

BRYAN P. RASMUSSEN, PH.D., P.E.

Dept. of Mechanical Engineering

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EDUCATION

PH.D. MECHANICAL ENGINEERING , <i>University of Illinois at Urbana-Champaign</i>	DEC. 2005
M.S. MECHANICAL ENGINEERING , <i>University of Illinois at Urbana-Champaign</i>	OCT. 2002
B.S. MECHANICAL ENGINEERING , <i>magna cum laude, Utah State University</i>	MAY 2000

CURRENT POSITION

PROFESSOR <i>Dept. of Mechanical Engineering, Texas A&M University</i>	SEPT. 2018 – PRESENT
DIRECTOR, INDUSTRIAL ASSESSMENT CENTER <i>Texas A&M University</i>	AUG. 2011 – PRESENT
ASSOCIATE DIRECTOR, ENERGY SYSTEMS LABORATORY <i>Texas A&M University</i>	SEPT. 2012 – PRESENT

EXPERIENCE

ASSOCIATE PROFESSOR <i>Leland T. Jordan Career Development Professor</i> <i>Dept. of Mechanical Engineering, Texas A&M University</i>	SEPT. 2012 – AUG. 2018 <i>April 2016 – March 2019</i>
VISITING PROFESSOR <i>Dept. of Mechanical Engineering, Brigham Young University</i>	AUG. 2013 – DEC. 2013
ASSISTANT PROFESSOR <i>Dept. of Mechanical Engineering, Texas A&M University</i>	JAN. 2006 – AUG. 2012
ASSISTANT DIRECTOR, INDUSTRIAL ASSESSMENT CENTER <i>Texas A&M University</i>	JAN. 2011 – AUG. 2011
ASSISTANT DIRECTOR, ENERGY SYSTEMS LABORATORY <i>Texas A&M University</i>	AUG. 2011 – AUG. 2012
ASME GRADUATE TEACHING FELLOW <i>Dept. of Mechanical and Industrial Engineering, University of Illinois at Urbana-Champaign</i>	2004 – 2005
GRADUATE RESEARCHER <i>Air-Conditioning and Refrigeration Center (ACRC), University of Illinois at Urbana-Champaign</i>	2000 – 2005
MECHANICAL ENGINEER <i>Casper's Ice Cream Inc., Richmond, Utah</i>	1999 – 2000

AWARDS AND DISTINCTIONS

- ASHRAE Technical Paper Award, 2018
- Charles Crawford Distinguished Contributions Award, College of Engineering, Texas A&M University, 2018
- Engineering Genesis Grant Award, Texas A&M Engineering Experiment Station, 2017
- Center of Excellence Award, US Department of Energy, 2017
- James J. Cain Graduate Teaching Award, Mechanical Engineering Dept., Texas A&M University, 2016
- Holder, Leland T. Jordan Career Development Professorship, 2016-2019
- Excellence in Applied Energy Engineering Research, US Department of Energy, 2012, 2014
- Inaugural Best Paper Award, HVAC&R Research Journal, ASHRAE, 2013
- Charles L. and Peggy L. Brittan Undergraduate Teaching Award, Mechanical Engineering Dept., Texas A&M University, 2010
- National Teaching Award - "Distinguished New Faculty" sponsored by the International Academy for the Scholarship of Learning Technology, 2009
- SLATE Teaching Award, Texas A&M University System, Spring 2009
- John Weese Teaching Excellence Award, selected by students, awarded by Pi Tau Sigma, 2008
- NSF CAREER Award recipient, 2007
- ASHRAE Young Investigator, 2007
- Incomplete List of Teachers Ranked as Excellent by Their Students, UIUC, 2004, 2005
- Voluntary ecclesiastical service in Brazil (1996-1998); Fluency in Portuguese
- Eagle Scout (Boy Scouts of America)

SCHOLARSHIPS AND FELLOWSHIPS

- ASME Graduate Teaching Fellowship, 2004, 2005
- Predoctoral Research Fellow, UIUC, 2000-2002
- ASHRAE Scholarship, 2000
- USU Superior Student Scholarship, 1995-2000
- Robert C. Byrd Scholarship, 1995, 1998-2000
- Engineering Honors at Entrance Scholarship, 1995
- Frederick P. Champ (Boy Scouts of America) Scholarship, 1995

PROFESSIONAL REGISTRATION

Registered Professional Engineer, State of Texas, License #110459

PROFESSIONAL SOCIETIES AND SERVICE

- Tau Beta Pi, 1999
- American Society of Mechanical Engineers, 2003
 - Chair, Energy Systems Technical Committee, 2014-2016
 - Member, Dynamics Systems and Controls Division
 - Member, Modeling, Identification and Intelligent Control Technical Committee
- Institute of Electrical and Electronics Engineers, 2003
 - Member, Control Systems Society
- American Society of Heating, Refrigeration, and Air Conditioning Engineers, 2006
 - Member, ASHRAE
 - Corresponding Member, TC 1.4 Control Theory and Application
 - Corresponding Member, TC 8.8 Refrigerant System Controls and Accessories
- American Society for Engineering Education, 2007

COMMUNITY SERVICE

- President, Ballet Brazos (503c non-profit organization), 2013-present.
- Director of Development, Brazos Valley Performing Arts (non-profit organization), 2012-2013.
- Scoutmaster Troop 919 & 967, Sam Houston Area Council, 2006-2012.

EDUCATIONAL ACTIVITIES

Courses Taught (44 courses, 2550 students)

(11)	MEEN 260: Mechanical Measurements	TAMU
(7)	MEEN 364: Dynamic Systems and Control	TAMU
(1)	MEEN 401: Introduction to Engineering Design: Studio	TAMU
(2)	MEEN 402: Intermediate Design: Studio	TAMU
(1)	MEEN 404: Engineering Laboratory	TAMU
(1)	MEEN 406: Energy Management in Industry	TAMU
(1)	MEEN 431: Advanced Dynamics and Controls	TAMU
(9)	ENGR 489/491: Special Topics: Aggi-E Challenge	TAMU
(5)	MEEN 651: Control System Design	TAMU
(1)	MEEN 652: Multivariable Control System Design	TAMU
(1)	MEEN 662: Energy Management in Industry	TAMU
(2)	ME 360: Signal Processing, Instrumentation, and Control	UIUC
(1)	ME 363: Elementary Instrumentation	BYU

Distance Learning Courses Taught (7 courses, 54 students)

(2)	MEEN 406: Energy Management in Industry	TAMU
(1)	MEEN 651: Control System Design	TAMU
(4)	MEEN 662: Energy Management in Industry	TAMU

Course Development – MEEN 260 “Introduction to Engineering Experimentation”

- Coordinator to revise MEEN 260 from 2 to 3 credit hours, TAMU, Spring/Summer 2007
- Revision of Course Lecture Notes – Summer 2007
- Addition of two new laboratory experiments – Summer 2007
- Addition of online adaptable quizzes for learning assessment – Spring 2008
- Addition of course project for custom experimentation – Spring 2008
- Addition of active learning activities for “flipped classroom” learning – Fall 2013
- Addition of online lectures – Spring 2018

Distance Learning Course Development

- MEEN 651 “Control System Design” developed online notes, lectures, and learning modules, Dec. 2014
- MEEN 662 “Energy Management in Industry” developed online course materials, Dec. 2016

Undergraduate Design Projects (22 teams, 140 students, \$219,625)

- DP1) “Flow Cytometer Pulse Dampener”, Sexing Technologies, AY2010-11
- DP2) “Advanced Controls for Ultra-Efficient Supermarket Refrigeration Systems”, US Dept. of Energy – MaxTech Design Competition, AY2011-12
- DP3) “Smart HVAC System Design for Net Zero Energy Home”, Altumaxis, AY2012-13
- DP4) “Automatic Diagnostic Device for Packaged Air Conditioning Systems”, Aggi-E Challenge, AY2012-13
- DP5) “Image Recognition System for Lighting Retrofit Assessment”, Aggi-E Challenge, AY2012-13
- DP6) “Optimized Design of Furnace Cooling System”, US Dept. of Energy – Advanced Manufacturing Office, AY2012-13
- DP7) “Automated Part Tracking and Metrology System”, US Dept. of Energy – Advanced Manufacturing Office, AY2012-13
- DP8) “Rugged Mini 2D Barcode Reader”, Sexing Technologies, AY2012-13
- DP9) “Automated Building Rendering from UAV measurements”, Aggi-E Challenge, AY2013-14
- DP10) “Automated Building Envelope Analysis using UAVs”, Aggi-E Challenge, AY2013-14
- DP11) “Non-Intrusive Measurement of Compressed Air Leakage Rates in Industrial Energy Assessments”, US Dept. of Energy – Advanced Manufacturing Office, AY2014-15
- DP12) “Autonomous HVAC Duct Navigation and Leak Detection”, Aggi-E Challenge, AY2014-15
- DP13) “Autonomous UAV Navigation and Occupant Identification”, Aggi-E Challenge, AY2014-15
- DP14) “Intelligent Defrost Control”, Emerson Climate Technologies, AY2014-15
- DP15) “Micro-Refrigeration Testbed Design”, Dunan Microstaq, AY2014-15

- DP16) “Autonomous Lighting Identification”, Aggi-E Challenge, AY2015-16
 DP17) “Integrated Sensor Design for Measuring Non-Intrusive Internal Air Flow Rate”, Texas A&M Industrial Assessment Center, AY2015-16
 DP18) “Autonomous UAV Navigation and Lighting Assessment”, Aggi-E Challenge, AY2016-17
 DP19) “Micro-Refrigeration System Control and Performance Benchmarking”, Dunan Microstaq, AY2016-17

Educational Professional Development

Workshops and Seminars sponsored by the Center for Teaching Excellence, Texas A&M University

- “Pedagogy Forum: Technology-Enabled and Distance Education Programs”, Nov. 29, 2016
- “Teaching Methods and Approaches to Engage Students” Workshop, Jan. 20, 2016
- “Instructional Technology & Design” Workshop, Nov. 10, 2015
- “ePortfolio: Building Your Teaching Portfolio”, June 25, 2014
- “Goodbye Dr. Chips” Faculty Professional Development Workshop, Oct. 10, 2011
- “Teaching Large Classes” seminar series, Mar.-Apr. 2009
- “Lecturing Well,” Sept. 16, 2009
- “Faculty Teaching Academy”, Graduate, 2007-2008
- “One-Week Program in Research and Teaching for Engineering Faculty”, Jan. 2007
- Personal Consultation and Classroom Evaluation, Apr. 2009
- Presenter/Attendee at “International Conference on College Teaching and Learning”, Apr. 2009

STUDENT RESEARCH ADVISING

Ph.D. Graduate Student (13)

Young Joon Chang	(2009)	Jorge Mijares	(2017)
Matthew Elliott	(2013)	Trevor Terrill	(2018)
Shuangshuang Liang	(2014)	Christopher Price	(2018)
Chao Wang	(2016)	Kaimi Gao	(2019)
Rawand Jalal	(2016)	Austin Rogers	(2020)
Christopher Bay	(2017)	Fangzhou Guo	(2021)
Rohit Chintala	(2017)		

M.S. Graduate Student (16)

Abhishek Gupta	(2007)	Priyam Parikh	(2014)
Matthew Elliott	(2008)	Franco Morelli	(2014)
Natarajkumar Hariharan	(2010)	Edwin Youmsi Pete	(2015)
Swaroop Seshadri	(2011)	Kaimi Gao	(2015)
Balakrishna Ayyagari	(2011)	Trevor Terrill	(2015)
Alex Janecke	(2011)	Marcus Thackeray	(2020)
Avinash Rani	(2012)	Deokgeun Park	(2020)
Ankush Gupta	(2012)	Rafael Dugarte Zerpa	(2021)

M.E. Graduate Student (3)

Aarti Ramani	(2007)	Asha Shibu	(2017)
Loan de Deus Vieira Cardoso	(2016)		

Post-Doctoral Researchers (1)

Seyed Mostafa Ghoreyshi	(2018)
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Undergraduate Student Research (30)

Clair Atzert	(2004)	Ross Hayes	(2010-2011)
Lee Fok	(2004)	Carolyn Estrada	(2010-2011)
Tom Yeung	(2004)	Ryan Wood	(2011)
Melonee Wise	(2004)	Carlos De la Guardia	(2011)
Alex Bleakie	(2006)	Alan Mohn	(2011)
Juan Munoz	(2006)	Joseph Iannacci	(2011)
Zachary Walton	(2007-2008)	Irina Popova	(2011)
Shana Van Fleet	(2007)	Alan Mohn	(2012)
Byron Bolding	(2007-2009)	Mattias Zerza	(2015)
Sean Elliston	(2007-2008)	Fernando Zucolotto	(2015)
Kristine Test	(2008)	Victor da Cunha	(2015)
Craig Warren	(2008)	Marcus Omori	(2015)
Martin Jasper	(2009)	Jiayao (Amy) Li	(2015-2016)
Matthew Sanders	(2009)	Crystal Torres	(2016)
Elyse Jones	(2009-2010)	Michael Alvarez	(2016)

M.S. Thesis Committees (33)

Craig Odom (2006), Jae-Won Choi (2006), Bharat Narasimhan (2007), Sandipan Mitra (2007), Dongwon Lim (2008), Ashivni Shekhawat (2008), Vijesh Reddy (2008), Varun Gandhi (2008), SeungHo Lee (2009), Paul Oberlin (2009), Naveen Kumar Bibinagar (2010), Navid Mohsenizadeh (2010), Chien-Fan Chen (2010), Jianxi Fu (2010), Vishal Wadhvani (2011), Rohit Chintala (2011), Vahideh Kamranzadeh (2011), Sean Elliston (2011), Claire Mero (2012), Charles Kaneb (2013), JP Hidore (2013), Wenlong Ma (2014), Ruikang Zhu (2014), Yupeng Zhang (2014), Jonathan Horn (2015), Corey Brown (2015), Victor Paredes (2016), Samuel Fordjour (2016), Mitchell Allain (2017), Colton Barnes (2017), Andrew Nelson (2017), Cesar Pelli (2018), Sulaiman Alsaleem

Ph.D. Thesis Committees (25)

Vipin Tyagi (2007), Michael Browne (2009), Brandon Gegg (2009), Ho Yu (2009), Sai Krishna Yadlapalli (2010), Michael Davis (2010), Jiawei Dong (2012), Yi-Chu Chang (2013), Loveleena Bansal (2013), Navid Mohsenizadeh (2013), Yong Li (2011), Wan Zhong (2015), Peng Yin (2015), Young Shin-Kwon (2016), Sukjoon Oh (2017), Mitch Paulus (2017), Xiaojun Li (2018), Jianxi Fu (2018), Jennifer Anderson Rich, Clinton Davis (2019), Joseph Samy Riad, Hongxiang Fu, Paul Nagy, Hala Sameh Nemer, Luke Madden

International Ph.D. Thesis Committees (3)

Kasper Vinther (2014 – Aalborg University, Denmark), Ehsan Shafiei (2015 – Aalborg University, Denmark), Tomasz Minko (2019 – Aalborg University, Denmark)

SERVICE

Departmental Service

(13 years)	MEEN 260 Course Coordinator	Feb. 2007 – present
(10 years)	Educational Development Committee	Aug. 2011 – Aug. 2020
(11 years)	Laboratory Committee	Feb. 2007 – Aug. 2016, Aug. 2018 – Aug. 2019
(1.5 years)	Laboratory Committee - Chair	Feb. 2014 – Aug. 2015
(8 years)	Graduate Program Qualifier Committee	2006-2008, 2010-2013, 2015, 2017-2019
(5 years)	Faculty Mentoring Committee	Jan. 2014 – Aug. 2018
(3 years)	Distance Learning Committee – Chair	Aug. 2016 – Aug. 2019
(2 years)	Tenure and Promotion Committee	Jan. 2016 – Dec. 2018
(1 year)	Strategic Planning Committee	May 2018 – Aug. 2019
(1 year)	Faculty Advisory Committee	Sept. 2018 – Aug. 2019
(2 years)	Scholarship Committee	Aug. 2011 – Aug. 2013
(2 years)	Undergraduate Awards Selection Committee	May 2008, May 2010
(1.5 years)	Senior Design Committee	Mar. 2013 – Aug. 2014
(1 year)	Faculty Industry Liaison Committee	Aug. 2014 – Aug. 2015
(1 year)	Faculty Search Committee – Energy Systems	Sept. 2008 – May 2009
(1 year)	ABET/Assessment Committee	Mar. 2007 – Jan. 2008

College Service

(2.5 years)	Engineering Faculty Advisory Committee (EFAC), Member	Jan. 2018 – May 2020
(1 year)	College of Engineering Honors Committee, Member,	July 2013 – Aug. 2014

University Service

Learning Management System Selection Sub-Committee, IT Governance Program	Sept. 2018 – May 2019
Latter-Day Saint Student Association, Faculty Adviser,	Aug 2014 – Dec. 2017

Faculty Mentor

Faculty Mentor – Pilwon Hur, MEEN	June 2017 – present
Faculty Mentor – Xinguong Song, ETID	Sept. 2016 – present
Faculty Mentor – ChaBum Lee, MEEN	Aug. 2018 – present

Associate Editor

ASME Journal of Dynamic Systems, Measurement, and Control, 2013-2016, (19) manuscripts

Conference Activities

Conference Technical Program Chair

Industrial Energy Technology Conference, 2014- 2015

Conference Advisory Board Member

Industrial Energy Technology Conference, 2012-2017

Conference Program Committee Member

American Control Conference, 2012, Montreal, Ontario

ASME Dynamic Systems and Control Conference, 2014, San Antonio, Texas

Organizer – Special and Invited Conference Sessions

“Advanced Modeling and Control of Building Energy Systems”, 2008 American Control Conference

“Progress and Challenges in the Configuration, Control, and Battery Management of Vehicle-To-Grid (V2G)

Integration Systems”, 2009 ASME Dynamic Systems and Control Conference

“Building Energy Systems”, 2013 ASME Dynamic Systems and Control Conference

“Successful Industrial Assessment Center Projects I”, 2013 Industrial Energy Technology Conference

“Successful Industrial Assessment Center Projects II”, 2013 Industrial Energy Technology Conference

“Building Energy Systems”, 2014 ASME Dynamic Systems and Control Conference

“Control of Smart Buildings and Microgrids”, 2017 ASME Dynamic Systems Control Conference

“Control & Energy Management of Building Systems”, 2019 American Control Conference

Chair – Conference Sessions

- “Advanced Modeling and Control of Building Energy Systems”, Chair, 2008 American Control Conf.
- “Dynamic Modeling for Automotive Applications”, Co-chair, 2008 American Control Conf.
- “Progress and Challenges in the Configuration, Control, and Battery Management of Vehicle-To-Grid (V2G) Integration Systems”, 2009 Dynamic Systems and Control Conference
- “Control Applications”, 2009 Dynamic Systems and Control Conference
- “Heating, Ventilating, and Air Conditioning”, Chair, 2010 American Control Conference
- “Successful Industrial Assessment Center Projects I”, 2013 Industrial Energy Technology Conference
- “Successful Industrial Assessment Center Projects II”, 2013 Industrial Energy Technology Conference
- “Building Energy Systems”, 2013 Dynamic Systems and Control Conference
- “Building Energy Systems”, 2014 Dynamic Systems and Control Conference
- “Equipment Analysis II”, 2015 Industrial Energy Technology Conference
- “Building and Facility Automation”, 2017 American Control Conference
- “Building and Facility Automation I”, 2018 American Control Conference

Federal Grant Programs

National Science Foundation

- National Science Foundation Proposal Review Panel, Member, 6/06
- National Science Foundation Proposal Review Panel, Member, 1/11-12/10
- National Science Foundation Proposal Review Panel, Member, 1/14/10
- National Science Foundation Proposal Review Panel, Member, 6/10/10
- National Science Foundation CMMI Workshop Participant, 5/24-25/10

US Department of Energy

- Energy Efficiency and Renewable Energy Review Panel, Member, 5/17

Outreach Activities

- Engineering Merit Badge, Boy Scouts of America, 20 participants, 4 two-hour sessions, Nov. 3, 6, & 10, 2010
- Robotics Merit Badge, Boy Scouts of America, 15 participants, 4 two-hour sessions, Oct. 19, 26, Nov. 9, & 16, 2011
- Inventing Merit Badge, Boy Scouts of America, 8 participants, 1 two-hour session, Nov. 5, 2011
- Bridge Building Competition, Boy Scouts of America, 8 participants, 1 two-hour session, Jan. 9, 2013

Notable Laboratory Tours and Presentations

- 02/02/17 (3) Faculty from Saudi Arabian Universities, (2) US Dept. of Energy
- 10/04/11 (3) T. Britton, TEES Assistant Vice Chancellor for External Affairs, D. Hurtado, TAMU Assistant Vice President for Federal Agency Advancement, J. Masser, Assistant Director TEES Strategic Research Development
- 11/07/11 (2) M. O’Quinn, TAMU Vice President for Government Relations
- 11/21/11 (17) Texas State Legislators
- 08/02/12 (1) Rep. John Raney
- 01/31/13 (8) National Security Agency Representatives (5), Diane Hurtado, Julie Masser, Kevin Gamache
- 11/11/14 (1) Mark Hussey, Interim President, Texas A&M University

Radio and Television Interviews

- 05/15/2012 Public Radio, Hear the Answer, “How does a manufacturing plant make itself more efficient?”
<http://www.heartheanswer.com/index.php?action=feature&qid=1767>

Reviewer

Research Proposals

- (24) National Science Foundation
- (16) US Dept. of Energy, Advanced Manufacturing Office

Journal Publications

- (25) International Journal of Refrigeration
- (15) Science and Technology for the Built Environment (previously HVAC&R research)
- (11) IEEE Transactions on Control Systems Technology
- (10) Control Engineering Practice
- (8) ASME Journal of Dynamic Systems, Measurement, and Control
- (5) Applied Thermal Engineering
- (3) Nonlinear Dynamics
- (3) Journal of Process Control
- (3) Communications in Nonlinear Science and Numerical Simulation
- (3) Industrial & Engineering Chemistry Research
- (2) IEEE/ASME Journal of Mechatronics
- (3) ASHRAE Transactions
- (1) Energy and Buildings
- (1) Journal of Energy Resources Technology
- (1) IET Control Theory & Applications
- (1) International Journal of Robust and Nonlinear Control
- (1) Journal of Thermophysics and Heat Transfer
- (1) Mechatronics
- (1) Energies
- (2) Energy
- (1) Applied Energy
- (1) Buildings and Environment

Conference Publications

- (34) American Control Conference
- (10) ASME International Mechanical Engineering Conference and Expo
- (3) IEEE CSS Multi-Conference on Systems and Control
- (3) IEEE Conference on Decision and Control
- (3) ASME Dynamic Systems and Control Conference
- (2) International Conference for Enhanced Building Operations
- (1) IFAC Symposium on Robust Control
- (1) ASHRAE Conference Proceedings
- (1) European Control Conference
- (1) IFAC World Congress

INDUSTRIAL ASSESSMENT CENTER ACTIVITIES

Leadership

Director, Aug. 2011 – present

Assistant Director, Jan. 2011 – Aug. 2011

Impact

Served over 770 industrial clients, resulting in \$265 million in verified savings (\$31 million since 2011).

Staff Employees

James A. Eggebrecht, P.E., 1994-present

Student Employees - 346

>241 Students from 1986-2010

81 Undergraduate Students and 25 Graduate Students from 2011-present (*45% underrepresented minorities)

	Undergraduate	Dates		Undergraduate	Dates
1)	Peter Chung	June 2009 – May 2011	51)	*Agustin Costabella	Jan. 2016 – May 2015
2)	Thomas Vest	Jan. 2010 – May 2012	52)	Stuart Powell	Jan. 2016 – Dec. 2016
3)	*Elizabeth Webre	Jan. 2010 – May 2012	53)	*Jose Bendana	May 2016 – May 2018
4)	Chris Cassidy	Jan. 2010 – May 2011	54)	*Jatziry Teran	Aug. 2016 – Dec. 2017
5)	*Emiliano Vivanco	Jan. 2010 – Dec. 2011	55)	Faysal Altaher	Aug. 2016 – Dec. 2016
6)	Kelvin Singleton	Jan. 2010 – May 2012	56)	*Rafael Dugarte	Aug. 2016 – Dec. 2018
7)	Ben Fisher	May 2010 – May 2011	57)	*Sudikshya Bhandari	Aug. 2016 – May 2018
8)	*Amber Tucker	May 2010 – May 2012	58)	*Bruno Penagos	Aug. 2016 – Dec. 2018
9)	Travis Warren	Sept. 2010 – May 2011	59)	*Nicholas Hernandez	Aug. 2016 – May 2017
10)	Jason Brelsford	May 2011 – Aug. 2011	60)	Michael Brasovan	Jan. 2017 – Sept. 2017
11)	Malcolm Stein	May 2011 – Aug. 2011	61)	Kevin Trevino	Jan. 2017 – Dec. 2017
12)	Neal Lynch	May 2011 – Aug. 2011	62)	Jeffrey Young	Aug. 2017 – May 2018
13)	*Gabriel Cruz	May 2011 – May 2012	63)	*Tatyana Atherley	Aug. 2017 – Dec. 2018
14)	*Irina Popova	May 2011 – May 2013	64)	*Nicole Risinger	Aug. 2017 – Dec. 2017
15)	*Lauren Cassidy	Aug. 2011 – May 2013	65)	*Megan Valant	Jan. 2018 – present
16)	Garrett Hallmark	Aug. 2011 – May 2013	66)	*Guadalupe Estrada	Jan. 2018 – present
17)	Ryan Edwards	Aug. 2011 – Dec. 2013	67)	Hunter Brown	Jan. 2018 – present
18)	Cameron Ellis	Jan. 2012 – May 2013	68)	Samuel Helgren	May 2018 – present
19)	Michael Krutak	Jan. 2012 – Dec. 2013	69)	Henry Campbell	May 2018 – present
20)	*Oluwaseyi Lapite	Jan. 2012 – Dec. 2013	70)	*Hannah Zumwalt	May 2018 – present
21)	Ben Afflerbach	May 2012 – Dec. 2013	71)	Trey Boehm	May 2018 – present
22)	Travis Genz	May 2012 – Dec. 2013	72)	Matthew Stahr	May 2018 – present
23)	Brad Vanderford	May 2012 – Dec. 2013	73)	Robert Coens	May 2018 – present
24)	Adam Groenhuyzen	May 2012 – Dec. 2015	74)	Thomas Cochran	May 2018 – present
25)	Matthew Hays	May 2012 – Aug. 2014	75)	Joseph Tang	May 2018 – present
26)	Thomas Kerr	May 2012 – Aug. 2014	76)	Austin Teague	May 2018 – present
27)	*Kara Bocock	Jan. 2014 – Mar. 2014	77)	Mazen Ali	May 2018 – present
28)	John Houdek	May 2012 – May 2015	78)	*Laura Homiller	May 2018 – present
29)	Aalap Ashtamkar	Jan. 2014 – May 2015	79)	Reagan Wiggs	May 2018 – present
30)	*Bibin Daniel	Jan. 2014 – May 2015	80)	*Christian Aycinena	Aug. 2018 – Dec. 2018
31)	Kyle Kempf	Jan. 2014 – May 2014	81)	*Brianna Pratt	Aug. 2018 - present
32)	*Ellen Geis	Jan. 2014 – May 2015	82)		
33)	Travis Hall	Jan. 2014 - May 2015	83)		
34)	Mason Parsons	Jan. 2014 – May 2015	84)		
35)	*Michael Carillo	Jan. 2014 – Dec. 2016	85)		
36)	Nathan Meredith	Jan. 2014 – May 2015	86)		
37)	Nick Seidemann	Jan. 2014 – Dec. 2015	87)		
38)	*Crystal Torres	Jan. 2014 – Aug. 2016	88)		
39)	*Gbotemi Balogun	Jan. 2015 – May 2015	89)		
40)	*Amy Shaklovitz	Jan. 2015 – May 2016	90)		

41)	Austin Cantrell	Jan. 2015 – Dec. 2015	91)		
42)	*Jiayao Amy Li	May 2015 – Dec. 2015	92)		
43)	Walt Prudhomme	May 2015 – May 2016	93)		
44)	Daniel Moore	May 2015 – May 2016	94)		
45)	Geoffrey Garner	May 2015 – May 2016	95)		
46)	*Mattias Zerza	May 2015 – Aug. 2015	96)		
47)	*Fernando Zucolotto	May 2015 – Aug. 2015	97)		
48)	*Victor da Cunha	May 2015 – Aug. 2015	98)		
49)	*Marcus Omori	May 2015 – Aug. 2015	99)		
50)	*Salvador Vidaurre	Oct. 2015 – Dec. 2017	100)		

	Graduate	Dates		Graduate	Dates
1)	William Pollard	Aug. 2011 – May 2015	16)	*Iyabo Lawal	May 2016 – Aug. 2016
2)	*Franco Morelli	Jan. 2012 – Nov. 2014	17)	*Jorge Mijares	Aug. 2016 – Dec. 2017
3)	Trevor Terrill	Aug. 2012 – present	18)	*Asha Shibu	Aug. 2016 – Aug. 2017
4)	*Priyam Parikh	Oct 2012 – Nov. 2014	19)	*Sharon Maria	Aug. 2016 – May 2018
5)	*Edwin Youmsi Pete	May 2013 – Dec. 2014	20)	*Keeley Coburn	Aug. 2016 – May 2017
6)	Priyadarshan Zambre	Jan. 2014 – Aug. 2014	21)	*Kaimi Gao	Jan. 2016 – Dec. 2018
7)	Christopher Price	Jan. 2015 – Jan. 2018	22)	Harsimran Singh	Jan. 2017 – May 2018
8)	Rohit Chintala	Jan. 2015 – Dec. 2016	23)	Shubham Chitkara	Jan. 2017 – May 2018
9)	Dushyant Chaudhari	May 2015 – Dec. 2016	24)	Marcus Thackerey	August 2018 – present
10)	Austin Rogers	Aug. 2015 – Jan. 2018	25)	*Rafael Dugarte	Jan. 2019 – present
11)	*Ananya Ravi	Jan. 2016 – May 2016	26)		
12)	*Panchami Menon	Jan. 2016 – Jan. 2017	27)		
13)	Darpan Chorghe	Jan. 2016 – May 2016	28)		
14)	Vinayak Nair	Jan. 2016 – May 2016	29)		
15)	*Tejaswi Petluri	Jan. 2016 – May. 2016	30)		

Industrial Assessments

Faculty Lead on 56 industrial assessments, Participant in 63 assessments.

Short Courses and Training for External Partners

“Modern Industrial Assessments” – Aug. 10-14, 2015. Provided by the staff of the Texas A&M IAC for the Faculty of Qassim University, Saudia Arabia.

Outreach Activities

Energy Engineering Experience (E3) for High School Teachers – March 21-23, 2012.

Training for IAC Students

**Incomplete list of External Training Partners:*

AmerESCO	PACE Texas
CLEARresult	Rapid Power Management
Dallas Wastewater	Samsung
Energy by 5	Siemens
Energy and Resource Solutions	South Central Partnership for Energy Efficiency as a Resource
Energy Systems Laboratory (TAMU)	Spria-x-Sarco
Entergy	Texas Industries of the Future
Houston Advanced Research Center	Texas Manufacturing Assistance Center (TMAC)
ICF	Texas State Energy Conservation Office (SECO)
Ingersoll-Rand	Utilities and Energy Management (TAMU)
McKinstry Consulting	

RESEARCH

External Research Grants and Gifts - Funded (\$6,148,583 Total, \$5,210,647 PI: Rasmussen)

- G1) Hajimirza, S., Rasmussen, B., “Steady-state Thermal Modeling and Value Analysis of Commercial Chiller System With Oil-free VS Centrifugal Compressor,” Emerson Climate Technologies, \$87,012, (B. Rasmussen \$43,506), 1 July 2018 – 1 Feb. 2020.
- G2) Rasmussen, B., Hu, X., “Large Scale Data Analytics for Air Conditioning Systems,” Trane, \$541,104 (\$352,561 Rasmussen), 1 Sept. 2017 – 31 Dec. 2019.
- G3) Rasmussen, B., Claridge, D., Eggebrecht, J. “Texas A&M University Industrial Assessment Center,” U.S. Dept. of Energy – Golden Field Office, \$1,575,000, 1 Oct. 2016 – 30 Sept. 2021.
- G4) Rasmussen, B., “Distributed Model Predictive Control for Building Energy Systems,” National Science Foundation – Civil and Mechanical Systems – Sensors, Dynamics, and Control Program, \$325,000, 1 Sept. 2016 – 31 Aug. 2019.
- G5) Rasmussen, B., “Study to Quantify the Potential for Emissions Reductions due to Common Energy Efficiency Projects Implemented by Industrial Manufacturers – Phase 2,” South Central Partnership for Energy Efficiency as a Resource, \$36,787, 1 April 2016 – 31 Dec. 2016
- G6) Rasmussen, B., “SBIR: Software Toolkit for Dynamic Control of Active Thermal Management Systems – Phase I,” SBIR – Office of Naval Research, N00014-16-P-2005, \$24,000, 1 Nov. 2015 – 15 May 2016.
- G7) Rasmussen, B., “Study to Quantify the Potential for Emissions Reductions due to Common Energy Efficiency Projects Implemented by Industrial Manufacturers,” South Central Partnership for Energy Efficiency as a Resource, \$34,850, 16 July 2015 – 31 Mar. 2016 (\$29,725 Rasmussen).
- G8) Rasmussen, B., “Modern Industrial Energy Assessments Training,” Qassim University, \$22,000, 1 May 2015 – 1 Mar. 2017.
- G9) Rasmussen, B., “Heat Pump Dynamic Simulation Model: Phase 2: Transient Thermal Model Development with Experimental Validation,” Emerson, \$86,202, 16 Oct. 2014 – 31 Jan. 2016.
- G10) Rasmussen, B., “Industrial Assessment Center Research Grant,” Dept. of Energy, Advanced Manufacturing Office, \$25,000, 1 Sept. 2014 – 30 Aug. 2015.
- G11) Rasmussen, B., “Experimental Evaluation of Silicon Expansion Valve Technology,” DunAn Microstaq, \$149,351, 15 July 2013 – 15 Nov. 2015.
- G12) Rasmussen, B., “Senior Design Project: Net-Zero Energy Homes,” Altumaxis, \$3,000, 1 Sept. 2012 – 31 Aug. 2013.
- G13) Rasmussen, B., “Transient Simulation Models of OPS and VCS,” Marvin Land Systems, \$63,342, 1 Sept. 2012 – 28 Feb. 2013.
- G14) Rasmussen, B., “Distributed Model Predictive Control for Building Energy Systems,” National Institute of Standards and Technology, \$229,224, 1 Sept. 2012 – 31 Aug. 2015.
- G15) Rasmussen, B., “Industrial Assessment Center Research Grant,” Dept. of Energy, Advanced Manufacturing Office, \$25,000, 1 Sept. 2012 – 30 Aug. 2013.
- G16) Rasmussen, B., “Heat Pump Dynamic Simulation Model: Phase 1: Transient Thermal Model Development with Experimental Validation,” Emerson, \$144,813, 1 Sept. 2012 – 31 Aug. 2014.
- G17) Rasmussen, B., Eggebrecht, J. “Texas A&M University Industrial Assessment Center,” U.S. Dept. of Energy – Golden Field Office, \$1,217,098, 1 Oct. 2011 – 30 Sept. 2016.
- G18) Rasmussen, B., “Advanced Controls for Ultra-Efficient Supermarket Refrigeration Systems,” Lawrence-Livermore National Laboratory, \$20,000, 1 Sept. 2011 – 30 Aug. 2012.
- G19) Heffington, W., Eggebrecht, J., and Rasmussen, B., “TAMU Industrial Assessment Center,” 1 Oct. 2006 – 20 Sept. 2011 \$672,454 (\$32,000 Rasmussen), 1 Sept. 2006 – 31 Aug. 2012.
- G20) Rasmussen, B., “REU Supplemental Research Grant: CAREER: Model-Based Control and Diagnostics for Transcritical CO₂ Vapor Compression Cycle Systems,” National Science Foundation – Civil and Mechanical Systems – Control Systems Program, \$6,000, 1 Mar. 2011 – 29 Feb. 2012.
- G21) Garrett, M., and Rasmussen, B., “SBIR: Development of a Variable-Fidelity Toolset for Dynamic Thermal Modeling of Aircraft Thermal Management Systems – Phase I,” SBIR – Air Force, AF103-208, \$100,000 (\$30,000 Rasmussen), 1 Mar. 2011 – 31 Dec. 2011.
- G22) Rasmussen, B., “Precision Air Pressure Regulated Pulse Dampened Fluid Flow in Sperm Sorting Flow Cytometer,” Sexing Technologies, Inc., \$24,625, 1 Sept. 2010 – 30 Aug. 2011.
- G23) Schwartz, C. and Rasmussen, B., “Investigation of Display and Deployment Technologies for Humanitarian Information Dissemination,” Sandia National Laboratories, \$74,996 (\$14,688 Rasmussen), 1 Sept. 2010 – 30 Aug. 2011.
- G24) Rasmussen, B., “Transient Performance Improvements of Silicon Expansion Valves: Modeling and Analysis,” Microstaq, Inc., \$46,730, 1 Aug. 2010 – 30 Sept. 2011.
- G25) Rasmussen, B., “Dynamic Modeling and Control of a Multi-Evaporator Vapor Compression System,” Air Force Research Laboratory, \$27,200, 31 Mar. 2010 – 1 Apr. 2011.
- G26) Rasmussen, B., “Dynamics and Control of SEV Controlled Vapor Compression Systems,” MicroStaQ, \$6,000, 5 Jan. 2010.
- G27) Rasmussen, B., “ASHRAE Grant-in-Aid: Student – Matthew Elliott,” ASHRAE, \$10,000, 3 Feb. 2009.
- G28) Rasmussen, B., “Dynamic Modeling of Vapor Compression Cycles for Aerospace Vehicles,” Honeywell, Inc., Toronto, \$105,797, 1 Dec. 2008 – 30 Nov. 2010.
- G29) Rasmussen, B., “Reduced Order Dynamic Models of Vapor Compression Systems,” American Society of Heating, Refrigeration, and Air Conditioning Engineers – Young Investigator Program, \$30,000, 1 Dec. 2006, renewed \$15,000, 19 May 2008. (\$45,000 total).
- G30) Rasmussen, B., “Reduced Order Dynamic Models of Vapor Compression Systems,” matching funds for ASHRAE Young

- Investigator award, Honeywell, Torrance, \$15,000, Mar. 2007.
- G31) Rasmussen, B., "CAREER: Model-Based Control and Diagnostics for Transcritical CO₂ Vapor Compression Cycle Systems," National Science Foundation – Civil and Mechanical Systems – Control Systems Program, \$400,000, 1 Mar. 2007 – 29 Feb. 2012.
- G32) Rasmussen, B., "Dynamic Model Development of a Vapor Compression System Unit and Air Handling Unit for the Future Combat Systems Program," Marvin Land Systems, Inc., \$16,928, 16 Oct. 2006. Extension, \$29,732, 17 Apr. 2007. Extension, \$29,328, 21 Sept. 2007. (\$75,998 total), 1 Nov. 2006 – 31 Dec. 2007.

Internal Research Grants and Gifts - Funded (\$369,607 Total, \$369,607 PI: Rasmussen)

- IG1) Rasmussen, B., Claridge, D., Eggebrecht, J. "Texas A&M University Industrial Assessment Center – Cost Sharing Grant," College of Engineering, Texas A&M University, \$100,000, 1 Oct. 2016 – 30 Sept. 2021.
- IG2) Rasmussen, B., "Aggi-E Challenge Program," Texas A&M University, \$22,500, 22 April 2016.
- IG3) Rasmussen, B., "Aggi-E Challenge Program," Texas A&M University, \$22,642, 22 April 2015.
- IG4) Rasmussen, B., "Aggi-E Challenge Program," Texas A&M University, \$22,500, 22 April 2014.
- IG5) Rasmussen, B., "Aggi-E Challenge Program," Texas A&M University, \$22,500, 18 July 2013.
- IG6) Rasmussen, B., "Aggi-E Challenge Program," Texas A&M University, \$22,465, 18 July 2012.
- IG7) Rasmussen, B., Eggebrecht, J. "Texas A&M University Industrial Assessment Center – Cost Sharing Grant," Dept. of Mechanical Engineering, Texas A&M University, \$25,000, 2 Aug. 2011.
- IG8) Rasmussen, B., Eggebrecht, J. "Texas A&M University Industrial Assessment Center – Cost Sharing Grant," Energy Systems Laboratory, Texas A&M University, \$1,000, 2 Aug. 2011.
- IG9) Rasmussen, B., "Supplemental Research Grant", Department of Mechanical Engineering, Texas A&M University, \$30,000, 1 Jun. 2011.
- IG10) Rasmussen, B., "Faculty Research Initiation Grant", Texas Engineering Experiment Station and Department of Mechanical Engineering, Texas A&M University, \$101,000, 1 Jan. 2006.

Equipment Donations – (\$38,417 estimated)

- E1) Dunan MicroStaq, Inc., MEMs based electronic expansion valves (\$3,000 est.), 2013.
- E2) Hussman, Supermarket Refrigeration System (\$12,000 est.), 2011.
- E3) MicroStaq, Inc., MEMs based electronic expansion valves (\$3,000 est.), 2008.
- E4) United Technologies Research Center, Prototype CO₂ vapor compression system (\$10,000 est.), 2007.
- E5) Trane, Commercial Air-Conditioning System, \$8,171, 2007.
- E6) Sporlan, Electronic Control Valves, \$2,246, 2006-2007.
- E7) Fujikoki, Electronic Control Valves, \$2000 est., 2006.

INVITED PRESENTATIONS

Invited Presentations - Notable

- P1) US Congress, House of Representatives, Manufacturing Caucus, "The impact of the Industrial Assessment Center program in increasing the energy efficiency and competitiveness of US Manufacturing", Rasmussen, B., 25 January 2017.

Invited Presentations – Academic (External)

- P2) Congreso Internacional de Ingeniería Mecánica, "Opportunities for Improving Energy Efficiency in Industrial and Commercial Facilities", Universidad Tecnológica de Panamá, 8 Oct. 2018.
- P3) American Control Conference, "Thermal and HVAC Control Systems: Challenges and Opportunities," Alleyne, A., Hency, B., Wen, J., Rasmussen, B., Seattle, WA, 24 May 2017.
- P4) Rice University, Mechanical Engineering Department, "Advanced Coordinated Controls for Building HVAC Networks," Houston, TX, 5 Apr. 2017.
- P5) University of Utah, Chemical Engineering Department, "Advanced Coordinated Controls for Building Energy Networks," Salt Lake City, UT, 17 Feb. 2017.
- P6) Texas A&M University - Qatar, "Distributed Model Predictive Control of Building Energy Systems," Doha, Qatar, 16 Feb. 2015.
- P7) Texas Systems and Controls Day, "Distributed Model Predictive Control of Building Energy Systems," College Station, Texas, 27-28 Mar. 2014.
- P8) Aalborg University, "Distributed Model Predictive Control of Building Energy Systems," Aalborg, Denmark, 10 Mar. 2014.
- P9) Intelligent Building Operations Workshop, "Distributed Model Predictive Control of Building Energy Systems", Boulder, Colorado, 21 June 2013.
- P10) Smart Grid Workshop, "Research in Smart Grid Education," Chanan Singh, Jorge Alvorado, Ana Goulart, Bryan Rasmussen, Wei Zhan, College Station, Texas, 17 Apr. 2013.

- P11) Brigham Young University, Department of Mechanical Engineering, "Control of Building HVAC Systems: Challenges and Opportunities," Provo, Utah, 16 Mar. 2011.
- P12) Colorado School of Mines, Department of Engineering, "Control of Building HVAC Systems: Challenges and Opportunities," Golden, Colorado, 26 Feb. 2010.
- P13) International Conference on College Teaching and Learning, "Learning from Failure: Motivating Students beyond Course Minimums," Jacksonville, Florida, April 15, 2009.

Invited Presentations – Academic (Texas A&M University)

- P14) American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE), TAMU Chapter, "Advanced Coordinated Controls for Building HVAC Networks," College Station, TX, 18 Oct. 2016.
- P15) American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE), TAMU chapter, "Beyond Steady State: Dynamics and Control of HVAC Systems," College Station, TX, 29 Nov. 2007
- P16) Dept. of Mechanical Engineering, Texas A&M University, Graduate Student Seminar, "Divide and Conquer: An Introduction to Gain Scheduling Control Methodologies," College Station, Texas, 20 Sept. 2006.
- P17) Dept. of Mechanical Engineering, Texas A&M University, "Dynamic Modeling and Advanced Control of Vapor Compression Systems," College Station, Texas, 9 Mar. 2005.

Invited Presentations – Industry

- P18) National Renewable Energy Laboratory, "Distributed Model Predictive Control for Improving Operation of Commercial Building HVAC Systems", Golden, CO, 6 Nov. 2018.
- P19) Oak Ridge National Laboratory, Building Equipment Research Group, "Intelligent Building Energy Management", Oak Ridge, TN, 20 Sept. 2018.
- P20) American Institute of Chemical Engineers (AIChE), "The US Dept. of Energy Industrial Assessment Center Program: Best Practices from the Past 40 Years", Webinar, 1 Feb. 2017. [Online Link](#)
- P21) SPEER Summit, "Opportunities for Reducing Emissions through Industrial Energy Efficiency", Austin, TX, 8 Feb. 2017.
- P22) American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) 2017 Winter Conference, "Leveraging Control Systems for Energy Savings in Industrial Facilities," Las Vegas, NV, 31 Jan. 2017.
- P23) Clean Air Through Energy Efficiency (CATEE) Conference, "Tracking the Multiple Benefits of Industrial Energy Efficiency," San Antonio, TX, 21 Dec. 2016.
- P24) Clean Air Through Energy Efficiency (CATEE) Conference, "Pilot Study Quantifying Potential Emissions Reductions for Common Industrial Energy Efficiency Projects," Galveston, TX, 2 Dec. 2015.
- P25) Industrial Assessment Center Director's Meeting, "Novel Method for Non-Intrusive Measurement of Compressed Air Leakage Flow Rates", Washington DC, 16 Oct. 2015.
- P26) American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) 2013 Annual Conference, "Dynamic Modeling for Vapor Compression Systems: Literature Review and Simulation Tutorial," D-DE13Sem18, 25 June 2013.
- P27) Industrial Assessment Center Director's Meeting, "Controls for HVAC Systems: Challenges and Opportunities", San Diego, CA, 10 July 2012.

Invited Presentations – Research Sponsors

- P28) (3) Trane, "Large Scale Data Analytics for Air Conditioning Systems," Tyler, TX, 27 Apr. 2018; College Station, TX, 11 Nov. 2017, 18 Sept. 2018.
- P29) (1) Emerson Climate Technologies, "Heat Pump Dynamic Simulation Model Development and Multivariable Control Design," Sidney, OH, 13 Sept. 2018.
- P30) (4) Active Cooling Technologies, and Office of Naval Research, "Dynamic Simulation Toolbox for HVAC&R Systems," College Station, TX, 18 June 2015, 10 Sept. 2015, 9 Nov. 2015, 10 May 2016.
- P31) (6) Dunan MicroStaq, Inc., "Development of Silicon Expansion Valve Technology for HVAC&R Systems," 5 Nov. 2012, 25 Mar. 2013, 17 Aug. 2013, 14 Nov. 2014, Austin, TX; 10 Jan. 2014, 28 July 2014, 25 Aug. 2015, College Station, TX.
- P32) (6) Emerson Climate Technologies, "Steady-state Thermal Modeling and Value Analysis of Commercial Chiller System With Oil-free VS Centrifugal Compressor," Sidney, OH, 8 July 2013, College Station, TX, 27-28 Mar. 2014, College Station, TX, 25-26 Mar. 2015, College Station, TX, 13-14 Jan. 2016.
- P33) Air Force Research Laboratory, "Dynamic Simulation Toolbox for HVAC&R Systems," Dayton, OH, 25 Aug. 2011.
- P34) Oak Ridge National Laboratory, "Dynamic Modeling and Control of Building Energy Systems," College Station, TX, 22 Nov. 2010.
- P35) Honeywell, Inc., "Dynamic Modeling of Vapor Compression Systems," Torrance, CA, 16 Dec. 2008.
- P36) MicroStaq, Inc., "Evaluation of Silicon Expansion Valve Technology for HVAC&R Systems," Austin, TX, 21 Nov. 2008.
- P37) Marvin Land Systems, Inc., "Dynamic Modeling of VCSU, AHU, and OPS systems," Los Angeles, CA, 22 May 2008.
- P38) Honeywell, Inc., "Dynamic Modeling of Vapor Compression Systems," Toronto, Canada, 14-15 June 2007.
- P39) Marvin Land Systems, Inc., "Dynamic Modeling of VCSU and AHU for Future Combat Systems Program," Los Angeles, CA, 5 Oct. 2006.
- P40) Trane, "Dynamic Modeling and Control of Air Conditioning Systems," Tyler, TX, 6 Apr. 2006.
- P41) Industrial Advisory Board – Dept. of Mechanical Engineering, Texas A&M University, "Dynamic Modeling and Control of Thermo-Fluid Energy Systems," College Station, TX, 24 Mar. 2006.
- P42) General Dynamics Land Systems, "Dynamic Modeling, Simulation, and Control of Vapor Compression Systems," Urbana, Illinois, 20 Oct. 2004.

- P43) United Technologies Research Center, "Thermosys Library for Simulation of Air-Conditioning Systems in MATLAB/Simulink," East Hartford, Connecticut, 19 Mar. 2002.
- P44) Visteon Corporation, Climate Control Advanced Technology, "Thermosys Library for MATLAB/Simulink," Detroit, Michigan, 5 Mar. 2002.
- P45) (5) Industrial Advisory Board - Air Conditioning and Refrigeration Center, "Dynamic Modeling and Control of Vapor Compression Systems," Urbana, Illinois, 7 Nov. 2001, 6 Nov. 2002, 5 Nov. 2003, 3 Nov. 2004, 19 Oct. 2005.

Invited Presentations – Panel Discussions

- P46) TEES Strategic Research Development, Texas A&M University, Panelist, "NSF CAREER Proposal," College Station, Texas, 19 Nov. 2008.
- P47) Graduate Teaching Academy, Texas A&M University, Distinguished Panelist, "Pathway to the Professorate: What to Expect When You Say Yes," College Station, Texas, 17 Nov. 2008.

Poster Presentations

- PP1) Price, C., and Rasmussen, B.P., "Tracking the Impacts of Industrial Efficiency," Texas A&M Conference on Energy, College Station, TX, 26 Sept. 2017.
- PP2) Rogers, A., and Rasmussen, B.P., "Potential for Peak Demand Reduction in Commercial and Industrial Buildings," Texas A&M Conference on Energy, College Station, TX, 26 Sept. 2017.
- PP3) Price, C., and Rasmussen, B.P., "Energy and Emissions Savings from Industrial Efficiency Projects," Texas A&M Conference on Energy, College Station, TX, 28 Sept. 2016.
- PP4) Terrill, T., and Rasmussen, B.P., "Non-intrusive Gas Flow Measurement Using Temperature Signatures," Texas A&M Conference on Energy, College Station, TX, 28 Sept. 2016.
- PP5) Chintala, R., and Rasmussen, B.P., "Model Predictive Control of Building HVAC Systems Using Black-Box Modeling," Texas A&M Conference on Energy, College Station, TX, 28 Sept. 2016.
- PP6) Bay, C.J. and Rasmussen, B.P., "Autonomous Energy Audits in Buildings – A Lighting Assessment Package," Texas A&M Conference on Energy, College Station, TX, 28 Sept. 2016.
- PP7) Terrill, T., and Rasmussen, B.P., "Non-intrusive Gas Flow Measurement Using Temperature Signatures," Texas A&M Mechanical Engineering Kickoff Event, College Station, TX, 2 Sept. 2016.
- PP8) Bay, C.J., Terrill, T.J., and Rasmussen, B.P., "Autonomous UAVs for Conducting Building Energy Audits," Mechanical Engineering Leadership Council Poster Competition, College Station, TX, 4 Sept. 2015. *1st Place.*
- PP9) Bay, C.J., Chintala, R.H., Jalal, R.E., Price, C.R., and Rasmussen, B.P., "Distributed Model Predictive Control for Building Energy Systems," Texas A&M University Smart Grid Workshop, College Station, TX, 8 Apr. 2014.
- PP10) Bay, C.J., Terrill, T.J., and Rasmussen, B.P., "Autonomous UAVs for Conducting Building Energy Audits," Texas A&M University Smart Grid Workshop, College Station, TX, 8 Apr. 2014.
- PP11) Bay, C.J., Terrill, T.J., and Rasmussen, B.P., "Autonomous UAVs for Conducting Building Energy Audits," Texas A&M Mechanical Engineering Day, College Station, TX, 5 Apr. 2014. *3rd Place.*
- PP12) Bay, C.J., Terrill, T.J., and Rasmussen, B.P., "Autonomous UAVs for Conducting Building Energy Audits," Texas Systems Day, College Station, TX, 28 Mar. 2014.
- PP13) Bay, C.J., Chintala, R.H., Jalal, R.E., Price, C.R., and Rasmussen, B.P., "Distributed Model Predictive Control for Building Energy Systems," Mechanical Engineering Day, Texas A&M University, College Station, TX, 26 Apr. 2013.
- PP14) Terrill, T., Morelli, F., and Rasmussen, B.P., "Autonomous Energy Auditors for Energy Efficient Retrofits and Retro-commissioning in Commercial and Industrial Buildings," Texas A&M University Smart Grid Workshop, College Station, TX, 17 Apr. 2013.
- PP15) Bay, C.J., Chintala, R.H., Jalal, R.E., Price, C.R., and Rasmussen, B.P., "Distributed Model Predictive Control for Building Energy Systems," Texas A&M University Smart Grid Workshop, College Station, TX, 17 Apr. 2013.

PATENTS AND INNOVATIONS

Software

Bryan Rasmussen, "HVAC&R Dynamics: A Simulation Toolbox for MATLAB."

Bryan Rasmussen and Andrew Alleyne, "Thermosys Toolbox for MATLAB."

Invention Disclosures

Bryan Rasmussen, "Electronic pressure regulating expansion valve for semi-active refrigerant flow control," May 2007.

Bryan Rasmussen, "Software for Real-Time Dynamic Simulation of Vapor Compression Systems," Feb. 2011

CONSULTING

Marvin Land Systems, Inc., Los Angeles, CA. 4-5 Oct. 2006. Regarding dynamic modeling of climate control system for Future Combat Systems Program.

Honeywell, Inc., Mississauga, ON, Canada. 14-15 June 2007. Regarding dynamic modeling of vapor compression systems using Thermosys Toolbox for Matlab.

Booz, Allen, Hamilton, McLean, VA. 1-7 May 2018. Regarding dynamic modeling of vapor compression systems using Matlab.

PUBLICATIONS

Annotations:

¹Graduate Student – Texas A&M University

²Undergraduate Student – Texas A&M University

³Graduate Student – University of Illinois at Urbana-Champaign

Abbreviations

ASME: American Society of Mechanical Engineers

IEEE: Institute of Electrical and Electronics Engineers

ASHRAE: American Society of Heating, Refrigeration, and Air Conditioning Engineers

HVAC&R: Heating, Ventilation, Air Conditioning, and Refrigeration

SPEER: South-Central Partnership for Energy Efficiency as a Resource

SAE: Society of Automotive Engineers

ACEEE: American Council for an Energy-Efficient Economy

Theses – as Primary Author

- T1) ³Rasmussen, B.P., "Control-Oriented Modeling of Transcritical Vapor Compression Systems," M.S. Thesis, Dept. of Mechanical and Industrial Engineering, University of Illinois, Urbana, IL, Oct. 2002.
- T2) ³Rasmussen, B.P., "Dynamic Modeling and Advanced Control of Air Conditioning and Refrigeration Systems," Ph.D. Thesis, Dept. of Mechanical and Industrial Engineering, University of Illinois, Urbana, IL, Dec. 2005.

Theses – as Graduate Research Advisor and Thesis Committee Chair

- T3) ¹Elliott, M., "Decentralized Model Predictive Control of a Multiple Evaporator HVAC System," M.S. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, May 2008.
- T4) ¹Chang, Y.J., "Gain Scheduled Control using the Dual Youla Parameterization," Ph.D. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, Dec. 2009.
- T5) ¹Hariharan, N., "Parameter Estimation of Dynamic Air-Conditioning Component Models Using Limited Sensor Data," M.S. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, March 2010.
- T6) ¹Seshadri, S., "Optimizing Air-Conditioning System Cycling," M.S. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, April 2011.
- T7) ¹Ayyagari, B., "Simulation and Validation of Vapor Compression System Faults and Startup/Shutdown Transients," M.S. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, April 2011.

- T8) ¹Janecke, A., “A Comparison of Fault Detection Methods for a Transcritical Refrigeration System,” M.S. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, April 2011.
- T9) ¹Rani, A., “Control and Optimization of Vapor Compression Cycles using Least Squares Estimation,” M.S. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, May 2012.
- T10) ¹Gupta, A., “Dynamic Modeling and Cascaded Control for a Multi-Evaporator Supermarket Refrigeration Systems,” M.S. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, May 2012.
- T11) ¹Elliott, M., “Distributed Control of HVAC&R Networks,” Ph.D. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, May 2013.
- T12) ¹Liang, S., “Dynamic Modeling and Wavelet-based Multi-Parametric Tuning and Validation for HVAC Systems,” Ph.D. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, May 2014.
- T13) ¹Parikh, P., “Decentralized Model Predictive Control of a Multiple Evaporator HVAC System,” M.S. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, Sept. 2014.
- T14) ¹Morelli, F., “Electrical Demand and Analysis Software Tool Suite and Automatic Report Generation for Energy Audits,” M.S. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, Dec. 2014.
- T15) ¹Yousfi, E., “Development and Testing of a Prototype Pilot Expansion Valve for Vapor Compression Systems,” M.S. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, Jan. 2015.
- T16) ¹Gao, K., “Experimental Evaluation of Silicon Expansion Valve Technology,” M.S. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, May 2015.
- T17) ¹Terrill, T., “Analysis of a Long-Term Building Energy Study to Evaluate Energy Usage and Thermal Comfort in Religious Facilities,” M.S. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, May 2015.
- T18) ¹Wang, C., “Dynamic Simulation and Control Design Tools for Heat Pump Systems,” Ph.D. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, August 2016.
- T19) ¹Jalal, R., “Limited Communication Distributed Model Predictive Control for HVAC Systems,” Ph.D. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, October 2016.
- T20) ¹Bay, C., “Advancing Embedded and Extrinsic Solutions for Optimal Control and Efficiency of Energy Systems in Buildings,” Ph.D. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, Aug. 2017.
- T21) ¹Chintala, R., “A Methodology for Automating the Implementation of Advanced Control Algorithms such as MPC on Large Scale Building HVAC Systems,” Ph.D. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, Dec. 2017.
- T22) ¹Mijares Tobias, J., “Detecting of Lubrication Starvation in Ball Bearings by Means of Lateral and Torsional Vibrations,” Ph.D. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, Dec. 2017.
- T23) ¹Terrill, T., “Advancements in the Industrial Internet of Things for Energy Efficiency,” Ph.D. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, August 2018.
- T24) ¹Price, C., “Cascaded Control for Improved Building HVAC Performance,” Ph.D. Thesis, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, Dec. 2018.

Non-Theses Project Reports – as Graduate Research Advisor

- NT1) ¹Gupta, A., “Reduced Order Modeling of Heat Exchangers Using High Order Finite Control Volume Models,” M.S. Non-Thesis Project Report, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, Nov. 2007.
- NT2) ¹Ramani, A., “Dynamic Modeling of VCSU and AHU for Future Combat System Vehicles,” M.E. Non-Thesis Project Report, Dept. of Mechanical Engineering, Texas A&M University, College Station, TX, Dec. 2007.

Book Chapters

- B1) Rasmussen, B.P., ¹Price, C., ³Koeln, J., ³Keating, B., and Alleyne, A., “Chapter 4: HVAC System Modeling and Control: Vapor Compression System Modeling and Control,” *Intelligent Building Control Systems*, Springer-Verlag. ISBN 978-3-319-68461-1. [DOI: 10.1007/978-3-319-68462-8](https://doi.org/10.1007/978-3-319-68462-8)
- B2) ³Koeln, J., ³Keating, B., and Alleyne, A., ¹Price, C., Rasmussen, B.P., “Chapter 6: Multi-zone Temperature Modeling and Control,” *Intelligent Building Control Systems*, Springer-Verlag. ISBN 978-3-319-68461-1. [DOI: 10.1007/978-3-319-68462-8](https://doi.org/10.1007/978-3-319-68462-8)
- B3) Rasmussen, B.P., Kreider, J.F., Claridge, D.E., and Culp, C.H., “Heating Ventilating, and Air Conditioning Control Systems,” *CRC Energy Efficiency and Renewable Energy Handbook*, 2nd edition, September 2015. [ISBN 9781466585089](https://doi.org/10.1007/9781466585089)

This chapter also appears in:

Rasmussen, B.P., Kreider, J.F., Claridge, D.E., and Culp, C.H., “Heating Ventilating, and Air Conditioning Control Systems,” *CRC Energy Management and Conservation Handbook*, 2nd edition, September 2016. [ISBN 9781466585164](https://doi.org/10.1007/9781466585164)

Refereed Journal Publications

- J1) ¹Rogers, A., and Rasmussen, B.P., “Opportunities for Consumer-Driven Load Shifting in Commercial and Industrial Buildings”, *Sustainable Energy, Grids, and Networks*, vol. 16, pp. 243-258, Dec. 2018. DOI: [10.1016/j.segan.2018.08.004](https://doi.org/10.1016/j.segan.2018.08.004)
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