, Boca Raton, Florida, 2000.
27. B. Furht, "The Future of Unified Messaging," *International Engineering Consortium*, Chicago, IL, 2000.
28. B. Furht, Editor-in-Chief, "Handbook of Internet and Multimedia Systems and Applications," *CRC Press and IEEE Press*, 1999.
29. B. Furht, Editor-in-Chief, "Handbook of Multimedia Computing", *CRC Press*, Boca Raton, Florida, 1999.
30. B. Furht, "Multimedia Technologies and Applications for the 21st Century", *Kluwer Academic Publishers*, Norwell, MA, 1998.
31. B. Furht, J. Greenberg, and R. Westwater, "Motion Estimation Techniques for Video Compression", *Kluwer Academic Publishers*, Norwell, MA, 1996.
32. R. Westwater and B. Furht, "Real-Time Video Compression: Techniques and Algorithms", *Kluwer Academic Publishers*, Norwell, MA, 1996.
33. B. Furht, editor, "Multimedia Systems and Techniques", *Kluwer Academic Publisher*, Norwell, MA, 1996.
34. B. Furht, editor, "Multimedia Tools and Applications", *Kluwer Academic Publisher*, Norwell, MA, 1996.
35. B. Furht and M. Milenkovic, "A Guided Tour of Multimedia Systems and Applications", Tutorial, *IEEE Computer Society Press*, 1995.
36. B. Furht, S. Smoliar, and HJ. Zhang, "Video and Image Processing in Multimedia Systems", *Kluwer Academic Publishers*, Norwell, MA, 1995.
37. B. Furht, D. Grostick, D. Gluch, G. Rabbat, J. Parker, and M. McRoberts, "Real-Time UNIX Systems: Design and Application Guide", *Kluwer Academic Publishers*, Norwell, MA, 1991, Translated in Japanese: *Nikkei Business Publications*, Tokyo, 1991.

38. B. Furht and G. Rabbat, "Handbook on Design and Applications of MODCOMP Computer Systems", *Modcomp Press*, Fort Lauderdale, Florida, 1989.
39. D.D. Gajski, V. Milutinovic, H.J. Siegel, and B. Furht, "Computer Architecture", IEEE Tutorial, *IEEE Computer Society Press*, 1987.
40. B. Furht and H. Parikh, "Microprocessor Interfacing and Communications with the Intel SDK-85", *Prentice-Hall*, Englewood Cliffs, New Jersey, 1986.
41. M. Carapic, Z. Pendic, B. Furht, and D. Veselinovic, "The Design of Computer Information Systems", *Technical Book*, Belgrade, Yugoslavia, 1974.

Journal Papers

1. E. Zolghadr and B. Furht, "Context-Based Scene Understanding," *International Journal of Multimedia Data Engineering and Management (IJMDEM)*, 2016, Vol. 4, pp. 22-40.
Online: <http://www.igi-global.com/article/context-based-scene-understanding/149230>
2. I. Cardei, B. Furht, and L. Bradley, "Design and Technologies for Implementing a Smart Educational Building: Case Study," *Facta Universitatis*, Special issue on Internet of Things, Vol. 29, No. 3, September 2016, pp. 325-338.
Online: <http://casopisi.junis.ni.ac.rs/index.php/FUElectEng/article/view/1469/1085>
3. D. Jaramillo, B. Furht, and A. Agarwal, "Virtualization Techniques for Mobile Devices," *International Review on Computers and Software*, Vol. 8, No. 8, August 2013, pp. 1776-1792.
4. A. Marcus, I. Cardei, B. Furht, O. Salem, and A. Mehaoui, "A Mobile Device Prototype Application for the Detection and Prediction of Node Faults in Wireless Sensor Networks," *Proceedings of the International Conference on Soft Computing and Software Engineering*, San Francisco, California, February 2013; also in the Special Issue of the *International Journal of Soft Computing and Software Engineering*, Vol. 3, No. 3, 2013, pp. 745-752.
5. V. Adzic, H. Kalva, and B. Furht, "Optimizing Video Encoding for Adaptive Streaming over HTTP," *IEEE Transactions on Consumer Electronics*, Vol. 58, No. 2, May 2012, pp. 397-403.
6. J. Carmignani, B. Furht, M. Anosetti, P. Caravolo, E. Damiani, and M. Ivkovic, "Augmented Reality Technologies and Applications," *Special Issue on Survey Papers in Multimedia by World Experts*, *International Journal of Multimedia Tools and Applications*, Springer, No. 1, January 2011, pp. 341-377.
7. V. Adzic, H. Kalva, and B. Furht, "Content Adaptation for Mobile Devices: A Survey," *Special Issue on Survey Papers in Multimedia by World Experts*, *International Journal of Multimedia Tools and Applications*, Springer, No. 1, January 2011, pp. 379-396.
8. H. Kalva, A. Colic, and B. Furht, "Parallel Programming for Multimedia Applications," *Special Issue on Hot Topics in Multimedia*, *International Journal of Multimedia Tools and Applications*, Springer, No. 2, January 2011, pp. 801-818.
9. D. Culibrk, O. Marques, D. Socek, H. Kalva, and B. Furht, "Neural Network Approach to Background Modeling for Video Object Segmentation", *IEEE Transactions on Neural Networks*, Vol. 18, No. 6, November 2007, pp. 1614-1627.
10. D. Socek, H. Kalva, S. Magliveras, O. Marques, D. Culibrk, and B. Furht, "New Approaches to Encryption and Steganography for Digital Videos", *Multimedia Systems*, Springer, May 2007.
11. D. Socek, S. Magliveras, D. Culibrk, O. Marques, H. Kalva, and B. Furht, "Digital Video Encryption Algorithms Based on Correlation-Preserving Permutations", *EURASIP Journal on Information Security*, 2007, ISSN 1432-9743.

12. S. Praveenkumar, H. Kalva, and B. Furht, "Error Resilient Video Over Multimedia Broadcast Multicast Services (MBNS)", *Journal of Multimedia Tools and Applications*, Special Issue on Wireless Multimedia, Vol. 28, No. 2, February 2006, pp. 187-202.
13. H. Kalva and B. Furht, "Complexity Estimation of the H.264 Coded Video Bitstreams," *The Computer Journal*, Oxford University Press, June 2005.
14. D. Socek, D. Čulibrk, O. Marques, H. Kalva, and B. Furht , "A Hybrid Color-Based Foreground Object Detection Method for Automated Marine Surveillance", *Lecture Notes in Computer Science*, 2005, Vol. 3708, pp. 340- 347.
15. D. Socek, H. Kalva, S. S. Magliveras, O. Marques, D. Čulibrk, B. Petljanski, H. Kalva, and B. Furht, "Complexity Reduction Tools for MPEG-2 to H.264 Video Transcoding", *WSEAS Transactions on Information Science and Applications*, Vol. 2, Issue 3, March 2005, pp. 295-300.
16. O. Marques and B. Furht, "MUSE: A Content-Based Image Search and Retrieval Using Relevance Feedback", *International Journal of Multimedia Tools and Applications*, Vol. 17, No. 1, May 2002, pp. 21-50.
17. B. Furht, J. Sheen, and Z. Aganovic, "Delivering Document Management Systems Through the ASP Approach", *Annual Review of Communications*, Vol. 54, International Engineering Consortium, Chicago, IL, Fall 2001.
18. B. Furht, "Security Issues in the ASP Systems," *Annual Review of Communications*, International Engineering Consortium, Vol. 54, Chicago, IL, Fall 2001.
19. B. Furht, R. Westwater, and J. Ice, "Multimedia Broadcasting Over the Internet: Part II - Video Compression", *IEEE Multimedia*, Vol. 6, No. 1, 1999.
20. B. Furht, R. Westwater, and J. Ice, "Video Broadcasting on the Internet," *1999 Annual Review of Communications*, Vol. 52, International Engineering Consortium, Chicago, IL, October 1999.
21. B. Furht, R. Westwater, and J. Ice, "Multimedia Broadcasting Over the Internet: Part I", *IEEE Multimedia*, Vol. 5, No. 4, 1998.
22. B. Furht, R. Westwater, and J. Ice, "A New Technique for Multimedia Broadcasting on the Internet", *Journal of Computing and Information Technology*, Special Issue on Emerging Technologies, 1998.
23. B. Furht, "Architecture and Performance Evaluation of the Mirror Memory Microprocessor", *Computer Architecture Newsletter*, March 1997, pp. 59-67.
24. R. Westwater and B. Furht, "A XYZ Algorithm for Real-Time Compression of Full-Motion Video", *Real-Time Imaging Journal*, Special Issue on Image and Video Processing in Multimedia Systems, Vol. 2, No. 1, February 1996, pp. 19-34.
25. B. Furht, "Where Are Information Superhighway Headed?" *ACM Computing Surveys*, invited paper, Vol. 27, No. 4, December 1995, pp. 552-556.
26. B. Furht, "A Survey of Multimedia Compression Techniques and Standards. Part II: Video Compression", *Real-Time Imaging Journal*, Vol. 1, No. 5, December 1995.
27. B. Furht, D. Kalra, F. Kitson, A.A. Rodriguez, and W.E. Wall, "Design Issues for Interactive Television Systems", *IEEE Computer*, Vol. 28, No. 5, May 1995, pp. 25-39.
28. B. Furht, "A Survey of Multimedia Compression Techniques and Standards. Part I: JPEG Standard", *Real-Time Imaging Journal*, Vol. 1, No. 1, April 1995, pp. 49-67.
29. B. Furht, "Are Distributed Multimedia Systems Real-Time?" *International Journal of Mini and Microcomputers*, Vol. 17, No. 2, 1995, pp. 71-76.
30. B. Furht, "Multimedia Systems: An Overview", *IEEE MultiMedia*, Vol. 1, No. 1, Spring 1994, pp. 47-59.

31. B. Furht, "Parallel Computing: Glory and Collapse", *IEEE Computer*, Vol. 27, No. 11, November 1994, pp. 74-75.
32. B. Furht and W. Halang, "A Survey of Real-Time Computing Systems", *International Journal of Mini and Microcomputers*, Vol. 16, No. 3, 1994, pp. 141-155.
33. B. Furht, "Real-Time Workstation Supports Both Development and Control", *Computer Technology Review*, Winter 1991, pp. 12-14.
34. D. Grostick, D.P. Gluch, and B. Furht, "REAL/IX: A Real-Time UNIX Operating System", *Nuclear Instruments and Methods*, North Holland, Vol. A293, 1990, pp. 271-275.
35. M. Hellstrom, J. Howard, M. Marschke, J. Wahlig, and B. Furht, "REAL/IX - A Unique Marriage Between UNIX and MAX 32 Operating Systems", *International Journal of Mini and Microcomputers*, Vol. 12, No. 2, 1990, pp. 42-53.
36. S. Geffin and B. Furht, "A Dataflow Multiprocessor System for Robot Arm Control," *International Journal of Robotics Research*, The MIT Press, Vol. 9, No. 3, June 1990, pp. 93-103.
37. B. Furht, J. Parker, D. Gluch, and D. Grostick, "Performance of REAL/IX - Fully Preemptive Real-Time UNIX", *ACM Operating Systems Review*, Vol. 23, No. 4, October 1989, pp. 45-52.
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39. B. Furht and P.S. Liu, "An Advanced Laboratory for Microprocessor Interfacing and Communication", *IEEE Transactions on Education*, Vol. 32, No. 2, May 1989, pp. 124-128.
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122. B. Furht and M. Carapic, "On-Line Maximum Likelihood Algorithm for the Identification of Dynamic Processes", *Proceedings of the 4th IFAC Symposium on Identification and Process Parameter Estimation*, Tbilisi, USSR, June 1976.
123. M. Carapic and B. Furht, "Integrated Hot Strip Mill Computer Control System at Smederevo Plant", *Proceedings of the International Symposium on Information Processing*, Bled, Yugoslavia, September 1975.

124. B. Furht, "Maximum Likelihood Identification of Astrom Model by Quazilinearization", *Proceedings of the 34th IFAC Symposium on Identification and System Parameter Estimation*, Hague, The Netherlands, September 1973.

Book Chapters and Other Publications

1. B. Furht and F. Villanustre, "Introduction to Big Data, Chapter 1 in the book "Big Data Technologies and Applications", by B. Furht and F. Villanustre, Springer, 2016.
2. A.M. Middleton, D.A. Bayliss, G. Halliday, A. Challa, and B. Furht, "The HPCC/ECL Platform for Big Data," Chapter 6 in the book "Big Data Technologies and Applications", by B. Furht and F. Villanustre, Springer, 2016.
3. F. Villanustre and B. Furht, "Social Network Analytics: Hidden and Complex Fraud Schemes, Chapter 13 in the book "Big Data Technologies and Applications", by B. Furht and F. Villanustre, Springer, 2016.
4. J. Shaw, F. Villanustre, B. Furht, A. Agarwal, and A. Jain, "Modeling Ebola Spread and using HPCC/KEL System," Chapter 14 in the book "Big Data Technologies and Applications", by B. Furht and F. Villanustre, Springer, 2016.
5. V. Milutinovic, B. Furht, Z. Obradovic, and N. Korolija, "Guest Editorial for the special issue on Advances in High Performance Computing and Related Issues, *Mathematical Problems in Engineering*, Hindawi, 2016.
6. B. Furht, T. Khoshgoftaar, A. Agarwal, and H. Kalva, "Developing a Smart Physician/Patient Decision Support Healthcare System", UCP, the 4th International Congress on Personalized Medicine, June 2015, Tel Aviv, Israel.
7. D. Cane, M. Sherling, B. Furht, T. Khoshgoftaar, A. Agarwal, and H. Kalva, "Smart Physician/Patient Decision Support Healthcare System," 3rd International Congress on Personalized Medicine, June 2014.
8. A. Agarwal, B. Furht, and M. Yenagi, "Mobile Medical and Healthcare Applications," a chapter in the *Handbook of Medical and Healthcare Technologies*, B. Furht and A. Agarwal, Editors, *Springer Science and Business Media*, New York, 2013.
9. O. Salem, A. Guearassimov, A. Mehaoua, A. Marcus, and B. Furht, "Anomaly Detection Scheme for Medical Wireless Sensor Networks," a chapter in the *Handbook of Medical and Healthcare Technologies*, B. Furht and A. Agarwal, Editors, *Springer Science and Business Media*, New York, 2013.
10. A. Agarwal, B. Furht, M. Conatser, and C. Baechle, "Secure Mobile Framework for Monitoring Medical Sensor Data," a chapter in the *Handbook of Medical and Healthcare Technologies*, B. Furht and A. Agarwal, Editors, *Springer Science and Business Media*, New York, 2013.
11. R. Behara, A. Agarwal, F. Fatteh, and B. Furht, "Predicting Hospital Readmission Risk for COPD Using HER Information," a chapter in the *Handbook of Medical and Healthcare Technologies*, B. Furht and A. Agarwal, Editors, *Springer Science and Business Media*, New York, 2013.
12. A. Agarwal, B. Furht, and V. Tyagi, "Integration of Various Health Record Systems," a chapter in the *Handbook of Medical and Healthcare Technologies*, B. Furht and A. Agarwal, Editors, *Springer Science and Business Media*, New York, 2013.
13. B. Furht and M. Ilyas, "Wireless Internet: Fundamentals, Chapter in *Encyclopedia of Wireless and Mobile Communications*, 2nd Edition, CRC Press, Boca Raton, Florida, 2013.

14. B. Furht, H. Kalva, and R. Friedel, "Distributed Cloud Computing: 3-D Visualization Services for Climate Data on Demand, published in the NSF Compendium of Industry-Nominated Technology Breakthroughs of NSF Industry/University Cooperative Research Centers, NSF Publication, 2012.
15. N. Rishe, B. Furht, M. Adjoudi, A. Barreto, D. Davis, O. Wolfson, Y. Yesha, and Y. Yesha, "Semantic Wrapper: Concise Semantic Querying of Legacy Relational Databases," Chapter in the Handbook of Data Intensive Computing, Springer-Science and Business Media, 2011.
16. N. Rishe, B. Furht, M. Adjoudi, A. Barreto, E. Cheremisina, D. Davis, O. Wolfson, N. Adam, Y. Yesha, and Y. Yesha, "Geospatial Data Management with Terraflly," Chapter in the Handbook of Data Intensive Computing, Springer-Science and Business Media, 2011.
17. J. Carmingnani and B. Furht, "Augmented Reality: An Overview", Chapter in the Handbook of Augmented Reality, Springer-Science and Business Media, 2011.
18. B. Furht, "Cloud Computing Fundamentals," a chapter in Handbook of Cloud Computing, Springer Science and Business Media, 2010.
19. K. P. Joshi, Ye. Yesha, A.A. Ozok, Ya. Yesha, A. Lahane, H. Kalva, A. Agarwal, and B. Furht, "User Centric Smart Services on the Cloud," a chapter in the book on Smart Internet, SITCON, 2010.
20. B. Furht, "Three-Dimensional Video Visualization and Navigation System," Encyclopedia of Multimedia, Springer Science and Business Media, 2008, pp. 869-873.
21. P. Sanigepalli, H. Kalva, and B. Furht, "Multimedia Broadcast Multicast Service (MBMS)," Encyclopedia of Wireless and Mobile Communications, CRC Press, November 2007.
22. B. Furht, D. Socek, and A.M. Eskicioglu, "Fundamentals of Multimedia Encryption Techniques," a chapter in Multimedia Security Handbook, CRC Press, 2005.
23. E. Muharemagic and B. Furht, "A Survey of Multimedia Watermarking Techniques," a chapter in Multimedia Security Handbook, CRC Press, 2005.
24. B. Furht, R. Westwater, and J. Ice, "Multimedia Broadcasting Techniques: Present Approaches and New Trends," a chapter in Intelligent Virtual World, T.K. Shih and P.P. Wang, Eds., World Scientific Publishing Co., Singapore, 2004.
25. B. Furht and D. Socek, "Multimedia Security: Encryption Techniques," in Comprehensive Report on Information Security, International Engineering Consortium, Chicago, IL, 2004.
26. E. Muharemagic and B. Furht, "Multimedia Security: Watermarking Techniques," in Comprehensive Report on Information Security, International Engineering Consortium, Chicago, IL, 2004.
27. O. Marques and B. Furht, "Introduction to Video Databases," a chapter in the "Handbook of Video Databases," CRC Press, Boca Raton, Florida, 2004.
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33. B. Furht, "Internet Architectures," a chapter in the "Handbook of Computer Engineering," edited by V. Oklobdjija, *CRC Press*, Boca Raton, Florida, 2001.
34. C. Law and B. Furht, "The MPEG-4 Standard for Internet-based Multimedia Applications," a chapter in the "Handbook of Internet Computing", *CRC Press*, Boca Raton, FL, 2000.
35. O. Marques, S. Fallon, and B. Furht, "Content-Based Multimedia Retrieval on the Internet," a chapter in the "Handbook of Internet Computing", *CRC Press*, Boca Raton, FL, 2000.
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37. X. Li and B. Furht, "Design and Implementation of Digital Libraries," a chapter in the "Handbook of Internet Computing", *CRC Press*, Boca Raton, FL, 2000.
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63. B. Furht, "Real-Time Systems Theory and Practice: Can We Bridge the Gap?" *Proceedings of the NATO Advanced Study Institute on Real-Time Computing*, Sent Martin, October 1992. (abstract).
64. B. Furht, "Next Generation of Real-Time Operating Systems", *Proceedings of the NATO Advanced Study Institute on Real-Time Computing*, Sent Martin, October 1992. (abstract).
65. B. Furht, "Suiting up RISC for Real-Time", *Computer Design*, September 1991, pp. 81.
66. P. Matthews and B. Furht, "Evaluating Real-Time UNIX", *Embedded Systems Programming*, Vol. 4, No. 7, July 1991, pp. 28-36.
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68. B. Furht, "Language Directed Complex Instruction Set Computer Architectures", in the book *High-Level Language Computer Architecture*, edited by V. Milutinovic, *Computer Science Press*, Rockville, Maryland, 1989.
69. B. Furht and V. Milutinovic, "Microprocessor Architectures for Virtual Memory Management", in the book "Computer Architecture", edited by Gajski, Milutinovic, Siegel, and Furht, *IEEE Computer Society Press*, 1987, pp. 191-209.
70. A. Kabakibo, V. Milutinovic, A. Silbey, and B. Furht, "A Survey of Cache Memories in Modern Mini and Micro Computer Systems", in the book "Computer Architecture", edited by Gajski, Milutinovic, Siegel, and Furht, *IEEE Computer Society Press*, 1987, pp. 210-227.
71. B. Furht and S. Matic, "Realization of Error-Free Transmission Using Microprocessors", in the book *Algebraic Coding - Theory and Applications*, edited by J. Longo, *Springer Verlag*, Vienna-New York, 1979.

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Department of Computer Science and Engineering, Florida Atlantic University, Boca Raton, Florida

1. B. Furht, J. Hu, and P. Benichou, "Creating and Retrieving Retail Catalogs Using IBM's Ultimedia Manager", *Report TR-CSE-96-19*, 1996.
2. R. Westwater and B. Furht, "A New Video Compression Algorithm Based on Three-Dimensional Discrete Cosine Transform", *Report TR-CSE-95-36*, 1995.
3. B. Furht, J. Greenberg, T.W. Gresham, Y. Liao, D. Schenker, and D. Sommers, "Color JPEG Compression Experiments", *Report TR-CSE-95-33*, 1995.
4. H. Kalva and B. Furht, "Analysis of Scheduling Schemes for Video-On-Demand Services", *Report TR-CSE-95-04*, 1995.
5. B. Furht, "Parallel Computing: Glory and Collapse - and Beyond", *Report TR-CSE-94-59*, December 1994.
6. H. Kalva and B. Furht, "Techniques for Improving the Capacity of Video On-Demand Systems", *Report TR-CSE-94-53*, 1994.
7. M. Kessler and B. Furht, "Hypermedia Techniques for Distributed Systems", *Report TR-CSE-94-41*, 1994.
8. H. Kalva, R. Mohammad, and B. Furht, "A Survey of Multimedia Networks", *Report TR-CSE-94-42*, 1994.
9. P. Chilamakuri, D.R. Hawthorne, and B. Furht, "Evaluation of Image and Video Compression Techniques", *Report TR-CSE-94-44*, 1994.
10. B. Furht, D. Kalra, and F. Kitson, "Issues in Designing Interactive Television Systems", *Report TR-CSE-94-29*, 1994.
11. B. Furht, "A Survey of Compression Techniques and Standards", *Report TR-CSE-94-36*, 1994.
12. A. Thiruppathi, S. Nayar, S. Chitturi, and B. Furht, "Real-Time Audio and Text Conferencing System", *Report TR-CSE-94-13*, 1994.
13. P. Monnes and B. Furht, "Parallel JPEG Algorithms for Still Image Compression", *Report TR-CSE-93-52*, 1993.
14. M. Kessler, J. Alexander, and B. Furht, "JPEG Still Image Compression Algorithm: Analysis and Implementation", *Report TR-CSE-94-07*, 1994.
15. H. Kalva, A. Vasanadu, R. Mohammad, S.K. Raghupathy, and B. Furht, "Parallel JPEG Image Compression Algorithm for MasPar Parallel Computer", *Report TR-CSE-94-05*, 1994.
16. G. Morse and B. Furht, "Issues in Designing an Interactive TV Set Top Box", *Report TR-CSE-94-06*, 1994.
17. P. Monnes and B. Furht, "Parallel JPEG Algorithms for Still Image Compression", *Report TR-CSE-93-52*, 1993.
18. S Murali and B. Furht, "High-Performance I/O Systems for Parallel Computers", *Report TR-CSE-93-50*, 1993.
19. L. Ehley, M. Ilyas, and B. Furht, "Evaluation of Multimedia Synchronization Techniques", *Report TR-CSE-93-34*, 1993.
20. B. Furht, "Multimedia Systems: A Guided Tour", *Report TR-CSE-93-42*, 1993.
21. P. Pinter and B. Furht, "Emulation of a CISC Processor on a RISC System", *Report TR-CSE-93-27*, 1993.
22. B. Furht, "A Reconfigurable Real-Time Multiprocessor System for Parallel Processing", *Report TR-CSE-93-06*, 1993.
23. B. Furht, "The Design of a New Generation of Real-Time Computers Based on Industry Standards", *Report TR-CSE-93-07*, 1993.
24. B. Furht and W. Halang, "The Future of Real-Time and Embedded Computing Systems", *Report TR-CSE-92-30*, 1992.

25. B. Furht, "The Reality of a Real-Time UNIX Operating System", *Report TR-CSE-92-29*, 1992.
26. B. Furht, Editor, *Proceedings of MODCOMP Papers 1990*, *Modcomp Press*, Fort Lauderdale, January 1991.
27. B. Furht, Editor, *Proceedings of MODCOMP Papers 1989*, *Modcomp Press*, Fort Lauderdale, January 1990.
28. B. Furht, Editor, *Proceedings of MODCOMP Papers 1988*, *Modcomp Press*, Fort Lauderdale, January 1989.
29. B. Furht, A. Aquart, R. Dandia, S. Masson, and H. Sanchez, "Handbook on Cordis Software Life Cycle", *Cordis Corporation*, Miami, Florida, December 1986.

Patents and patent applications

1. B. Furht, O. Marques, and A. Colic, "Driver Drowsiness Detection System Using Image Processing", *FAU Patent Disclosure (July 2014)*, and *Provisional Patent 62/027,573*, August 2014.
2. H. Kalva, D. Pappusetty, and B. Furht, "Software for Automated Data Backup, FAU 201401 Software License, 2014.
3. B. Furht, "Interactive System for Visualization and Retrieval of Video Data," *Provisional Patent Application, FAU, 2007.*
4. H. Kalva and B. Furht, "A Method and Apparatus for Multi-View Video Coding," *Provisional Patent Application, FAU, 2005, Provisional Patent #2005-18.*
5. B. Furht and G. Rabbat, "Method for Measuring Three-Dimensional Computer Performance", *European Patent, Modcomp Corp., 1989.*
6. W. Earnshaw, B. Furht, R. Kibler, J. Parker, H. Ohel, G. Rabbat, and P. Ripy, "Three-Dimensional Computer Architecture", *European Patent No. 89112824.1, Modcomp Corp. 1989.*

Consulting Projects

- "The Future of Virtual Private Networks," Research Study for the International Engineering Consortium, Chicago, IL, January 2001 - December 2001.
- "Application Service Providers," Research Study for the International Engineering Consortium, Chicago, IL, November 1999 - November 2000.
- "The Future of Unified Messaging", Research Study for the International Engineering Consortium, Chicago, IL, November 1998 - November 1999.

Professional Service

Membership in Professional Societies and various industry activities

- IEEE and IEEE Computer Society
 Chairman of the Miami Chapter (1984-86)
 Senior Member

- Wigime, Inc., Palm Beach, Florida
Member of the Advisory Board (2009-2012)
- Be Spotted, LLC, Palm Beach Garden, Florida
Director at the Board of Directors (2010 - 2012)
- Cylex Systems, Inc., Boca Raton, Florida
Director at the Board of Directors (2001-2002)
Member of the Advisory Board (1995-1998)
- Pipe Dream, Inc., West Palm Beach Florida
Director at the Board of Directors (1996-98)
- Wiznet, Inc., Delray Beach, Florida
Director at the Board of Directors (1994-1995)
- Tau Beta Pi and Upsilon Pi Epsilon
Member
- Reviewer of research proposals for
 - Italian Ministry of Science
 - Ministry of Science - Singapore
 - British National Science Foundation
 - Research Grants Council of Hong Kong
 - The Netherlands Organization for Scientific Research

University Service

Florida Atlantic University

Chairperson of the CEECS Department (2009-2013)

Chairperson of the CSE Department (2002-2009)

Director of the NSF Industry/University Cooperative Research Center for Advanced Knowledge Enablement, FAU Site, (2009-present)

Member of the FAU Entrepreneurship Platform Steering Committee (2016 - present)

Senior Assistant Vice President for Engineering and Technology (2006-2008)

Senior Advisor to Vice President for Research and Graduate Studies (2003-2006)

Member of the TRAC Committee, which is collaborating with companies in the FAU Research Park (2007-2014).

Member of the University Task Force for Faculty Incentive Pay (2015 - present)

Member of the University Intellectual Property Committee (2004-2014).

Member of the GAP Committee (2005-10), which provided seed funding for potentially promising research projects at FAU.

Chair of the University Research Incentive Committee (2002-04).

Director of the CSE Graduate Programs (1993-1997)

Member of the CSE Dept. Executive Committee (1992-1997)

Chair of the CSE Research Committee (1998-1999)

University of Miami

Member of the Graduate Faculty (1983-1988)

Member of the College of Engineering Council (1984-1986)

Member of the Computer Engineering Curriculum Committee (1982-1988)

Principal Consultancies

- Expert Witness for Adobe vs Afluo (2013-2014)
- Expert Witness for Bell Canada (2014)
- Expert Witness for Qualcomm vs. Broadcom (2006)
- Expert Witness for Cisco adverse Vox2Vox Communications (2002-2003)
- International Engineering Consortium, Chicago, IL (1998-2001)
- Cylex Systems, Boca Raton, Florida (1999-2000)
- General Electric, Milwaukee, WI (1996-1997)
- Samsung Data Systems, Seoul, Korea (1995)
- Rank Xerox, London, England (1993-1995)
- NASA Jet Propulsion Laboratory (1992)
- IBM Almaden Research Center, San Jose , California (1985-1986, 1992-1994)
- Hewlett-Packard, Denver, Colorado and Cupertino, California (1992)
- Modular Computer Systems, Fort Lauderdale, Florida (1987, 1992)
- Cordis Corporation, Miami, Florida (1983-1987)
- NASA Kennedy Space Center (1985)
- Honeywell, Clearwater, Florida (1985)
- RCA, Camden, New Jersey (1984)

Professional Recognition

Editorial Activities

- Editor-in-Chief of the *International Journal of Multimedia Tools and Applications*, Kluwer Academic Publishers, Norwell, MA, Springer Publisher from 2004, (1994 - present).
- Editor-in-Chief of the *Journal of Big Data*, Springer Publisher (2013 - present).
- Editor-in-Chief of the *International Journal of Computers and Applications*, Acta Press, (1984 - 2004).
- Member of the Editorial Board for International Review on Computers and Software (IRECOS), (2016-present).
- Member of the Editorial Board of *Real-Time Imaging Journal* (1995 - 2000)
- Associate Editor of *Real-Time Systems Journal* (1988 - 1996).
- Consulting Editor for the book series on *Multimedia Systems and Applications*, Kluwer Academic Publishers, Norwell, MA, (1995-present).

- Consulting Editor for the book series on *Internet and Communications*, CRC Press, Boca Raton, Florida (1999-present).

Conferences

- Member of the Program Committee for the Tenth International Conference on Communication Theory, Reliability, and Quality of Service, Venice, Italy, April 23-27, 2017.
- Member of the Technical Advisory Committee for International Conference on Big Data and Cloud Computing (ICBDCC17), April 2017.
- Industrial Panel Chair, ACM Multimedia 2014, Orlando, Florida, November 2014.
- General Co-Chair of 4th International Conference on Information Science and Applications (ICISA 2013), Pattaya, Thailand, June 2013.
- Organizer and Moderator of the United Nations (UN) Forum on Education and Technology, June 2013.
- General Co-Chair of 2nd International Conference on Information Science and Applications (ICISA 2011), Jeju Island, April 2011.
- Program Co-Chair for Workshop Selection for the ACM Multimedia Conference, Phoenix, AZ, 2011.
- Member of the Program Committee of the International Workshop on Multimedia Techniques for Augmented Reality, Gijon, France, November 2011.
- General Chair of the *International Conference on Multimedia Information Networking and Security (MINES2010)*, Nanjing, China, November 2010.
- General Co-Chair of 1st International Conference on Information Science and Applications (ICISA 2010), Seoul, Korea, April 2010.
- Member of the Advisory Committee of the 5th International Conference on Future Information Technology, Jeju, Korea, May 2010.
- General Co-Chair of the *International Conference on Multimedia Information Networking and Security (MINES2009)*, Wuhan, China, November 2009.
- Co-Chair of the *KES International Symposium on Intelligent Interactive Multimedia Systems*, (IIMSS 2009), Mogliano Veneto, Italy, July 2009.
- Member of the Program Committee of the *Multimedia Visualization and Human-Media Interaction Track* at the ACM SAC'09, Honolulu, Hawaii, March 2009.
- Member of the Program Committee for the International Symposium ELMAR, Zadar, Croatia, September 2009.
- Co-Chair of the *Track on Multimedia Applications* at the IEEE International Conference on Multimedia & Expo, Toronto, Canada, July 2006.
- Co-Chair of the *Workshop on Wireless Multimedia* at the Sixth International Symposium on Multimedia Software Engineering, Miami, FL, December 2004.
- Member of the Program Committee for the 1st IEEE International Workshop on Networking Issues in Multimedia Entertainment at GLOBECOM 2004, Dallas, TX, November 2004.

- Member of the Program Committee for the *Fifth International Workshop on Multimedia Data Mining* at the 10th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining, Seattle, Washington, August 2004.
- Organizer of the *Workshop on Image and Video Databases* at the ACM Symposium on Applied Computing SAC 2003, Melbourne, Florida, March 2003.
- Area Chair for the *ACM Multimedia Conference*, Juan-les-Pins, France, December 2002.
- Area Chairman and Member of the Program Committee for the *IEEE Int. Conference on Multimedia and Expo*, Tokyo, Japan, August 2001.
- Member of the Program Committee of the International Game Technology Conference and Idea Expo 2001 and 2002, Hong Kong, January 2001 and January 2002.
- Member of the Program Committee of the *2nd and 3rd IEEE International Symposia on Video Processing and Multimedia Communications*, Zadar, Croatia, June 2000, June 2001, and June 2002.
- Member of the Program Committee for the *2001 IEEE Workshop on Multimedia Signal Processing*, Cannes, France, October 2001.
- General Chairman of *Fourth IASTED Conference on Internet and Multimedia Systems and Applications*, Las Vegas, Nevada, November 2000.
- Member of the Program Committee of the *Fourth Int. Conference on Visual Information Systems*, Lyon, France, November 2000.
- Area Chairman and Member of the Program Committee for the *IEEE Int. Conference on Multimedia Systems and Expo*, New York, July 2000.
- Chairman of the Program Committee for America, *IEEE Int. Conference on Multimedia Computing and Systems*, Florence, Italy, June 1999.
- General Chairman, *Third Int. Conference on Internet and Multimedia Systems and Applications*, Nassau, Bahamas, October 1999.
- Member of the Program Committee of the Visual 2000 Conference
- Member of the Program Committee at the *IEEE SICON'98, SICON'99, and SICON'2000 Conferences*, Singapore.
- Member of the Program Committee at the *4th Int. Workshop on Multimedia Database Management Systems*, Dayton, Ohio, August 1998.
- Member of the Program Committees of the Int. Conferences on Information, Communication, and Signal Processing, ICICS'97 and ICICS'99, Singapore.
- Member of the Program Committee at the *IEEE Int. Conference on Multimedia Computing and Systems*, Ottawa, Canada, June 1997.
- Member of the Program Committee at the *European Workshop on Interactive Distributed Multimedia Systems and Telecommunication Services*, Darmstadt, Germany, September 1997.
- Member of the Program Committee at the *Fourth IEEE Workshop on Community Networking*, Atlanta, Georgia, September 1997.
- Member of the International Advisory Board at the *First International Conference on Information, Communications, and Signal Processing*, Singapore, September 1997.

- Member of the Program Committee at the *Third IEEE Int. Conference on Engineering of Complex Computer Systems*, Como, Italy, 1997.
- Member of the Program Committee at the *4th ACM Multimedia Conference*, Boston, Mass., November 1996.
- Member of the Program Committee at the *Second IEEE Int. Conference on Engineering of Complex Computer Systems*, Montreal, Canada, October 1996.
- Member of the Program Committee at the *Int. Workshop on Multimedia Database Management Systems*, Blue Mountain Lanke, New York, August 1996.
- Member of the Program Committee at the *IEEE Int. Conference on Multimedia Computing and Systems*, Hiroshima, Japan, June 1996.
- Vice-Chair of Multimedia Track at the *IEEE Workshop on Parallel and Distributed Real-Time Systems*, Honolulu, Hawaii, April 1996.
- Guest Editor of the *Special Issue of Real-Time Imaging Journal on Multimedia Systems and Applications*, February 1996 and August 1996.
- Member of the Program Committee at the *First Int. Conference on Visual Information Systems*, Melbourne, Australia, February 1996.
- Organizer and Co-Chairman of the *Workshop on Multimedia Applications at the ACM CSC/SAC Conference*, Philadelphia, PA, February 1996.
- Local Arrangements Chair and Member of the Program Committee at the *First IEEE Int. Conference on Engineering of Complex Computer Systems*, Fort Lauderdale, Florida, November 1995.
- Program Chairman of the *Second International Conference on Distributed Multimedia Systems and Applications*, Stanford, California, August 1995.
- Member of the Advisory Board for the *Conference on Electronic Publishing and the Information Superhighway DAGS95*, Boston, MA, May 1995.
- Organizer of the session on Video and Multimedia at the *INFORMS Telecommunications Conference*, Boca Raton, Florida, March 1995.
- Member of the Program Committee of the *IEEE Workshop on Parallel and Distributed Real-Time Systems*, Santa Barbara, CA, April 1995.
- General Chairman of the *First International Conference on Distributed Multimedia Systems and Applications*, Honolulu, Hawaii, August 1994.
- Tutorial Chairman and member of the Program Committee of *PARBASE'90 - International IEEE Conference on Databases, Parallel Architectures, and Their Applications*, Miami Beach, Florida, March 1990.
- Organizer of a Minitrack on Architectures for Real-Time Systems at *22nd Hawaii International IEEE Conference on System Sciences*, Kona, Hawaii, January 1989.
- Program Chairman of the *International Conference on Mini and Microcomputers: From Micros to Supercomputers*, Miami Beach, Florida, December 1988.
- Organizer of sessions on Computer Architecture at *WESCON '85*, Anaheim, CA, 1985, *MIDCON '85*, Chicago, IL, 1985, and *WESCON '88*, Anaheim, CA, 1988.

Invited Lectures and Presentations

- Invited Speaker at Vienna Congress com.suit 2017 on the theme “Call for Future”.
- Keynote Talk on “Industry/University Collaboration in Creating Advanced Multimedia Systems and Tools,” 58th International Symposium ELMAR-2016, Zadar, Croatia, September 2016.
- “Invited presentation on “Industrial Involvement in Engineering Programs,” ABET Symposium, Hollywood, Florida, April 2016.
- Invited presentation on “Creating Entrepreneurial University,” Serbian Academy of Science and Art, Belgrade, Serbia, June 2015.
- Invited presentation on “NSF Industry/University Cooperative Research Center for Advanced Knowledge Enablement: How We Can Help Entrepreneurs,” Mobile Technology Consortium Meeting, Boca Raton, Florida, March 2015.
- Keynote Talk on “Industry/University Collaboration in Creating Advanced Multimedia Technologies,” CECNet 2014: International Conference on Consumer Electronics, Communications and Networks, Beijing, China, December 2014.
- Invited presentation on “Creating Entrepreneurial University,” University of Brugge, Belgium, June 2014.
- Invited presentation on “Collaborative Research LexisNexis and Florida Atlantic University,” 2014 LexisNexis HPCC Engineering Summit, Atlanta, GA, October 7, 2014.
- Invited presentation, “Smart Physician/Patient Decision Support Healthcare System,” 3rd International Congress on Personalized Medicine, Prague, Czech Republic, June 2014.
- Keynote Talk at the International Conference on Distributed Multimedia Systems, Miami Beach, Florida, August 2012.
- Keynote Address at 2nd International Conference on Information Science and Applications (ICISA 2010), Jeju Island, April 2011.
- Keynote Address at the 5th International Conference on Embedded and Multimedia Computing (EMC-10), Cebu, Philippines, August 2010.
- Keynote Address at 1st International Conference on Information Science and Applications (ICISA 2010), Seoul, Korea, April 2010.
- Invited Lecture “New Avenues in Developing Industry/University Research Collaboration,” presented on the World University Presidents Summit WUPS2009, Belgrade, Serbia, April 2009.
- Invited Lecture, “Interactive System for Navigation, Visualization, and Retrieval of Video and Image Data,” presented at VIPSI Conference, Belgrade, Serbia, April 2009.
- Invited Lecture “Visions of Engineering in the New Global Economy,” presented at eContent Summit, Brijuni, Croatia, September 2007.
- Keynote Address, “Visions of Engineering in the New Global Economy,” presented at IPSI Montenegro Conference, Sveti Stefan, September 2005.
- Invited lecture on “Research and Education Challenges in the New Global Economy,” presented at IPSI Conference, Barcelona, Spain, May 2005.

- Keynote Address, "Technological Challenges for Computer Science and the Internet," presented at IPSI Conferences, Toulouse, France, April 2005.
- Keynote Address, "Challenges in Wireless Multimedia," presented at the Computer Conference in Jinan, China, August 2004; also presented seminars at Microsoft Research in Beijing, and Shanghai, August 2004.
- Plenary Address: "Wireless Internet: Trends and Challenges," *Conference Yu-Info-2004*, Kopaonik, Yugoslavia, March 2004.
- Seminar on "Challenges in Wireless Multimedia," presented at Asian Institute of Technology, Bangkok, Thailand, May 2003, and George Washington University, Washington DC, May 2003.
- Keynote Address, "Internet Glory, Collapse, and Beyond," presented at *IASTED International Conference on Communications, Internet, and Information Technology*, St. Thomas, November 2002.
- Plenary Address: "Advances in Internet Engineering," *Conference Yu-Info-2002*, Kopaonik, Yugoslavia, March 2002.
- Invited Lecture: "Real-Time Video on the Internet - Current Status and Future Trends," *2001 IEEE Workshop on Multimedia Signal Processing*, Cannes, France, October 2001.
- Keynote Address: "Internet Revolution: Current Status and Future Challenges," *International Conference on Advances in Infrastructure for Electronic Business, Science, and Education on the Internet - SGGR 2001*, L'Aquila, Italy, August 2001.
- Plenary Address: "Advances in Internet Engineering," *Conference Yu-Info-2001*, Kopaonik, Yugoslavia, March 2001.
- Invited Lecture: "From Internet Service Providers to Application Service Providers," *Advanced Internet Technology Series*, Florida Atlantic University, Boca Raton, Florida, October 2000.
- Keynote Address: "Application Service Providers", *International Conference on Information Technology - Coding and Computing*, Las Vegas, Nevada, March 2000.
- Keynote Address: "Application Service Providers - A New Trend in Business on the Internet," *International Conference on Applied Informatics*, Innsbruck, Austria, February 2000.
- Keynote Address: "Parallel Computing: Glory, Collapse, and Beyond", *The 4th Australian Conference on Parallel and Real-Time Systems*, Newcastle, Australia, September 1997.
- Keynote lecture at *General Electric Conference*, Miami, Florida, January 1997. Topic: "Information Technologies for the 21st Century".
- Invited graduate colloquium at *Northern Illinois University*, De Kalb, IL, October 1996. Topic: Interactive Television Systems and Information Superhighways".
- Invited seminar at *Rank Xerox*, London, England, November 1995. Topic: "Trends in Multimedia and Information Superhighways".
- Invited lecture at the *Siggraph Meeting*, South Florida Chapter, Fort Lauderdale, October 1995, Topic: "Trends in Information Superhighways".

- Invited lecture at the *Institute of Industrial Science, University of Tokyo, Japan, August 1995, Topic: "Interactive Television Systems"*.
- Invited lecture at the *Samsung Data Systems, Seoul, Korea, August 1995. Topic: "Trends in Distributed Multimedia Systems and Applications"*.
- Invited lecture at the *Institute of Systems Science, University of Singapore, July 1995, Topic: "On-Demand Multimedia Services"*.
- Invited lecture at the *Nanyang Technological University, Singapore, July 1995, Topic: "Interactive Television Systems"*.
- Invited speaker at the *Rank Xerox Customer Event - Showcase'95, London, England, April 1995. Topic: "Productivity Through the Use of Multimedia"*.
- Invited video-conferencing lecture presented at the *FOCUS Conference, Amsterdam, The Netherlands, October 1995, Topic: "Information Superhighways: How to Get Finally the End User?"*
- Invited speaker at the *International Interactive Communications Society Meeting, Miami, Florida, January 1995, Topic: "Trends in Distributed Multimedia Systems"*.
- Invited lecture at *IBM Almaden Research Center, San Jose, CA, March 1994, Topic: "On-Demand Multimedia Architectures and Applications"*.
- Keynote speaker on the *12th IASTED Int. Conference on Applied Informatics, Annecy, France, May 1994, Topic: "Multimedia Systems and Applications"*.
- Invited plenary presentation at the *First IEEE Workshop on Real-Time Applications, New York, May 1993, Topic: "Real-Time Computer Systems: Current and Future Trends"*.
- Invited lecturer, *NATO Advanced Study Institute on Real-Time Computing, Sent Marteen, October 1992, Topic: "Real-Time UNIX Operating Systems"*.
- Invited lecturer, *NATO Advanced Study Institute on Computer Architecture, L'Aquila, Italy, June 1988. Topic: "Trends in Parallel Computing"*.