CURRICULUM VITAE

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ACADEMIC TRAINING

Ph.D. E.E.	The University of Alabama in Huntsville	3/85
M.S.E.E.	The University of Alabama in Huntsville	8/81
B.S.E.E.	The University of Alabama in Huntsville	5/80

PROFESSIONAL EXPERIENCE

2001 - 2008	Coordinator/Director, Graduate Program, managed and administered the interdisciplinary program
1992 - Present	Secured and managed more than $7,000,000.00 external research funding
2003 - Present	Founding Director of the Center for Research on Advanced Control of Autonomous Systems and Manufacturing
2002 - Present	Graduate Faculty, LDCS&EE West Virginia University
8/1994 - Present	Professor, Department of Electrical and Computer Engineering, West Virginia University Institute of Technology
8/1991 - 8/1994	Associate Professor, Department of Electrical Engineering West Virginia University Institute of Technology

Tenured since 1990 (5 years after initial appointment)

8/1985 - 8/1991	Assistant Professor, Department of Electrical Engineering West Virginia University Institute of Technology
3/1985 - 8/1985	Assistant Professor, Department of Electrical and Computer Engineering The University of Alabama in Huntsville
9/1981 - 3/1985	Graduate Teaching Assistant, Department of Electrical and Computer Engineering, University of Alabama in Huntsville

RECOGNITIONS, HONORS AND AWARDS

- 2019- In Recognition of Many Years of Loyal Member & Support of Activities of IEEE have Achieved Statutes of Life Senior Member
- 2017--- IEEE Certificate of Appreciation, for notable Services and Contributions toward the advancement of IEEE and the Engineering Professions from IEEE
- 2013, Awarded, "Salary Enhancement for Continued Academic Achievement"
- Elected Faculty Assembly Chair - 2013-2014
- 2010- Awarded Certificate of Appreciation for 25 years of loyal and dedication service to the State of West Virginia by Governor Joe Manchin III
- Elected and served, IEEE West Virginia Section Chair 2009
- 2008: "Salary Enhancement for Continued Academic Achievement"
- Recognized by Governor of West Virginia honorable Bob Wise with a Certificate of Achievement in Scientific Research, February 9, 2004.
- Recipient of LCN College of Engineering Faculty Merit Award, 2000, 2001, 2002, and 2003.
- Received the very first Award of Excellence for research from LCN College of Engineering, April 2003.
- 2009—IEEE Certificate of Appreciation, for notable Services and Contributions toward the advancement of IEEE and the Engineering Professions from IEEE
- Senior Member IEEE since 1998
- Awarded, NSF Faculty Enhancement Course, "A Unified Classical/Modern Approach for Undergraduate Control Education with Integrated Laboratory," Georgia Tech, July 21-25, 1997
- Eta Kappa Nu, International Electrical Engineering Honorary

TEACHING ACTIVITIES

Courses Taught:

- 1985-present—more than 28 different graduate and undergraduate courses at West Virginia University Institute of Technology
  Undergraduate: Circuits I & II, Signal and Systems I &II, Digital Electronics, Introduction to Electronics, Analog Electronics, Automatic Control, Electrical Engineering I, Introduction to Communications, Senior Seminar and Senior Design.
- **Senior elective courses developed and taught**: Network Synthesis, Introduction to Robotics, Intro to Digital Control, Unmanned Ground Vehicles (UGV)), and Intelligent protection of Power Systems.
- **Graduate**: Developed and taught 11 graduate courses: Modern Control Theory, Robotics, Passive and Active Networks, Adaptive Control, Nonlinear Control Systems, Optimal Control, Modeling and Simulation, Control System Design, Digital Control Systems, DAC Theory and Linear Adaptive Control and Intelligent Control.
- 1981-1985—Lecture and laboratory courses in the Electrical and Computer Engineering Department, University of Alabama in Huntsville, in the following areas: Electrical Circuits I, Electrical Circuits II, Electric Power system, Electronic Instrumentation, Digital Logic Design, Linear Systems, Electronic Instrumentation Laboratory, Electrical Engineering Laboratory and Electronics Laboratory.

Seminar Presented to LCN College of Engineering and Sciences faculty (Fall 2011)
"The Objective of Engineering Education"

Related to Teaching: Served as Faculty Associate WVU Teaching Learning Commons; organized three meetings "TLC's Effective Teaching Practices Learning Community at WVU Institute of Technology" for more than 10 tenure-track faculty members of L.C.N. College of Engineering, and gave a presentation related to teaching engineering

Student Supervision and Advising at West Virginia University Institute of Technology

- Provided undergraduate research opportunities to more than 50 students
- Supervised more than 70 M.S. theses and Research Projects.
- Member, 7 completed PhD. Dissertation Committees, LDCSEE, WVU
- Member, 5 completed M.S. thesis Committees, LDCSEE, WVU
- Undergraduate students' academic advisor since 1985.

Laboratory Development:

- Established the Control Systems and Robotics Laboratory with EPSCOR and NSF grants. This lab supports the Automatic Control, Digital Control and Robotics courses.
- Developed laboratory experiments for Digital Electronics, Analog Electronics, Introduction to Electronics, Circuits I &II and Control Systems.

Curriculum Development:

- 2009—Developed and submitted a full proposal for Energy Track within the ECE Department
- 2001—Developed and submitted to ECE Department a proposal on how to improve and enhance the energy area within the ECE curriculum
- 1992—Developed Control and Robotics Laboratory within the ECE Department, and added control lab into the curriculum. The Lab was developed with the total of $94,000.00 external funding that I was awarded by NSF grant ($68,000.00) 1993 and two EPSCoR grants of $14,000.00 (1992) and $12,000.00 (2002).
- Designed and developed the Control Systems Engineering Program Curriculum (12 courses).
- Developed and taught four senior elective courses within the ECE curriculum, Digital Control, Robotics, Unmanned Ground Vehicles (UGV), and Intelligent Protection of Power Systems.

Development of M.S. Control System Engineering: 1988-1989

Primary Contributions

- Design, develop and implement the M.S. in Control System Engineering
- Design Curriculum for Control System Engineering

ABET Accreditation Visits and Preparations for Visits:

- Since 1985, I have contributed to preparations and reports for all accreditation evaluations and actively participated in all the ABET visits for the programs within the Electrical and Computer Engineering Department.
- Attended the ABET Engineering Criteria 2000 workshop, WVU March 1999.

ADMINISTRATIVE/LEADERSHIP EXPERIENCE

Coordinator/Director, Graduate Program, LCN College of Engineering 2001-2008

Primary Responsibilities

- Coordinated College of Engineering graduate studies activities, including administration of the graduate program, preparation of the graduate program review, and reviews of recruitment and retention
- Prepared program review
- Scheduled courses and assigned teachers
- Developed a program of study for students
- Conducted graduation checks
- Reviewed applications
- Designed and implemented the thesis option
- Supervised curriculum and program development
- Coordinated and facilitated the activities of the Graduate Program with the WVU College of Engineering (Morgantown campus)
- Organized and coordinated biweekly Graduate Seminars

Founding Director, Center for Research on Advanced Control of Autonomous Systems and Manufacturing **(**2003-present)

Primary Responsibilities

- Develop the research and physical infrastructure
- Support graduate programs to attract better students and retain them
- Cover cost-sharing on Center's proposals
- Pay for software costs/upgrades
- Maintain and repair research equipment
- Invest in innovative areas of research
- Support research with industries
- Conduct national and international conferences and workshops
- Pay for the state-of-the-art meeting and conference rooms
- Promote undergraduate research activities
- Organize distinguished lecture series
- Provide scholarships to students and mini-grants to faculty
- Encourage research in other areas

Member, University Advisory Panel for Promotion and Tenure (selected by the University Faculty Senate Executive Committee) 2007, 2009, 2014, 2016 and 2017

Primary Responsibilities

- Review applications submitted for Promotion, tenure, or both, from the entire West Virginia University System.
- Review the recommendations and faculty appeals.

WVU Faculty Senate Student Evaluation Instruction:

Two consecutive terms, served as member of WVU Faculty Senate Student Evaluation Instruction (SEI) Committee; revised/modified the "Mother Document"

Special Assignment by Dean of Engineering 1999

Primary Responsibilities

- Move the Computer Eng. B.S. program to another level of approval
- Transfer the Control Systems Eng. M.S., program to an evening and non-traditional basis
- Coordinate with the University of Charleston Campus and form a collaborative collegial

interaction

FACULTY LEADERSHIP

Chair, Faculty Assembly 2013-2014

Primary Responsibilities

Overseeing 15 committees, chairing Faculty Assembly Council, presiding over Faculty Assembly monthly meeting, serving as a member of the Cabinet, and member of the Institutional Board of Visitors

Advisory Council of Faculty Representing WVU Tech (2017-?)

Primary Responsibilities:

The Advisory Council of Faculty (ACF) was established by West Virginia Code §18B-6-2, as an advisory body of higher education faculty to

• serve as a resource to the legislature and advise the legislature on higher education;

• provide advice to the Higher Education Policy Commission and the Council for Community and Technical College Education in the development of policies and issues pertaining to higher education;

• report to and advise local boards of governors and faculty constituents on issues pertaining to higher education.

In addition ACF has monthly meeting including June and July (Retreat Meeting).

Chair IEEE West Virginia Section 2009-2011, 2014-2017

Primary Responsibilities and Contributions

- Activated the Section which had been inactive for several years
- Organized and conducted monthly meetings,
- Organized technical meetings and field trips (including one to the NRAO facility in Green Bank WV)
- Initiated a student design contest with first place $500, second place $300 and third place$200
- Appointed Consultants Chair, Networks Chair, Membership Development Chair, and Webmaster
- Reclaimed and revised Section's Web site
- Established Section History
- Increased membership from 119 to 137, largest percentage increase among 20 Sections within Region 2.
  ******The Section was nominated for IEEE Outstanding Section Award**

Other related administrative experience and services

I- University Level

Service to the University, College and Department:

- 2013-2014, **Chair**, Faculty Assembly
- 2012-2013, **Chair Elect**, Faculty Assembly
- Member, WVU Senate Student Evaluation of Instruction (SEI) Committee 2010-2013
- 2012-2013 Chair, Legislative Committee
- Chair, subcommittee to promote undergraduate research at Tech campus. For this I have formed a committee and have developed objectives, action plans, and action strategies

- WVU University Faculty Advisory Panel for Promotion and Tenure (2008, 2009), reviewing more than 70 promotion and tenure applications within the West Virginia University system
- Member, College of Engineering Curriculum Committee, 2001-2008
- Member, two consecutive terms, WVU Senate, 2006-2012
- Twice served as a member of Selection Committee for WVU Foundation Awards for Outstanding Teachers, reviewing teaching performance of more than 20 candidates
- Chair, Academic Integrity Committee
- Member College of Engineering Faculty Evaluation Committee (four times)
- Chair**,** College of Engineering Faculty Evaluation Committee (three times)
- Member, VPAA Search Committee, 2002-2003
- Chair**,** ECE faculty Search Committee, 2002, 2003
- Member, Academic Integrity Policy Committee WVU
- Chair**,** Graduate Committee (2001-2008)
- Member, Graduate Committee (1985-2008)
- Member, Faculty Status Committee (1990-1992, 2002-8, 2012-3)
- Member, Faculty Assembly Council (2005-9, 2011-2)
- Member, Process Control Committee
- Member, Computer Assisted Engineering Lab Committee
- Member, EE Chair Search Committee (1986,1991)
- Member, COGS and WVIT joint Graduate Program in Control
- Member, Faculty Research Committee (1988-1991,1995-7, 1997-9, 2002)
- Member, Athletic Committee
- Member, Control System Review Committee (1990-2001)
- Member, College of Engineering Personnel Review Committee
- Member, College of Engineering Dean Search Committee 1992-3, 2000-1
- Member, Faculty Welfare Committee
- Member, Academic Appeals Committee
- Member, Faculty Salary Equity Taskforce Committee 1996-1998
- Member, College of Engineering Action Plan Committee
- Chair, EE Chair Search Committee, 1995-1996, and 1999-2000
- Member, Library Committee, 1996-1998
- Advisor, Student Branch of IEEE from Fall 1985-1992, 2012-present
- Advisor, Student Branch of Eta Kappa Nu, 2000 -2001, 2004-2005
- Member, Academic Affairs (twice)
- Member, WVU Tech Strategic Initiative Planning; Workgroup IV (Enhancing Academic Programs)
- Member, WVU Tech Strategic Initiative Planning; Workgroup V (Enhancing Financial Resources)
- Member WVU Faculty Senate, having hour and a half monthly meetings (June 2017)
- Member WVU Faculty Senate Welfare Committee, 2017-2018
- Member WVU Faculty Senate Research Integrity Committee, 2017-2018
- Member, Legislative Committee,
- Member, WVU Teaching Learning Commons Faculty Advisory Council
- Elected to serve, Advisory Council of Faculty Representing WVU Tech
- Chair Faculty Status Committee (2017-2018)
- Faculty Assembly Council (ex-officio 2017-?)

- Member, University Advisory Panel for Promotion and Tenure; Review more than 40 applications for promotion and/or promotion and tenure University wide(2017)
- WVU Teaching and Learning Commons Advisory Council since 2016

II- National Level

- **Program Chair, 30th and 35th of the IEEE Southeastern Symposiums on System Theory, March, 1998 and 2003, WVU. Chair of the Technical Review Committee for both conferences**
  Primary Responsibilities
  - Organizing and leading the Technical Review Committees
  - Establishing review process to review more than 120 papers each time
  - Organizing more than 24 sessions for each conferences
  - Selecting preliminary sessions and speakers
  - Assigning chair for each session.

- **2009, 2014 & 2015, Chair IEEE West Virginia Section**
- **2010 & 2013, Vice- Chair, IEEE WV Section**
- Member of Steering Committee of IEEE Southeastern Symposium on System Theory since 1986-2013
- **Session Chair**, IEEE Symposium on System Theory (SSST), have served as session chair each year since 1989
- **Session Chair,** American Control Conference, June 2001, and 2005
- **2010 Associate Editor** of IEEE SSST 2010
- Organized a Session for the IEEE SSST 2002
- **Senior member of IEEE**
- Member, IEEE Control Systems Society
- Member, IEEE Power Systems Engineering Society
- Member, AIAA
- Committee Member of Alternative Energy Symposium
- Delegate from IEEE WV Section; attended and presented a status report for the Section to the Region 2 at the IEEE Section Congress 2008, Quebec Canada
- Delegate from IEEE WV Section to the IEEE Section Congress 2011, San Francisco, CA
- Member, Planning Committee, 44th IEEE Southeastern Symposium on System Theory (SSST) 2012 University of North Florida

Refereeing for Publications

- IEEE Transactions on Education
- IEEE Transactions on Energy Conversion
- IEEE Symposium on System Theory
- The International Association of Science and Technology for Development (IASTED)
- The IEEE Conference on Decision and Control (CDC)
- American Control Conference (ACC)
- The ASME Journal of Dynamic Systems, Measurement and Control
- International Journal on Intelligent Automation and Soft Computing.
- Journal of Electrical Engineering
- Chemical Engineering Communications

- Journal of Process Control
- International Journal of Hydrogen Energy

Review of Proposals:

- **U.S. Civilian Research & Development Foundation.**
  "Designing of ecologically clean technology for creation of technical ceramics with solar energy application"
- **National Priorities Research Program (NPRP), Qatar National Research Fund, (QNRF)**
  1. "Development of Advanced Power Conversion System (PCS) Technologies for High-Megawatt Fuel Cell Power Plants"
  2."Natural Gas Fed Fuel Cell Power Generation and Economic Development"
- **Natural Sciences and Engineering Research Council of Canada (NSERC)**
  "A Novel Open Source Computer Analysis Framework for Fuel Cell Membrane Electrode Assemblies Operating at High Current Density"

Invited Speaker and Panel

- **DOE-EPSCoR annual conference, Argonne National Laboratory Chicago IL, June**

  2004: Title of the talk: "**Intelligent Control of Large-Scale Nonlinear Systems"**
  Panel Goals:
  - Expand use of DOE User facilities by EPSCoR states
  - Identify strategies for developing sustainable collaboration with DOE scientists
  - Share types of collaborations and best practices for student involvement
  - Share research focus
- **2017 WVU Teaching Learning Common Workshop:** Conducted and presented at the Session: "Engineering Education Strategies for Student Engagement" May 11, 2017 09:00-10:30AM (presentation was recorded for on –line)

Research Collaborations and Partnerships

With industries, departments, colleges, campuses and universities:

- 1997-2000, NSF research grants, in collaboration with, ECE Dept. WVU. Summer 1996, in collaboration with Dr. Feliachi of the main Campus of WVU, prepared and submitted the proposal and as Co-PI conducted the research
- 2000-2006, DOE/EPSCoR, research grants, in collaboration with LDCS&EE, WVU. Based on the NSF grant a proposal developed and submitted, collaboration extended for 6 more years.
- 2004-2007, As PI and lead researcher collaborated with Alion Sciences and Technology and Augusta Systems INC, working on a DOD research project (total of $2,616,000.00)
- 2004-2007, DOE/EPSCoR. Research, in collaboration with Math Department, College of Sciences, WVU. As PI led the project in collaboration with Math Department of the main Campus of WVU and the National Energy Technology Lab (NETL)
- 2005-2006 , NASA research grants, in collaboration with MAE Dept. WVU
- 2007-20011, Augusta Systems, DOD/NAVAR research project, (total of $770,000.00). As PI and lead researcher, led the collaboration effort for 5 years.
- 2008-2011, DOD research grant collaborating with FIU. In this collaboration, partially supported Dr. Jeffery Fan's research effort and his graduate students
- 2010-2014, American Science and Technology, DOD/ARL research project,

($2,400,000.00). As the PI and PM of the grant, collaboration with AST (subcontractor) in research and development of DCFC for DOR applications.

Consulting

- **2005-2007, Augusta Systems**: Naval Air Warfare Center STTR Phase I and II , focused on the development of technologies for SWARM mini-unmanned aircraft systems (UASs)
- **2006-present, Solutelia:** Business development in the area of R&D
- **2009-2012, American Science and Technology:** DOD related projects

RESEARCH EXPERIENCE

Partial List of Research Projects:

- Direct Coal Fuel Cell, supported by DOD/Army Research Lab (2010-2014)
- Sensor Optimization-Basic Research, supported by DOD/NAVAIR (2007-2011)
- Intelligent Control System for SWARM UAVs, supported by DOD/NAVAIR (2005-2009)
- On-Line Modeling and Control of a Circulating Fluidized Bed, supported by DOE (2004-2007)
- Cooperative Control of SWARM UAVs supported by DOD/ONR 2004-2005
- Control of Power Distribution Systems in a Deregulated Environments (ongoing)
- Modeling and Control of Fuel Cell
- Modeling and Optimization Control of a Circulating Fluidized Bed, sponsored by the National Energy Technology Lab (NETL)
- Modeling and Control of Power Systems, sponsored by NSF (1998-2001)
- Modeling the Linear Engine, July 15 to August 15, 1999 (WVU-CEMR Research project sponsored by U.S. Army Research Office)
- Modeling of Nonlinear System with Wave Structure
- Modification of Z-Transform.
- Elimination of Limit Cycle with Variable Structure Controller.
- Generalization of Discretization of Dynamical Systems.
- Defense Advance Research Project Agency, Seismic Data Processing, Summer 1992
- Theory and Technique for Analysis and Synthesis of Switch Capacitor-Network (my development)
- RC-Active Circuit Equivalent of an Inductor (my development)
- New Method for Generating Lyapunov Function (my development)
- Variable Structure System Controller (an improved controller)
- A series of studies on seismic data analysis including Cepstrum Technique and Homomorphic Deconvolution

FUNDED PROPOSALS

External Grants Received:

1. **PI,** DOD/ ARL, "Direct Carbon Fuel Cell for DOD Application(8/2/2010-10/1/2014, $2,400,000)
2. **PI,** DOD/NAVAIR "Sensor Optimization-Basic Research" year three (2009-2010, $110,000, July 2010-March 2011)
3. **PI,** DOD/NAVAIR "Sensor Optimization-Basic Research" year three (2009-2010, $120,000, July 2009-March 2010)
4. **PI,** DOD/NAVAIR "Sensor Optimization-Basic Research" year two (2008-2009, $240,000, August 2008-July 2009)

5. **PI,** DOD/NAVAIR "Sensor Optimization-Basic Research" year one (2007-2008, $300,003, started October 2007)
6. **Co-PI** "Development of Advanced Control Laws for UAVs"' NASA, WV Space Grant Consortium, in collaboration with MAE Dept. WVU (2005-2006) $40,000.
7. **PI**, Alion Sciences and Technology "Intelligent Control System for SWARM Systems Evaluation" (2005-2006), $116,000.
8. **PI**, DOD/NAVAIR "Intelligent Control System for SWARM UAVs" (2005-2007) $1,565,400
9. **PI,** DOD/ONR "Cooperative Control of SWARM UAVs" (2004-2008) $753,000.
10. **PI**, DOE/EPSCoR. "On-Line Modeling and Control of Circulating Fluidized Bed" (2004-2007) $360,000
11. **Co- PI**, DoE/ EPSCoR "Integrated Computing, Communication and Distributed Control of Deregulated Electric Power Systems" Collaboration with LDCS&EE, WVU (2000-2006) $2,250,000
12. **PI**, DoE/NETL "Modeling and Control of Circulating Fluidized Bed" (1998-2002) $140,000
13. **Co-PI**, NSF "Robust Decentralization Control of Power Systems" (1997-2000) Collaboration with ECE Dept. WVU, $229,462.
14. **PI**, EPSCoR Instrumentation grant 2002, $12,000
15. **PI**, NSF, CCLI-EMD 1993 $68,000
16. **PI,** EPSCoR Instrumentation grant 1992, $14,000

Internal Grants Received:

- "Modification of Z-Transform," Summer 2000, $1,760
- "Elimination of Limit Cycle with Variable Structure Controller," Summer 1997, $1,300
- "Generalization of Discretization of Dynamical Systems," Summer 1996, $1,600

PARTIAL LIST OF GRADUATE STUDENTS

Member of these PhD Dissertation Committees:

1. Kourosh Sedghisigarchi, "Solid Oxide Fuel Cell as a Distributed Generator: Dynamic Modeling, Stability Analysis and Control'
2. Dulpichet Rekpreedapon, "Novel Control Design and Strategy for Load Frequency Control in Restructured Power Systems"
3. Karl E. Schoder, "Analysis and Robust Decentralized Control of Power Systems Using FACTS Devices"
4. Lingling Fan, "Robust Decentralized Control of Power Systems through Excitation Systems and Thyristor Controlled Series Capacitors"
5. Ali Karimi, "Power System Damping Controllers Design Using a Backstepping Control Technique"
6. Taoridi Ademoye, "Modern Decentralized Control Techniques for Power System"

Supervisor of the following M.S. theses, providing support and GRA

1. Amol Patankar, "Modeling of a Circulating Fluidized Bed using Neural Networks"
2. Sampath Yerramalla, "Nonlinear Modeling of Polymer Electrolyte Membrane Fuel Cell As a Distributed Power Generator"
3. Praveen Koduru, "Neural Network Modeling and Control of Cold Flow Circulating Fluidized Bed"

4. Anirddha Paradkar, "Integration of PEM Fuel Cell into Distribution System in a Deregulated Environment: A LFC Problem"
5. Suman Babu Pulluri, "Online Modeling of Cold Flow Circulating Fluidized Bed with Wavelet Networks"
6. Abhishek R. Sakhare, "Control of a Solid Oxide Fuel Cell for Stand-Alone and Grid Connection Purposes"
7. Vamsi K. Paruchuri, "Hybrid Modeling and Analysis of Electric Power System"
8. Srinvasa C. Valaboju, "Real-Time Modeling of a Complex Nonlinear Dynamical System: Circulating Fluidized Bed"
9. Anand Krishnamurthy Gopalan, "Optimal Path Planning for an Unmanned Aerial Vehicle"
10. William Allen Caswell, "Online Modeling of Cold Flow Circulating Fluidized Bed"
11. Chetan Chandrasekara, "Experiments for Control Laboratory"
12. Pramod Chand, "Detection and Classification of Power Quality Disturbances Using Adaptive Harmonic Wavelet Transform and Neural Networks"
13. Santosh Kumar Dasika, "Diagonal Recurrent Neural Network Based Online Modeling and Control of Circulating Fluidized Bed"
14. Amol Patankar, "Modeling of a Circulating Fluidized bed using Neural Networks"
15. Taoridi Ademoye, "Trajectory Planning of Multiple Autonomous Systems Using Mixed Integer Linear Programming"
16. Tamal Biswas, "Modeling and Analysis of Discrete Event Behaviors in Power System Using Petri Nets"

Co-Supervisor of these M.S. Theses, providing support and GRA

1. Bangolar Mohan H. Kumar, "Wireless Communication for Unmanned Aerial vehicle"
2. Sunil S. Polmottawegedara, "Generation of the Trajectory of a Moving Target"
3. Nishant P. Kakirde, "Development of Approximation Servomechanism Strategy for Nonlinear Systems"
4. Jaswanth Chittoru, " Image processing for Machine Vision"
5. Kamalakannan Ganapathy, " Object Recognition System for Machine Vision"

Member of the Following M.S. Thesis Committees:

1. Ravi k. Kadari, "Removal of Hexavalent Chromium and Trivalent Arsenic from Aqueous Solutions"
2. Nedzad Atic, "Model Predictive Control Design and Load Frequency Control Problem"
3. Azra Hasanovic, " Modeling and Control of the Unified Power Flow Controller (UPFC)"
4. Ali Karimi, "Spline based Controller for Nonlinear Systems"
5. Dustin M. Geletko, " A Decentralized Cooperative Control Framework for Multiple UAVs"

Supervised, Partially Supported and Provided GRA to the Following M.S. Research Projects:

1. Mohd fuda Jamaluddin, "Numerical Method for Ferroresonance in Three-phase, Double-Circuit Transmission Systems"
2. Sridhar Macha, "Improved Model of Circulating Fluidized bed with Neural Networks"
3. Zhengwei Wu, "Neural Network Modeling and Control"
4. Roopadarshini S. Chandramohan, "Design of Linear Adaptive Controller for Nonlinear System"
5. Vijay Bhanu konkimalla, "Comparison of Performance of Neural networks Controller, Variable Structure Controller, DAC Based Adaptive Controller for a Robot Arm"

6. Rammohan Sankar, “Neural Network Predictor for the Output of a Circulating Fluidized Bed”
7. Michael E. Toler, “A Neural Controller of An x-Ray generator”
8. Duoyan Shen, “Real-Time Self-Tuning Control of Position Servo: Fuzzy Logic and Adaptive Applications”
9. Somsubhra Chakraborti, “Gain Scheduling Implementation in a pH Control Loop”
10. Lee Y. Kin, “Study of Unorthodox Impedances”
11. Archana Donthi, “Tracking Problem of Non-Minimum Phase Systems Using variable Structure Systems”
12. Yuanzhu Zhang, “Modification of Discrete-Time Modeling of Dynamic Systems”
13. Daniel Vandale, “Modeling and Real-Time Predicting of the Output of a Cold Circulating Fluidized Bed Using Neural Networks”
14. Yun Zhang, “Applications of Describing Function: Construction of the Altered Nonlinear Characteristic”
15. Srinivias Adusumilli, “Adaptive Controllers for Hydraulically Damped Knee Flexion Orthosis”
16. Varchasvi Shankar, “Control: Long Single Link Robot Manipulator with Variable Load”
17. Prakash S. Kasturi, “Chattering in Variable Structure Systems”
18. Anthony Mampilly, “A Generic Approach to Process Design, Control and Improvement”
19. Rajendra K. Ramanathaiah, “Stability Analysis of Time-varying Linear Systems”
20. Andrew E. Milks, “Dynamic Programming: Solution Via the Neural Networks”
21. Zhongjun Zhang, “ Three-segment Variable structure System”
22. Daryl Showalter, “Intelligent Control Vs. PI Control of a Chiller”
23. You-Liang Yu, “Variable Structure Control Systems for Robot Manipulator”
24. Rodger W. Boggess, “Analysis and Design of Compensation for Systems with Transport Lag”
25. Ali M. Hobeika, “Linear Transformation for Uncontrollable Linear Dynamical Systems”
26. Pei-Nei Chen, “Design of Linear Dynamical Systems Co-prime Vs. Wiener”
27. Ibraheem H. Ghaphery, A New Method for Determining the Domain of Asymptotic Stability of Nonlinear Autonomous Dynamical Systems”
28. Xiaoliang Chen, “Numerical Beat Measurement Device with General Bulb”

Publications:

1. Jonathan Beckett, Christopher Hysell, Matthew Jones, Kenan Hatipoglu, Asad Davari, "Dynamic DC Motor Excitation Controller", IEEE SoutheastCon 2020, Raleigh, NC, March 12 – 15, 2020.
2. Kourosh Sedghisigarchi, Yadollah Eslami, Asad Davari, “A Low-cost Efficient Hardware-in the-Loop Testbed for Distributed Energy Generation Penetration Analysis”, Journal of Energy and Power Engineering, April 2017
3. Felipe Sozinho, Kenan Hatipoglu, Yadollah Eslami Amirabadi, and Asad Davari, “Hardware Implementation of a Microgrid Controller for Enhancing dynamic Voltage Stability”, proceedings 1-5. 10.1109/NAPS.2017.8107169.
4. Kourosh Sedghisigarchi, Yadollah Eslami, Asad Davari, “A Hardware-in the-loop Testbed for Distributed Energy Generation Penetration Analysis”, Proceeding, 2016 IEEE International Energy Conference, Leuven, Belgium, April 4-8, 2016
5. Kourosh Sedghisigarchi, Yadollah Eslami, Asad Davari, Stephen Wilkerson, “Real-Time Testbed for Coordinated Control of Inverters in LV Microgrids”, Proceeding, Energy Conference 2014 • May 13-16, 2014 • Dubrovnik, Croatia

6. Ross, Garron; Zabihian, Farshid; Davari, Asad, "Design and Commissioning of Hybrid Photovoltaic and Wind Turbine System for Future Undergraduate Student Research Capabilities", Fourteenth Annual Early Career Technical Conference, November 2014, Birmingham, Alabama, U.S.A.
7. Ross, Garron; Zabihian, Farshid; Davari, Asad, "Design and Commissioning of Renewable Resource Power Generation Systems and Testing Procedures for Future Research Capabilities at West Virginia University Institute of Technology", Poster for Undergraduate Research Day at the Capitol-2015, March 2015, Charleston, West Virginia, U.S.A.
8. Zabihian, Farshid; Davari, Asad, "Introduction of Fuel Cells to Engineering Undergraduate Education", American Society for Engineering Education's (ASEE) 122nd Annual Conference, June 2015, Seattle, WA, U.S.A.,

9. Sedghisigarchi, K., Eslami, Y., Davari, A. , "A Real-time Power Controller for Grid-connected Inverters in LV Smart Microgrids", Journal of Energy and Power Engineering, Nov. 2013.
10. Goff, K.M., Shaw, P.J., Zabihian, F, Davari, A, Osei-Prempeh, G., "Experimental Analyses of Various Configurations of Polymer Electrolyte Fuel Cell ", Proceedings of the ASME 2013 11th Fuel Cell Science, Engineering and Technology Conference Fuel Cell 2013, July 14-19, 2013, Minneapolis, MN
11. Zabihian, F, Davari, A, Osei-Prempeh, G., "Preliminary Results of Experiments on Single Cell Polymer Electrolyte Fuel Cell Fueled with Carbon Monoxide", Proceedings of the ASME 2013 11th Fuel Cell Science, Engineering and Technology Conference Fuel Cell 2013, July 14-19, 2013 Minneapolis, MN
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18. Kourosh Sedghisigarchi, Asad Davari, and Parviz Famouri, Dynamic "Modeling and Control of a Fuel Cell for Electric Vehicle Applications", Proceedings 2011 Vehicle Power and Propulsion Conference, September 6-9 2011 Chicago IL.
19. P. Mekala, Y. Gao, J. Fan, A. Davari, "Real-time sign language recognition based on neural network architecture", Proceedings Joint IEEE International Conference on Industrial Technology & 43rd Southeastern Symposium on System Theory (SSST'11), Auburn, AL, pp. 197-201, March 14-17, 2011.

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21. Priyanka, M, Salmeron, Rodrigo j. , Fan, Jeffrey, Davari, Asad, and Tan, Jichang, “Occlusion Detection Using Motion-Position Analysis”, IEEE 42nd Southeastern Symposium on System Theory, March 2010
22. Ranjith Munasinghe, and Asad Davari, “Peer Groups, Neighbor Groups, and Edge Detection”, IEEE 42nd Southeastern Symposium on System Theory, March 2010.
23. W. Zhao, J. Fan, A. Davari, "H.264-based wireless surveillance sensors in application to target identification and tracking", i-manager's Journal on Software Engineering (IJSE), Vol. 4, No 2, pp 47-56, Oct-Dec, 2009
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27. Charles Castello, Jeffrey Fan, Asad Davari, "Temperature control framework using wireless sensor networks and geostatistical analysis for total spatial awareness", to appear on 3rd International Workshop on Intelligent Systems and Smart Home (WISH09), Kaohsiung, Taiwan, December 14-16, 2009.
28. Te-Shun Chou, Sharon Fan, Wei Zhao, Jeffrey Fan, and Asad Davari, Intrusion Awar System-on-a Chip Design with Uncertainty Classification”, Proceedings The Fifth International Conference on Embedded Software and Systems (ICESS 2008), July 2008 Chengdu, China.
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84. Davari, A. and Shankar, V., “Fuzzy Logic Control of a Single Long Link Manipulator,” Proceedings IASTED International Conference on MS 95, Pittsburgh, PA, April 27-29, 1995.
85. Davari, A. and Kasturi, P.S., “Improving VSC with Filtering,” Proceedings IEEE Symposium on System Theory, March 12-14, 1995, Mississippi State University.
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88. Davari, A. and Boggess, R. W., "Internal Model Control with Neural Networks," Proceedings IASTED International Conference on Modeling and Simulation, May 10-12. 1993, Pittsburgh, PA.
89. Davari, A. and Milks, A., "Dynamic Programming Via Neural Networks," Proceedings IASTED International Conference on Modeling and Simulation, May 10-12, 1993, Pittsburgh, PA.
90. Messner, M. and Davari, A., "Hydraulically Dampened Knee Flexion Orthosis," Proceedings IEEE Annual Northeast Bioengineering Conference, March 18-19, 1993, New Jersey Institute of Technology, Newark, NJ.
91. Davari, A., "Seismic Data Processing via Homomorphic Filtering," Proceedings IEEE Symposium on System Theory, March 7-9, 1993, University of Alabama, Tuscaloosa, AL.
92. Davari, A., "Three-Segment VSS Controller of Robot Manipulator," Proceedings Twenty-Third Conference on Modeling and Simulation, May 1992, University of Pittsburgh, Pittsburgh, PA.
93. Davari, A., “New Variable Structure Position Control," Proceedings IEEE Symposium on System Theory, March 1-2, 1992, Greensboro, NC.
94. Davari, A. and Zhang, Z., “Application of the 3-Segment VSS," Proceedings 1991 American Control Conference, June26-28, 1991, Boston, MA.
95. Davari, A., “Homeopathic Instability: A Case Studied," Proceedings Twenty-Second Conference on Modeling and Simulation, May 1991, University of Pittsburgh, Pittsburgh, PA.
96. Davari, A. "Positive Realness and Realization of Unorthodox Impedances," Proceedings IEEE Symposium System Theory, March 10-12, 1991, Columbia, SC.
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98. Davari, A. and Ghaphery, A., "Simple Method for Generating Lyapunov Function," Proceedings IEEE Symposium on System Theory, March 26-28, 1989, Tallahassee, FL.
99. Davari, A. and Halijak, C. A., "Multirate Switched Capacitors and Comb Filters," Proceedings IEEE Symposium on System Theory, March 26-28, 1989, Tallahassee, FL.
100. Davari, A., "Current/Voltage Analysis of SC Networks," Proceedings IEEE Symposium on System Theory, March 20- 22, 1988, Charlotte, NC.
101. Davari, A. and Halijak, C. A., "Pulse Impedance Analysis and Synthesis of SC Networks," Proceedings IEEE Symposium on System Theory, March 15-17, 1987, Clemson, SC.
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103. Halijak, C. A. and Davari, A., "Simple Consequences of the FTL Transform Analysis of the PRS-Capacitor," Circuits, Systems and Signal Processing, Vol. 4, No. 4, 1985.
104. Davari, A., "Switched Capacitor Networks," Ph.D. dissertation, Electrical and Computer Engineering Department, University of Alabama in Huntsville, Dec. 1984.

Teaching/Education Publications:

1. Chetan Chandrasekara, Asad Davari, “Control Experimentation for Undergraduate Students”, Proceedings ACC 05 , Portland, OR, June 2005.
2. Rezaei, A.G., A. Davari, “Teaching Vibration and Control Courses using Animation, Simulation, and Experimentation," Proceedings of the American Society for Engineering Education Annual Spring Conference , Portland, Oregon, April 12-17, 2005.

3. Chetan Chandrasekara, Asad Davari "Experiments for the Undergraduate Control Laboratory" Proceedings of IEEE Southeastern Symposium on System Theory, March 2004, Atlanta, GA.
4. Chetan Chandrasekara, Asad Davari "Inverted Pendulum: An Experiment for Control Laboratory" Proceedings of IEEE Southeastern Symposium on System Theory, March 2004, Atlanta GA.
5. Davari, A., and Shen, D. "Simple and Inexpensive Control Laboratory," Proceedings IEEE Symposium on System Theory, March 9-11, 1997, Tennessee Tech, Cookeville, TN.
6. Davari, A. and Zhang, Y., "Dual-Input Describing Function with Matlab," Proceeding IEEE Symposium on System Theory, March 31-April 2, 1996, LSU, Baton Rouge, LA
7. Davari, A. and Shen. D., "Control of Real System Via MATLAB/SIMULINK," Proceeding IEEE Symposium on System Theory, March 8-10, 1998, WVU, Morgantown, WV.

Technical Reports:

1. Direct Coal Fuel Cell for DOD applications, quarterly report from November -February 2014
2. Direct Coal Fuel Cell for DOD applications, quarterly report from February -May 2014
3. Direct Coal Fuel Cell for DOD applications, quarterly report from May -August 2014
4. Direct Coal Fuel Cell for DOD applications, four-year report October 2014
5. Direct Coal Fuel Cell for DOD applications, year three report Oct. 2013
6. Direct Coal Fuel Cell for DOD applications, year two report Oct 2012
7. Direct Coal Fuel Cell for DOD applications, quarterly report, May 2012-Aug 2012
8. Direct Coal Fuel Cell for DOD applications, quarterly report, Feb 2012-May 2012
9. Direct Coal Fuel Cell for DOD applications, quarterly report, Nov 2011-Feb 2012
10. Direct Coal Fuel Cell for DOD applications, quarterly report, Aug 2011-Nov 2011
11. Direct Coal Fuel Cell for DOD applications, year one report, Octr 2011
12. Direct Coal Fuel Cell for DOD applications, quarterly report, May 2011-Aug2011
13. Direct Coal Fuel Cell for DOD applications, quarterly report, Feb 2011-May 2011
14. Direct Coal Fuel Cell for DOD applications, quarterly report, Nov 2010-Feb 2011
15. Direct Coal Fuel Cell for DOD applications, quarterly report from Aug 2010-Nov 2010
16. "Sensor Optimization – Basic Research" year four final report Mar 2011
17. "Sensor Optimization – Basic Research" year three Final Report July 2010
18. "Sensor Optimization – Basic Research" year two, Final Report Aug 2009
19. "Sensor Optimization – Basic Research" year one, Final Report Aug 2008
20. "Intelligent Control System for SWARM UAVs" Final Report Aug 2007
21. "On-Line Modeling and Control of Circulating Fluidized Bed" DOE/EPSCoR Final Report June 2007
22. "Development of SWARM UAVS", Annual report July 2005, 2006, and 2007
23. "Intelligent Control System for SWARM UAVs" June 2006
24. "On-Line Modeling and Control of Circulating Fluidized Bed" DOE/EPSCoR Annual Report Dec 2004, and 2005.
25. "Neural Network Modeling & Control of Cold Circulating Fluidized Bed", Annual Report, DOE/NETL Project, Oct 2003
26. "Modeling and Control of Circulating Fluidized Bed using Neural Networks", Annual Report, DOE/NETL Project, Nov 2002
27. "Neural Networks Predictor of the Output of a Circulating Fluidized Bed"Annual Report, DCE/NETL Project, Nov 2001
28. "Actual Sampling in Digital Control," Internal Report, July 2000.

29. "Improved Model of a Circulating Fluidized Bed with Neural Network," Annual Report, DOE/NETL Project, Nov 2000.
30. "Modeling and Predicting the Output of a Circulating Fluidized Bed with Neural Network," Annual Report, DOE/FETC Project, Oct 1999

Research Center and Research Lab:

- 2012: Established a Fuel Cell Research Lab with over $200,000 external funding
- 2011: Established a small scale Microgrid/Smartgrid research facility with over $150,000 external funding
- 2010: Developed and submitted to the Engineering Dean a proposal to establish Center of Excellence for Energy.
- 2003: Established the Center for Research on Advanced Control of Autonomous Systems and Manufacturing (CRACAS&M) within the LCN College of Engineering and served as Founding Director of the Center.
- 2000: Was involved in the development of the Advanced Power & Electricity Research Center, a university-wide research center at West Virginia University.as extension part of the Center:
- 2000: established the Control Systems Application Research Lab within the LCN College of Engineering. with support from DOE/NETL, and DOE/ EPSCoR

Professional Development:

- Attended: Small Communities, Big Solution Conference November 18, 2019 Charleston WV
- Attended and participated, 2017 WV Great Teachers Seminar, June 19-22, 2017
- Attended 2008, 2011, 2014, and 2017, IEEE Section Congress
- ASEE 2014 Engineering Research Council (ERC), Silver Spring MD, Spring 2014
- How to Engineer Engineering Education Workshop, Bucknell University, July19-22, 2011
- Innovation for Undergraduate Institutions, Science, Technology, Engineering, and Math, workshop by WV EPSCoR, May 2011.
- Alternative Energy Symposium Chicago, October 2010.
- Energy Systems Resilience Program (ESRP), WVU, 2010.
- Grant writing seminar and workshops, "Writing Winning Grants"(WVU) 2010.
- WVU Energy Initiative, Microgrid Workshop 2010.
- Energy Strategies in Challenging Economic Time with Uncertain Environmental Regulation: Building a Research and Commercialization (April 2009 WVU)
- IEEE USA 2009 Annual Meeting, "Engineering the Alternative Energy Debate" Feb. 26-March 1 2009, Salt Lake City Utah.
- Attended the DOE-EPSCoR Workshop, "Renewable Energies for a Global Economy" The National Renewable Energy Laboratory (NREL), Golden, Colorado, June 2007
- Attended the DOE-EPSCoR Workshop**,** "Collaborative Research Opportunities for Clean, Affordable, and Secure Energy," Morgantown WV June 2005.
- Invited speaker and panelist at the DOE-EPSCoR annual conference, Argonne National Laboratory Chicago IL, June 2004, "Intelligent Control of Large-Scale Nonlinear Systems*"*
- Attended the DOE-EPSCoR Workshop, Lab Partnership Albuquerque NM , June 2003
- Attended the DOE-EPSCoR Workshop to Initiate and develop Multi-Institution Research Teams, June 2002 PNNL Richland WA
- Attended a Short Course; "The Electric Utility in Transition," May, 2001.
- Attended the ABET Engineering Criteria 2000 Faculty Development Workshop, WVU, March 1999.
- Attended workshop on National Electrical Manufactures Association, February 1999

- Attended workshop on Academic Advising, May 1997
- Attended one-day workshop on Re-Engineering Education through Distance Learning and Interactive Video Conferencing, 1997
- Attended NSF Faculty Enhancement Course, “A Unified Classical/Modern Approach for Undergraduate Control Education with Integrated Laboratory,” at Georgia Tech, July 21-25, 1997