John Kyle Cooper

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Objective

Striving to gain research experience in the field of auditory neuroscience and apply that knowledge to the engineering of hearing aids and cochlear implants in a medical industry setting.

Education

KU Leuven, Leuven, Belgium — October '21 -October '25
Biomedical Sciences Doctoral Program

University of Rochester, Rochester, New York — August '19 -May '21
Masters of Science in Biomedical Engineering
Cumulative GPA: 3.878/4.000

Texas A&M University, College Station, Texas — May '19
Bachelor of Science in Biomedical Engineering, Minor in Electrical Engineering
Cumulative GPA: 3.428/4.000

Biomedical Engineering Fast-Track Program, Texas A&M University — Fall '18-Spring '19

Study Abroad: Germany Biosciences Program, Bonn, Germany — Spring '17
Greece Engineering Ethics, Thessaloniki, Greece — Winter '18

Teaching Experience

Teaching Assistant, **University of Rochester**, Rochester, New York — Spring '20

Course: Biomaterials

- Assisted students with learning the basic concepts of biomaterials by leading lab sessions, review sessions, and weekly office hours. Underwent weekly discussion with the teaching professor to improve the teaching methods and learning environment for the students.

Research Experience

FWO Strategic Basic Research PhD Fellow, **KU Leuven** Leuven, Belgium — Nov '21 -Present
PI: Dr. Tom Francart

- Awarded FWO Strategic Basic (SB) Research PhD Fellowship to work with the Experimental Oto-rhino-laryngology (ExpORL) lab to further develop a realistic and objective measure of speech understanding in both normal hearing and hearing impaired listeners using electroencephalography (EEG).

B.A.E.F. Fellow, **KU Leuven** Leuven, Belgium — Oct '21 -Present
PI: Dr. Tom Francart

- Awarded Belgian American Educational Foundation (B.A.E.F.) fellowship to work with the ExpORL lab to evaluate this realistic and objective measure of speech understanding for normal-hearing listeners using EEG.

Research Assistant, **University of Rochester,** Rochester, New York — August '19 -May '21
PI: Dr. Ross Maddox

- Serve as a lab manager through subject recruitment & scheduling, ordering lab supplies, and assisting with the lab experiments.
- Conduct ∼70 EEG experiments for an NSF funded study aimed to investigate potential neural differences in the auditory brainstem between musicians and non-musicians.

Undergraduate Research Scholars Program, Texas A&M University — August '18 -May '19

- Wrote undergraduate thesis on the application of multi-tonal complex stimuli with Optical Coherence Tomography imaging for vibrometric analyses of inner-ear structures.

Undergraduate Summer Research Grant, Texas A&M University — Summer '18

- Summer research opportunity under the guidance of a faculty mentor, a postdoctoral fellow, and advanced graduate students.

Research Assistant, **Texas A&M University**, College Station, Texas — August '16 –May '19
PI: Dr. Brian Applegate

- Conducted research focused on understanding cochlear pathophysiology and function using picometer sensitive, spatially resolved vibrometry in the ear.

Biomedical Engineering Capstone, Lynntech Inc. — Fall '18 -Spring '19

- Worked with a group of biomedical engineers on an orthotic rehabilitation device.
- Tasked with documentation, 3-D modeling, construction, and programming of the device.

Research Assistant, **Enmodes GmbH**, Aachen, Germany — January '17 -May '17

- Assisted in the R&D of the Ras-Q (world's first long-term respiratory system).
- Modeled a prototype for presentation to the company.

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Technical Skills

- Python, PyTorch (machine learning), MATLAB, R, C, Basic HTML and CSS, & LABVIEW
- 2 years of EEG experience (Brain Vision software)
- SolidWorks & Blender (3-D design software)
- VR and Eye-tracking Technology & Unreal Engine (virtual reality engine)
- 3D-Printing & Repetier Host Software (3-D printing applications)

Presentations

BMES Conference, Atlanta, Georgia — October 17-20, '18

- Poster session presentation. *Calibration of Multi-Tonal Complex for Optical Coherence Tomography Imaging System.*

Undergraduate Research Scholars Symposium, Texas A&M University — February 27, '19

- Presented undergraduate thesis work completed through the Undergraduate Research Scholars Program.

SPIE Journal Club, Texas A&M University — August, '17 –May, '19

- Optical Engineering Manuscript Review with Dr. Alvin Yeh.

Air Force Workshop, Texas A&M University — June 27, '18

- The goal of this design experience was to provide input to Air Force Personnel to shape future research objectives.

Aggies Invent, Texas A&M University — Fall '17 & Summer '18

- Competed in a 48-hour development project and pitched to engineering experts.
- (Summer '18) Hearing aid technology: shifting the pitch of incoming speech to improve intelligibility.
- (Fall '17) Orthpaedic rehabilitation device for bedridden patients.

Other Conferences Attended

CRASH/MASH Virtual Conference — October 16-17, '20

- Joint conference focused on hearing research related to cochlear implants (CI) to bring together hearing and CI scientists to present CI-data, works in progress, or future directions.

Annual Neuroscience Symposium, Texas Brain & Spine Institute — October 1, '18

- Keynote lecture was given by Marc Diamond, M.D. (Director, Center for Alzheimer's and Neurodegenerative Diseases, UT Southwestern).

BMES Conference, Phoenix, Arizona — October 11-14, '17

- Served as volunteer for TAMU Social Event & participated in conference sessions.

Mentorship/ Leadership

Biomedical Engineering Society (BMES) - Mentor — August, '17 -Present

- Serve as a mentor for undergraduates interested in the pursuit of a degree in Biomedical Engineering and/or graduate school.

Peer Mentor (Engineering Living and Learning Community) — Fall '16

- Served as a resource to incoming freshmen engineers and plan activities for the Engineering Living and Learning Community to foster community for academics.

Christian Engineer Leaders (CEL) - Committee Leader — Fall '16

- Refined engineering and professional skills through leading fellow engineers.
- Learned how to be faithful witnesses for Christ both in industry and in missions.

Professional Memberships

Association for Research in Otolaryngology (ARO)
Biomedical Engineering Society (BMES)
SPIE (the international society for optics and photonics)
Christian Engineering Leaders (CEL)

Honors

Fulbright Semifinalist for Open Study/Research Award to Belgium	'21
BME Graduate Student Teaching Assistant Award Honorable Mention	'20
Undergraduate Research Scholar	'19
Distinguished Student Award, College of Engineering, Texas A&M University	'17
Phi Eta Sigma National Honor Society & National Society of Collegiate Scholars (NSCS)	'16 - Present
High-School Valedictorian	'15
Eagle Scout	'14