Joe Tritschler, Ph.D.

Curriculum Vitae

Education

Ph.D. in Engineering, Wright State University, 2010

M.S. in Engineering, Wright State University, 2003

B.S. in Electrical Engineering, Cum Laude, Wright State University, 2001

Experience

2011-present: ***Lecturer, Department of Biomedical, Industrial and Human Factors Engineering, Wright State University.*** Teaching and development of graduate and undergraduate-level courses. Authorship of many course materials, including laboratory manuals and course projects. Advising of senior design teams and master's theses. Numerous college and University-level teaching awards and committee responsibilities, including chair positions.

- *CECS Excellence in Teaching Award: Non-Tenured Faculty,* 2019-2020
- *Presidential Award for Outstanding NTE Faculty: Teaching,* 2016-2017
- *Faculty Excellence in Teaching Award, Southwest Ohio Council for Higher Education (SOCHE),* 2016-2017
- *Presidential Award for Faculty Excellence: Outstanding Instructor,* 2014-2015
- *Faculty Excellence in Teaching Award, Southwest Ohio Council for Higher Education (SOCHE),* 2014-2015
- *CECS Excellence in Teaching Award for Faculty,* 2013-2014

2003-present: ***Sole Proprietor, Tritschler Precision Engineering, LLC.*** Design and manufacture of published, nationally-reviewed and award-winning *TPAD Model 1000 High-Resolution Vacuum Tube Phono Preamplifier*. Currently in stock with worldwide sales on *www.joetritschler.com*.

- Review by veteran audio writer Dick Olsher in *The Absolute Sound*, Issue 280.
- *The Absolute Sound Editor's Choice Award*, 2018 and 2019

2010-2011: ***Senior Electrical Engineer, Tiburon Associates, Inc., Beavercreek, OH.***
Duties included technical and proposal writing, electrical engineering design and development, system-level hands-on technical support, and new business proposals. Principal Investigator and Subject Matter Expert in technical areas including aircraft wiring insulation, wireless power electronics, and lead-free electronics. Attended numerous conferences and remote manufacturing facilities.

2004-2012: ***Adjunct Instructor, Department of Electrical Engineering, Wright State University.*** Teaching of numerous undergraduate-level courses and development of new course, *High-Fidelity Audio: Circuits and Acoustics*, taught 2004-2012.

- *CECS Excellence in Teaching Award – Adjunct Faculty*, 2008-2009

2002-2007: ***Audio Engineer, SoundSpace, Inc., Yellow Springs, OH.*** Duties included electronic component and system design, acoustical engineering, audio recording and mixing sessions, location recordings, media transfers, audio mastering, electrical troubleshooting, wiring, and electronic equipment maintenance. Several proprietary audio designs currently in use by studio.

- Narration Recording Engineer, *A Lion in the House* (Primetime Emmy Award, 2007).

2001-2010: ***Teaching Assistant, Department of Electrical Engineering, Wright State University.*** Lab instructor for many undergraduate laboratories. Complete redesign of *Electric Circuits I and II* laboratory manuals.

- *Graduate Student Excellence Award in Electrical Engineering*, 2002-2003
- *Outstanding Teaching Assistant Award*, 2001-2002
- *Outstanding Electrical Engineering Student Award*, 2000-2001

1996-2001: ***Sales Representative and Instrument Technician, Absolute Music, Fairborn, OH.*** Duties included retail sales, customer service, product demonstrations, commercial sound system installations, and extensive repair and setup of musical instruments and amplifiers.

Courses Taught

BME/ISE 1110	*Fundamentals of BIE*	EE 140	*Introduction to EE*
BME/ISE 3211	*Human Biomechanics I*	EE 301/501	*Circuit Analysis I*
BME/ISE 3212	*Human Biomechanics II*	EE 302/502	*Circuit Analysis I Laboratory*
BME/ISE 3511	*Bioelectronics I*	EE 304/504	*Circuit Analysis II Laboratory*
BME/ISE 3512	*Bioelectronics II*	EE 331/531	*Electronic Devices*
BME 3530	*Biomedical Signals & Systems*	EE 332/532	*Electronic Devices Laboratory*
BME 4550/6550	*Bioinstrumentation*	EE 432/632	*Electronic Circuits Laboratory*
BME 464	*Microprocessors for BME*	EE 444/644	*Linear Integrated Circuits Lab*
ISE 2211	*Statistics for Engineers*	EE 480/680	*Hi-Fi Audio: Circuits and Acoustics*
ISE 3221	*Advanced Statistics*		

Publications

Bioelectronics I and II Laboratory Manuals. Department of Biomedical, Industrial and Human Factors Engineering, Wright State University, 2017-2018.

Agasthya Ayachit, Simon J. Tritschler, and Marian K. Kazimierczuk. "Wireless Energy Transfer Using AC Current Transformers." *Electrical Manufacturing and Coil Winding Expo (EMCWA 2016), Milwaukee, WI, May 2016.*

Tritschler, Joe. *Borbely RIAA with Tubes Revisited*. AudioXpress, vol. 41, no. 1, pp. 27-30, January 2010.

Circuit Analysis I and II Laboratory Manuals. Department of Electrical Engineering, Wright State University, 2008-2009.

Tritschler, Joe. *Borbely's RIAA Preamp with Tubes*. AudioXpress, vol. 34, no. 9, pp. 36-39, September 2003.

Professional Organizations

Engineer Intern, Professional Engineers and Surveyors of the State of Ohio

Member, Tau Beta Pi

Partial List of Teaching-Related Activities, 2012-present

1. **CECS *Excellence in Teaching Award: Non-Tenured Faculty*, 2019-2020**

2. ISE Senior Design Advisor, "Creating Data Dashboards and Process Development for Undergraduate Recruitment and Retention," 2020-2021

3. BME Senior Design Advisor, "Non-Invasive Blood Calcium Ion Concentration Monitor," 2019-2020

4. First time teaching, all new lectures and laboratory manual: BME/ISE 3512, *Bioelectronics II*, Spring 2018

5. First time teaching, all new lectures and laboratory manual: BME 4550/6550, *Bioinstrumentation*, Fall 2017

6. New laboratory manual: BME/ISE 3511, *Bioelectronics I*, Fall 2017

7. Thesis Defense Committee Member, EE Department; "Design of a Programmable Four-Preset Guitar Pedal," Michael Trombley, 2017

8. ***Presidential Award for Outstanding NTE Faculty: Teaching*, 2016-2017**

9. ***Faculty Excellence in Teaching Award*, Southwest Ohio Council for Higher Education (SOCHE), 2016-2017**

10. BME Senior Design Advisor, "Pediatric Feeding and Swallowing Device," 2016-2017

11. First time teaching, all new lectures: ISE 3221, *Advanced Statistics for Engineers*, Fall 2016

12. First time teaching, all new lectures: BME 3530, *BME Signals and Systems*, Spring 2016

13. Conference paper: Agasthya Ayachit, Simon J. Tritschler, and Marian K. Kazimierczuk. "Wireless Energy Transfer Using AC Current Transformers." Electrical Manufacturing and Coil Winding Expo (EMCWA 2016), Milwaukee, WI, May 2016.

14. ***Presidential Award for Faculty Excellence: Outstanding Instructor*, 2014-2015**

15. ***Faculty Excellence in Teaching Award*, Southwest Ohio Council for Higher Education (SOCHE), 2014-2015**

16. First time teaching, all new lectures: BME/ISE 3511, *Bioelectronics I*, Summer 2014

17. **CECS *Excellence in Teaching Award for Faculty*, 2013-2014**

18. First time teaching, all new lectures and class project: BME/ISE 3211, *Human Biomechanics I*, Fall 2013

19. First time teaching, all new lectures: ISE 2211, *Statistics for Engineers*, Summer 2013

20. First time teaching, all new lectures and class project: BME/ISE 3212, *Human Biomechanics II*, Spring 2013

21. First time teaching, all new lectures: BME/ISE 1110, *Fundamentals of BIE Engineering*, Fall 2012

Selected Comments from Student Evaluations

ISE 2211, *Statistics for Engineers*, Summer 2020

I emailed Mr. Tritschler regularly with questions. He readily participated with very apparent enthusiasm. I couldn't speak more highly of his performance in this category.

Professor Tritschler made statistics fun and interesting, a feat which I would never have believed possible until now. He was a joy to take classes with and I would recommend him to anyone who asks without a moment's hesitation.

This class is a BRILLIANT introduction to subject matter. BRILLIANTLY articulated with supplemental mathematical intuition (generating an idea for Z, T values given certain confidence intervals). I came away from class feeling like I have a very solid foundation in subject matter.

Great teacher and it was obvious he enjoys doing it.

BME/ISE 3512, *Bioelectronics II*, Spring 2020

Joe is just the best. I could go on all day about how good he is. On a more serious, evaluation focused note: he structures his lectures and exams in a way that truly test your knowledge and mastery of the material without ever being too difficult. He always made concepts that were intimidating at first so much easier to understand. I felt that every exam was a very balanced assessment of overall understanding of the subject.

Dr. Tritschler demonstrated interest in my learning by making sure to "connect" with the students by asking them questions during lecture. Knowing we had to answer questions always kept the class on their toes, and I feel this was an effective way at making sure we knew how to solve the problems presented in the classroom and beyond.

BME 3530, BME Signals and Systems, Spring 2020

He is one of the best professors I have ever had at Wright State and easily the best professor in the engineering department! He applies the way he learned in college and his past struggles to the way he teaches, which makes learning a lot easier. Before online classes, he was always there after class for questions or in office hours and during online classes he always emailed back quick! He was never condescending when answering questions, which is unique for an engineering professor, and always looked out for our best interests. I feel like I learned everything and can apply it real world thanks to him and that's all you can really ask for from a professor!

Although Signals & Systems is a challenging course, Joe made it bearable with his nerdy humor and plenty of examples that he works through in lecture.

He is always there for us and it shows through what he says in emails and class. He was always available for questions and would never demean us. After the classes went online he finished almost every lecture with "I miss you guys and hope you're doing well" and we all knew he truly meant that!

BME/ISE 3511, *Bioelectronics I*, Fall 2019

Extremely effective instructor. Dr. Tritschler is the best professor I have had in my academic experience thus far. He is very enthusiastic, does not hesitate to tell students the bottom line, and has a vast knowledge of the engineering industry that is affirming to students. Instructor always relates the material to the real world. I feel confident in my knowledge of circuitry that I can apply what I learned to industry or design projects. Not only does Dr. Tritschler have effective teaching strategies, he is extremely helpful to students in and outside his classes. Dr. Tritschler is very interested in the success of students and has a provides a rejuvenating learning experience.

Joe is literally the best. He made me love a subject that I hated after I learned it in physics 2. He is one of the best professors I've ever had by far.

Dr. Tritschler's teaching is very effective. He really cares about his students, and this is reflected in his teaching style.

BME 4550/6550, *Bioinstrumentation*, Fall 2019

No words can explain exactly how much the students and I love Dr. Tritschler! He explains material very thoroughly and if someone is lost, he doesn't have a problem repeating what he said in a more general, easy-to-follow way. He is the best professor I've had at WSU!

He does a great job of making a subject I'm not a huge fan of (electronics) and makes it very interesting and digestible.

BME/ISE 3212, *Human Biomechanics II*, Spring 2017

Keep doing what you're doing because you are definitely helping me understand the material and making this part of my education better and more entertaining. I think you have a great teaching method and it is obvious to me that you are one of the best professors that i have or will have during my college career.

Always willing to answer questions and persist until student has full understand. He even stops in the middle of lectures at particularly confusing parts to ask if further explanation is necessary for better understanding.

BME/ISE 3211, *Human Biomechanics I*, Spring 2017

Amazing teacher, cares about his students, is passionate about the subject. Until this class, I've yet to meet a man that could make learning about torque fun.

An incredible instructor! I have learned so much from him!

Joe communicated to students well in and out of the classroom, always answering questions.

Joe's expectations for course work was always upfront and obvious. No surprises.

Frequency of Courses Taught with Class Sizes, 2012-2020

Note: graduate sections of courses such as BME 4550/6550 are included in total class size

CY		BME 4550/6550 (4)	BME/ISE 3511 (4)	BME/ISE 3512 (4)	BME 3530 (3)	BME/ISE 3211 (4)	BME/ISE 3212 (3)	ISE 2211 (3)	BME/ISE 1110 (3)	ISE 3221 (3)	TOTAL
2020	F	36	38					97			**171**
	R							44			**44**
	S			35	36			82			**153**
2019	F	35	53					103			**191**
	R							31			**31**
	S			32	31			108			**171**
2018	F										**0**
	R							41			**41**
	S			40	37			150			**227**
2017	F	58	65					111			**234**
	R							34			**34**
	S				36	26	52				**114**
2016	F					49	23			11	**83**
	R							41			**41**
	S				36	32	73				**141**
2015	F					79	19		72		**170**
	R						30	36			**66**
	S					59	71	39	22		**191**
2014	F					75	7		78		**160**
	R		14					33			**47**
	S						64 39		53		**156**
2013	F					51 63			46 48		**208**
	R							31			**31**
	S						41 29		45		**115**
2012	F								34 37 29		**100**
frequency		**3**	**4**	**3**	**5**	**8**	**11**	**15**	**10**	**1**	**60**

Total number of students: **2,920**

Note: this figure does not account for individual students who took multiple classes from this list

Partial List of Service-Related Activities, 2012-present

1. **Current member, BIE Department Faculty Search Committee for TTE ISE Position**

2. **Current member, CECS Teaching Awards Committee**

3. **Current Chair, CECS Scholarship Committee**
    a. **Chair, AY 13-14 and 14-15; member, 2012-2017**

4. **Current member, University-level Scholarship Committee (2019-2021)**

5. Chair, BIE Department Faculty Search Committee for NTE ISE Position, 2020

6. STEM Experience Day, 23 November 2019: presentation, *The effects of learning and physiological processes on reaction times to an auditory stimulus with respect to handedness*.

7. CECS Assessment of Instruction Committee, 2017-2018

8. **University-level CECS Dean Search Committee, 2019**

9. BIE Department Faculty Search Committee for NTE BME Position, 2017-2018

10. **University-level WSU Strategic Financial Aid Committee, 2015-2017**

11. CECS Direct Admit Welcome; *Fundamentals of Engineering* Presentation (2013, 2014, 2015, 2016)

12. BIE Department Ad Hoc Committee for BIE Excess Funds, 2014-2015

13. BIE Department Search Committee – BIE Department Chair, 2014-2015

14. CECS College Awards Evaluation Committee, 2014-2015

15. **University-level CECS Dean Search Committee, 2013**