

Richard J. Povinelli, Ph.D., P.E. – Curriculum Vitae

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Department of Electrical and Computer Engineering
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Summary

Research

Publications (97 refereed publications, 2870 citations, 29 h-index, 48 i10-index)

27 refereed journals

70 refereed conference/workshop proceedings and abstracts published

External Grants and Contracts

Total \$7,761,915; \$745,000 as PI; \$6,044,520 as co-PI (my allocation \$977,688); \$972,395 as faculty associate (my allocation \$101,000)

5 major National Science Foundation grants (1 as PI, 1 as co-PI, 3 as faculty associate)

2 Clinical & Translational Science Institute grant (as co-PI)

1 American Heart Association (AHA) Fellowship (sponsor for Ph.D. student)

6 NSF Research Experiences for Undergraduate (REU) supplements

Research Student Advising

5 Ph.D. graduates

8 M.S. graduates (3 M.S. current)

17 Undergraduate research assistants (1 current)

15 Ph.D., 36 M.S. committee memberships (6 current – 1 Ph.D., 1 M.S.)

Awards and Honors

PhysioNet/Computers in Cardiology Challenge 2007 – Winning Entry

PhysioNet/Computers in Cardiology Challenge 2005 – Award Winning Paper

Engineers and Scientists of Milwaukee – Young Engineer of the Year Award, 2003

Teaching

15 different courses taught

9 new courses developed

Service

Service within Marquette

Director of Computer Engineering Laboratories for Department of Electrical and Computer Engineering

Director of Computer Engineering Program

Charter Faculty Sponsor for the Marquette University Student Chapter of Association of Computing Machinery (ACM)

Charter Faculty Sponsor for the Marquette University Chapter of Upsilon Pi Epsilon (UPE)

26 committee memberships

Service outside Marquette

Reviewer for 50 conferences, journals, agencies, and professional organizations

2 conference organizing committees

4 conference session chairs

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Education

- 1997 - 1999 Ph.D. Electrical and Computer Engineering
Marquette University, Milwaukee, WI
- 1987 - 1989 M.S. Computer and Systems Engineering
Rensselaer Polytechnic Institute, Troy, NY
- 1983 - 1987 B.S. Electrical Engineering (Honors Graduate)
B.A. Psychology (Magna Cum Laude)
University of Illinois, Champaign-Urbana, IL
- 1984 - 1985 Junior Year Abroad
University of Munich, Munich, West Germany

Academic, Scholarly, and Industrial Experience

- 2006 – present Associate Professor of Electrical and Computer Engineering and
Director of Computer Engineering Laboratories
Marquette University, Milwaukee, Wisconsin
- 1999 – 2006 Assistant Professor of Electrical and Computer Engineering and
Director of Computer Engineering Laboratories
Marquette University, Milwaukee, Wisconsin
- 1998 - 1999 Adjunct Assistant Professor of Electrical and Computer Engineering and
Director of Computer Engineering Laboratories
Marquette University, Milwaukee, WI
- 1995 - 1998 Lecturer, Electrical and Computer Engineering Department
Marquette University, Milwaukee, WI
- 1995 - 1996 Lecturer, Management Department
Marquette University, Milwaukee, WI
- 1995 - 1998 Instructor, Master of Arts in Teaching Program
Aurora University, New Berlin, WI
- 1998 Instructor, Computer Information Systems
Milwaukee Area Technical College, Milwaukee, WI
- 1992 - 1994 Global Project Leader
GE Medical Systems, Milwaukee, WI
- 1990 - 1992 Program Manager
GE Medical Systems, Milwaukee, WI
- 1987 - 1990 Software Engineer
GE Corporate Research and Development, Schenectady, NY

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- C44 _____, Nabeel A. O. Demerdash, **Richard J. Povinelli**, Edwin E. Yaz, Dan M. Ionel. (2007) "A Reconfigurable Motor for Experimental Emulation of Stator Winding Inter-Turn and Broken Bar Faults in Polyphase Induction Machines," IEEE International Electric Machines and Drives Conference (IEMDC2007), Antalya, Turkey, 1413 – 1419 (7 pages).
- C43 _____, George F. Corliss, **Richard J. Povinelli**. (2007) "A Cardiac Electrophysiological Model Based Approach for Filtering High Frequency ECG Noise," Computers in Cardiology, Durham, North Carolina, 253-256 (4 pages).

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- C26 _____, **Richard J. Povinelli**, Michael T. Johnson. (2003) "A Combined Sub-band and Reconstructed Phase Space Approach to Phoneme Classification," ISCA Tutorial and Research Workshop on Non-linear Speech Processing (NOLISP), Le Croisic, France, 107-110 (4 pages).
- C25 _____, **Richard J. Povinelli**, Michael T. Johnson. (2003) "Vowel Classification by Global Dynamic Modeling," ISCA Tutorial and Research Workshop on Non-linear Speech Processing (NOLISP), Le Croisic, France, 111-114 (4 pages).
- C24 _____, Michael T. Johnson, **Richard J. Povinelli**. (2003) "Study of Attractor Variation in the Reconstructed Phase Space of Speech Signals," ISCA Tutorial and Research Workshop on Non-linear Speech Processing (NOLISP), Le Croisic, France, 5-10 (6 pages).
- C23 _____, Michael T. Johnson, **Richard J. Povinelli**. (2003) "Phoneme Classification over Reconstructed Phase Space using Principal Component Analysis," ISCA Tutorial and Research Workshop on Non-linear Speech Processing (NOLISP), Le Croisic, France, 11-16 (6 pages).
- C22 Michael T. Johnson, _____,

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- C9 **Richard J. Povinelli**, Nabeel A.O. Demerdash, Ronald H. Brown. (2001)
“Diagnostics of Bar and End-Ring Connector Breakage Faults in Polyphase Induction Motors
Through a Novel Dual Track of Time-

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- A5 , Ronald H. Brown, George F. Corliss, **Richard J. Povinelli**. (2017) "Dynamically Ensembling Forecasting Models," International Symposium on Forecasting, Cairns, Australia.
- A4 , Samson S. Kiware, **Richard J. Povinelli**, George F. Corliss, Maggie Sikulu-Lord. (2017) "Comparison Between Age Estimates of Wild Anopheles Arabiensis using NIRS Classification Model and Ovary Dissection (Detinova's Method)," American Society of Tropical Medicine & Hygiene Annual Meeting, Boston, Massachusetts.
- A3 , Sheikh I. Ahamed, **Richard J. Povinelli**. (2016) "Computationally Efficient Human Activity Modeling and Its Application as a Service in Android Application Framework". ACM International Workshop on Mobile Computing Systems and Applications (HotMobile), St. Augustine, Florida.
- A2 , Maggy Sikulu-Lord, Samson S. Kiware, **Richard J. Povinelli**, George F. Corliss. (2016) "Do NIR Spectra Collected from Lab-reared Mosquitoes Differ from those Collected from Wild Mosquitoes?" American Society of Tropical Medicine & Hygiene Annual Meeting, Atlanta, Georgia.
- A1 , **Richard J. Povinelli**, Stephen J. Merrill, Serdar Bozdag, Daniel S. Sem. (2014) "Novel Metabolic Descriptor Based on Xenobiotic Induced Cytochrome P450 Transcription for Carcinogenicity Prediction," FutureTox II: In Vitro Data and In Silico Models for Predictive Toxicology". Winner of FutureTox II CCT Student/Postdoctoral Recognition, Chapel Hill, North Carolina.

Invited Book Review

Richard J. Povinelli, Ph.D., P.E. – Curriculum Vitae

Richard J. Povinelli, Ph.D., P.E. – Curriculum Vitae

- \$822,861 "GasDay – Forecasting Natural Gas Demand," Sponsored by a Consortium of Natural Gas Local Distribution Companies, **co-PI: Richard J. Povinelli** (allocation: \$83,000) with PI: Ronald H. Brown and co-PI: George Corliss (July 2014 - June 2015)
- \$743,639 "GasDay – Forecasting Natural Gas Demand," Sponsored by a Consortium of Natural Gas Local Distribution Companies, **co-PI: Richard J. Povinelli** (allocation: \$55,000) with PI: Ronald H. Brown and co-PI: George Corliss (July 2013 - June 2014)
- \$679,473 "GasDay – Forecasting Natural Gas Demand," Sponsored by a Consortium of Natural Gas Local Distribution Companies, **co-PI: Richard J. Povinelli** (allocation: \$50,000) with PI: Ronald H. Brown and co-PI: George Corliss (July 2012 - June 2013)
- \$560,000 "MRI: Acquisition of a Parallel Computing Cluster and Storage for the Marquette University Grid (MUGrid)

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Kevin M. Indrebo, Ph.D. 2008 (NSF Research Assistant/GAANN Fellow, publications: [J16,J8,J13,C26,C31,C37])

Mohamed A. Mneimneh, Ph.D. 2008 (NSF Research Assistant, publications: [P2, C40-43,C46-47])

Chair of Thesis Committee (M.S.)

Greg D. Merkel, M.S. 2017 (Research Assistant, publications: [J24,A6-8,A12,N3-4])

Sanzad Siddique, M.S. 2013 (Teaching Assistant, publications: [C49])

Aderiano M. da Silva, M.S. 2006 (NSF Research Assistant, publications: [J11,J16])

David H. Diggs, M.S. 2004 (Teaching Assistant, publications: [C30])

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Babatunde Ishola – M.S. 2016 (advisor, Dr. Ronald H. Brown)
Kelly Vonderhaar – M.S. 2016 (advisor, Dr. Michael T. Johnson)
Andrew Kirkham – M.S. 2016 (advisor, Dr. George Corliss)
Elise Russell – M.S. 2015 (advisor: Dr. Andrew Williams)
Xiangyu Zhou – M.S. 2015 (advisor, Dr. Michael T. Johnson)
Paul Kaefer – M.S. 2014 (advisor: Dr. Ronald H. Brown)
Kyle Persohn – M.S. 2012 (Advisor: Dr. Dennis Brylow)
Bo Pang – M.S. 2011 (advisor: Dr. Ronald Brown)
Tsuginosuke Sakauchi – M.S. 2011 (advisor: Dr. Ronald H. Brown)
Li Xi – M.S. 2007 (advisor: Dr. Michael T. Johnson)
Peter Szeto – M.S. 2007 (advisor: Dr. Xin Feng)
Rohan Kennedy – M.S. 2006 (advisor: Dr. Ronald H. Brown)
Anthony D. Ricke – M.S. 2006 (advisor: Dr. Michael T. Johnson)
Sridevi Prithivi – M.S. 2006 (advisor: Dr. Daniel S. Sem)
Abiman Pasachhe – M.S. 2006 (advisor: Dr. Shrinivas G. Joshi)
Peter Bazeley – M.S. 2005 (advisor: Dr. Daniel S. Sem)
Jill Gilbert – M.S. 2005 (advisor : Dr. George F. Corliss)
Ahmed Sesay – M.S. 2004 (advisor: Dr. Nabeel A. O. Demerdash)
Susanto Halim – M.S. 2004 (advisor: Dr. Ronald H. Brown)
Hao Jiang – M.S. 2004 (advisor: Dr. Xin Feng)
Mark Solverson – M.S. 2004 (advisor: Nabeel A. O. Demerdash)
Jinjin Ye – M.S. 2004 (advisor: Dr. Michael T. Johnson)
Franck Hounkpevi – M.S. 2003 (advisor: Dr. Michael T. Johnson)
Andrew C. Lindgren – M.S. 2003 (advisor: Dr. Michael T. Johnson)
Ester Lim – M.S. 2002 (advisor: Dr. Ronald H. Brown)
ChiaChou Ye – M.S. 2002 (advisor: Nabeel A. O. Demerdash)
Xiang Fu – M.S. 2001 (advisor: Dr. Xin Feng)
Hai Huang – M.S. 2001 (advisor: Dr. Xin Feng)
Felice M. Roberts – M.S. 2000 (advisor: Dr. James Heinen)

Graduate Advisors

Ph.D. Advisor: Xin Feng, Marquette University
M.S. Advisor: Piero Bonnisonne, GE CRD/ Rensselaer Polytechnic Institute

Teaching

Teaching Philosophy

Four core ideas form my teaching philosophy: excellence, compassion, interaction, and application.

Excellence

One of the core values of Marquette University is *magis*, meaning to always strive for more; to strive for excellence. It embodies the ideas of high expectations, integrity, and continuous improvement. For me, *magis* means always learning, improving, and searching for new ways to help students learn. It means always considering the ethical and moral dimension of any action. For my students it means an expectation of success. They will be expected to work hard. They will be expected to hold themselves to the highest ethical standards. It also means that I will strive to give my students the tools that they need to succeed including the support necessary to meet these high standards.

Compassion

Another core Marquette value is *caritas* or care for the whole person; the embodiment of compassion. This concept balances the striving for excellence by remembering that a student is first and foremost a human being. For me, compassion means taking the time to really know my students, to be willing to explain concepts as many times and in as many different ways as it takes, and understanding that my students have many conflicting demands on their time.

Interaction

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Designed a freshman engineering introduction to computer programming course that introduces the use of object orient programming. The pedagogical focus was on learning by doing supplemented with a discussion session laboratory conducted by upper classmen.

Introduction to Intelligent Systems (COEN 4850/EECE 5850)

Taught Fall 2006, 2008, 2010, 2016, 2018

Course website: <http://povinelli.eece.mu.edu/teaching/eece4850/>

Designed an undergraduate level introduction to the field of artificial intelligence.

Machine Learning (EECE 6822)

Taught Spring 2003, 2005, 2007, 2011, 2013, 2015, 2017, 2019

Course website: <http://povinelli.eece.mu.edu/teaching/eece6822/>

Designed a graduate level machine learning course to continue the development of the graduate artificial intelligence curriculum.

Other Major Courses Taught

Algorithms (EECE 6810)

Taught Fall 2011, 2012, 2013, 2015, 2016, 2017, 2018, 2019

Course website: <http://povinelli.eece.mu.edu/teaching/eece6810/>

Computer Hardware (EECE 194 / COEN 171)

Taught Fall 1996, Spring 1997, Spring 2002, Spring 2003, Spring 2009

Course website: <http://povinelli.eece.mu.edu/teaching/coen171/>

Digital Electronics Laboratory (EECE 143)

Taught Fall 1996, Spring 1997

Course website: <http://povinelli.eece.mu.edu/teaching/eece143/>

Introduction to Computer Hardware and Software (EECE 190 / COEN 030)

Taught Fall 1997, Spring 1997, Summer 1998, Fall 1998, Spring 1999

Course website: <http://povinelli.eece.mu.edu/teaching/coen030/>

Introduction to Software Engineering (Graduate level, EECE 211)

Taught Fall 1995

Software Engineering (COEN 181)

Formerly Software Methodologies (EECE 194)

Taught Fall 1995, Spring 2004

Course website: <http://povinelli.eece.mu.edu/teaching/coen181/>

Software Methodologies (COEN 2610)

Taught Fall 2015, Spring 2016, 2017, 2018, 2019, 2020

Course website: <http://povinelli.eece.mu.edu/teaching/coen2610/>

Implemented flipped classroom.

Senior Design Advising

Cluster Computing Environment, 2000 – 2001

Cluster Computing Environment (Top EECE Senior Design Team), 2001 – 2002

Cluster Computing Environment, 2002 – 2003

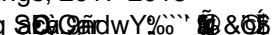
Computer Game (Top EECE Senior Design Team), 2003 – 2004

Reconfigurable Electric Motor, 2004 – 2005

Financial Engineering - Hedge Fund Trading System, 2006 – 2007

Customizable Action Figures, 2008-2009

Internet of Connected Things, 2017-2018

System for Stress Testing 

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Energies, 2019

Expert Systems with Applications, 2019

Food and Chemical Toxicology, 2019

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Assistant Soccer Coach, Shorewood Kickers Soccer Club, Shorewood, Wisconsin, 2005, 2006

Science Fair Judge for St. Robert's Elementary School, 2005, 2006

Guest Science Teacher for St. Robert's 1st Grade Science Fair Project, 2005

Presenter at St. Robert's Elementary School High Interest Day , 2003 – 2005

Presenter at National Association of Engineering Student Councils Conference, 2004

Participated in IEEE Senior Member Promotion Review Panel, 2003

Parish Council member, Saints Peter and Paul Church, Milwaukee, Wisconsin, 1997 – 2001

Participated in Nathan Hale High School Career Day presenter, 1999

Choir member, Saints Peter and Paul Church, Milwaukee, Wisconsin, 1996 – 1998

Gentle-Man Program, Waukesha Women's Center, Waukesha, Wisconsin. Volunteered at shelter for abused woman and children. This volunteer program was honored with a JC Penny Golden Rule Award, 1990 – 1996

Confirmation teacher, Saint John Neumann, Waukesha, Wisconsin, 1990 – 1992.

8th grade CCD teacher, Saint John the Evangelist, 1 0 0 18r7he 12 79Evan 1 -139/F3 9.96 Tf1 0 0 1 108.02 548.5