



**Testimony before Pennsylvania House of Representatives Professional Licensure Committee
Senate Bill 137 Audiology Legislation sponsored by Senator John Gordner**

Jorge E. González, Ph.D., CCC-A

Good morning. I thank the House Professional Licensure Committee, Chairwoman Harhart, and Chairman Readshaw for the opportunity to speak at this public hearing on Audiology licensure. I am grateful for the opportunity to discuss the merits of Senate Bill 137, sponsored by Senator Gordner that is currently under review by this Committee. Specifically, I would like to discuss the educational and clinical training of audiologists.

My name is Jorge González. I am the Interim Chairperson for the Department of Audiology and Speech Pathology at Bloomsburg University of Pennsylvania; one of only three Doctor of Audiology (Au.D.) programs in the Commonwealth. I began my training in Audiology in 1993 at the University of South Florida after earning a Bachelor's degree in Biology. I was admitted to the University of Virginia and earned my Doctor of Philosophy (Ph.D.) degree in 2005. Upon completing my academics at Virginia I joined the faculty at Bloomsburg University.

The updating of the Speech-Language and Hearing Licensure Act (P.L. 1253) is important. The Act was originally passed in 1984, and since that time, there have been many changes within the profession. These changes include greater understanding of the anatomy and physiology related to hearing and balance function, the development of new tests and techniques for assessing these processes, improvements in the interpretation of test results and development of new rehabilitative techniques to assist citizens of the Commonwealth with auditory or vestibular disorders. As an educator in a program accredited by the American Speech-Language-Hearing Association (ASHA) one of my responsibilities is to make sure that the courses and clinical experiences satisfy the full scope of practice in audiology.

Training Doctor of Audiology students at Bloomsburg University of Pennsylvania

Audiology has a long history at Bloomsburg University. In 1932, the first course in communication disorders was offered through the Special Education Department at Bloomsburg State College. Over the next seven decades, the department expanded its role in educating future professionals in treating communication disorders by developing graduate programs in Speech-Language Pathology and Audiology. In 2002, the Department opened its program in the clinical Doctor of Audiology (Au.D.)

degree. In keeping with the tradition of providing a quality education and training in clinical Audiology, the department has worked diligently to remain on the forefront of the profession. This involves faculty involvement in research, presentation at regional, national, and international conferences, working with industry to develop tests and techniques for audiologic/vestibular disorders, and providing a comprehensive Audiology program to our students.

The Au.D. graduate program has been refined over the years to provide the full scope of practice of the profession, as defined by its accrediting bodies, the ASHA and the American Academy of Audiology (AAA). The program is a four-year program that encompasses over 120 credit hours of both didactic and clinical training. The courses cover fundamental topics such as hearing science, diagnostics in Audiology, and courses in hearing aids and associated technologies. Practice-related topics, including professional ethics, private practice management, and counseling of patients with hearing disorders, are also addressed for our future clinicians. Courses in geriatric and pediatric audiology focus on providing care for those specific populations. Advanced topics dealing with cochlear implants, auditory evoked potentials, and vestibular assessment and treatment are also covered in depth.

The didactic instruction that the students receive is complemented with laboratory and clinical experiences. Our department has several dedicated laboratory/clinical spaces that are available to the students, and we have worked to recruit faculty with strong backgrounds in these areas of expertise. Our students have access to a comprehensive vestibular assessment clinic that includes one of only a handful of specialized rotational chairs for assessment of balance disorders that is associated with a graduate Au.D. program. A cochlear implant laboratory is available to provide clinical services and for the development of techniques for users of that technology. These areas of specialty are reflected in our faculty. Our cochlear implant specialist has years of clinical experience with cochlear implants and is bilaterally cochlear implanted himself. I have over 15 years of experience with balance assessment and I consult with a major manufacturer of vestibular test equipment based out of Pittsburgh. Our Au.D. students receive training in the clinical implementation on the use these pieces of equipment.

This dedication to providing comprehensive audiology training has continued in our training of audiology specialists in intraoperative neurophysiologic monitoring (IONM). As others on this panel will discuss, the role of audiology in IONM is long standing. Beginning in the 1970's through today, audiologists have played and continue to play a significant role in the specialty. Audiology has long been involved in the recording and interpretation of the neural patterns that are elicited by stimulation of the hearing nerve in the clinical practice. This evolved into the use of audiologists in monitoring auditory function during surgeries. Additionally, audiologists have played a role in the development of the discipline of IONM. Specifically, my predecessor at Bloomsburg University, Richard Angelo, worked closely for many years with Aage Möller, one of the pioneers of the field. The work of these two audiologists at the University of Pittsburgh ushered in new techniques in the science of monitoring neural function during surgical procedures not only associated with hearing function. Due to the involvement of audiology in IONM this has been encompassed as part of our scope of practice by both accrediting bodies, ASHA and AAA.

IONM training at Bloomsburg University of Pennsylvania

In keeping with our commitment to providing a comprehensive audiologic training, our department has worked to develop a thorough training program for the subspecialty of IONM. We have two separate training areas within our program. The traditional track of audiology focuses on the didactic and clinical training in those areas that have been traditionally associated with the discipline; for example, hearing testing, hearing aids, vestibular assessments, auditory evoked potentials. The other track that we offer to our students is in the subspecialty of IONM.

It is in the IOM track that we believe we offer a strong background in this highly specialized area that currently, has no specific requirements for the training of professional providing the monitoring during surgeries. The role of IONM is to reduce permanent neurological damage that may result from a surgical procedure. The reduction in neurological damage can only be improved by properly training clinicians in this area. Since 2005, the Bloomsburg University Au.D. program has worked hard to improve the overall training in IONM.

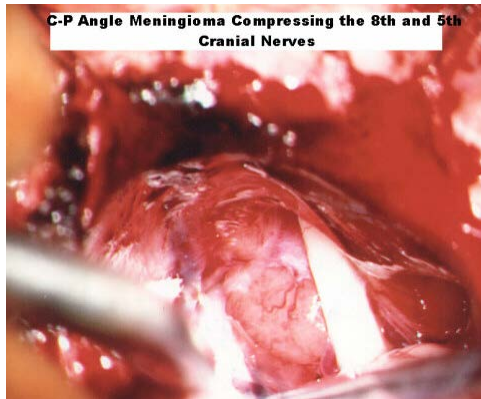
The IONM track at Bloomsburg University provides our students with nine specific courses on multiple aspects of this specialty. The course sequence for our students can be seen in the addendum to this testimony. Courses begin with introductory courses, proceed to more common procedures, such as the monitoring of sensory and motor evoked potentials, and culminate in advanced monitoring techniques in skull base surgery and mapping. The faculty member charged with teaching our IONM courses has significant experience within the discipline. Dr. Qing Yue earned his medical degree from the Capital University of Medical Sciences in Beijing, China in 1989 and his Ph.D. from the University of California, Los Angeles in 2005. Dr. Yue worked as a clinical neurophysiologist for two different companies providing services to multiple hospitals in the Los Angeles area, he worked as a postdoctoral scientist for a major pharmaceutical company looking into drug therapies for neurodegenerative diseases, and his doctoral work included studying disease models for neuroscience. Currently, he serves as an adjunct clinical neurophysiologist at the Geisinger-Bloomsburg Hospital.

As part of the clinical training, our students have trained on the use of standard clinical monitoring equipment that would be seen in the operating room. Dr. Yue has established a laboratory setup with equipment to monitor such processes as somatosensory evoked, motor evoked, and visual potentials for the training of our students. The training that our students receive is highly thought of by entities within the community. In developing our IONM track, we worked with Impulse Monitoring, a division of NuVasive Inc., a private company that provides IONM services in several states, including the Commonwealth of Pennsylvania. Our graduates are continually called upon to provide high level monitoring during surgical cases. Recently, we have developed affiliations with Geisinger Medical Center, Geisinger-Bloomsburg Hospital, and Geisinger-Wyoming Valley Hospital where our students do clinical rotations. In fact, two of our graduates, including Dr. Hale, work as IONM monitors for Geisinger. Our graduates provide IONM services at several hospitals in the Allentown area, including St. Luke's Hospital. They also provide services in other states, including MI, NY, and VA, to name a few.

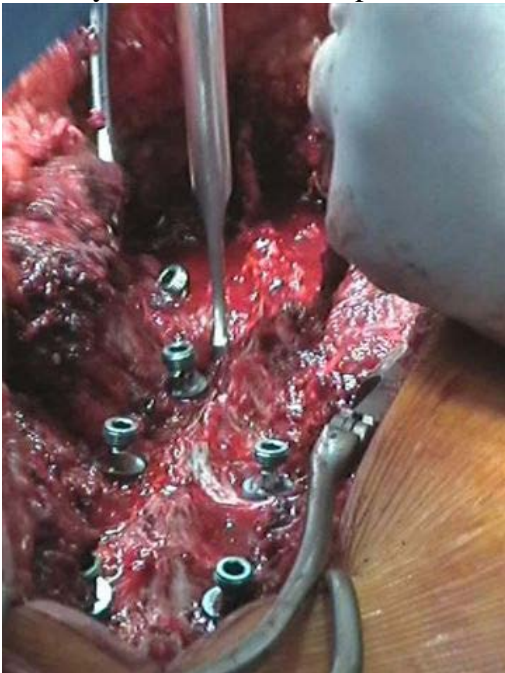
Rationale for including IONM in the Audiology licensure bill (S.B. 137)

Our position on the inclusion of IONM in S.B. 137 is based not only on the training that we provide our students in this specialized area of audiology. The paramount concern is for the safety of the patients undergoing these complex medical procedures. While traditionally, an "oversight" neurologist was tasked with overseeing the monitoring process, that oversight often involved one physician overseeing multiple surgical cases. The 2013 Medicare regulations allow for monitoring in which attention is "directed exclusively to one patient" (Medicare HCPCS code G0453). This change in Medicare reimbursement will change the nature of remote neurophysiologic monitoring in which one oversight physician will no longer be able to observe multiple cases. The proper training of an IONM audiologist will provide more skilled members of the surgical team that can help alleviate a potential backlog of surgical cases that could result from these changes.

I reiterate my appreciation to this Committee for allowing me to discuss the academic and clinical training of IONM trained audiologists at Bloomsburg University. Our commitment to training future audiologists remains our foremost duty so that the citizens of the Commonwealth receive appropriate care during all procedures in which we are involved. As part of this, we feel strongly that properly trained IONM audiologists is important. Updating the Speech-Language and Hearing Licensure Act to include IONM as part of the scope of practice will accomplish this. Our goal in testifying before you today is not to create new duties for ourselves; as audiologists have been involved in IONM for decades, nor is it to usurp the roles of others. The IONM trained audiologist plays a vital role as part of the surgical team that will allow for the best standard of care for surgical patients in the Commonwealth.



Electrophysiologic methods in invasive medical procedures are used during many types of surgeries, including resection of acoustic tumors, spinal surgery, skull based surgery and brain mapping. The electrophysiological techniques that are used include electrical and magnetic stimulation for visual, somatosensory, auditory and motor evoked potentials.



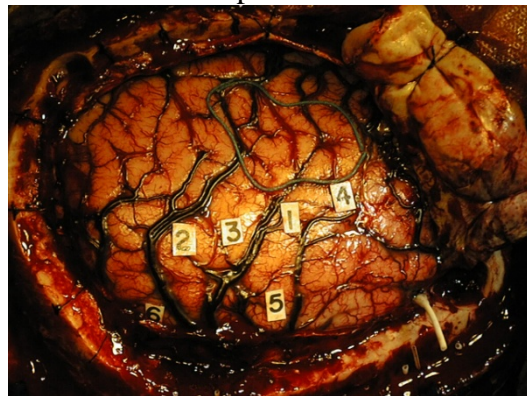
Spinal surgery with pedicle screws

Program Description:

The Doctorate in Audiology places major emphasis on clinical training and the practical application of research, theory, and technology into clinical practice.

Au.D. Core Courses in Intraoperative Monitoring (IOM) Path

Intro to IOM
SSEP and Sensory Pathways
Motor Pathways
Anesthesia and Sedation
EEG
IOM Spinal Surgery
IOM Cranial Surgery
IOM Skull Base Surgery
Advanced Mapping and Structural Imaging
Clinical Neuroanatomy of Auditory, Visual & Somatosensory Systems
Professional Ethics & Diversity
Electronics & Instrumentation
Clinical Neurophysiology
Clinical Physiological Methods of Audiology
Advanced Experimental Design
Research
Clinical Practica
Clinical Externships



Admission Requirements:

Admission to the Doctorate of Audiology program is on a competitive basis.

Interested students are encouraged to apply early. On-line application material can be downloaded through the Bloomsburg University website at: www.bloomu.edu

Prerequisite Coursework & requirements:

The Graduate School's general admission criteria and the following specific criteria must be met for unconditional admission.

1. Minimum undergraduate GPA 3.00.
2. Three letters of recommendation (preferably academic).
3. Personal interview.
4. GRE: Math, Verbal & Written.
5. A minimum of three semester hours in each of the following areas: Life science, physical sciences, behavioral sciences, mathematics, written and oral communications.
6. Official transcripts.
7. TOEFL scores for international students.
8. One-page typed letter detailing professional background experience and rationale for wanting to be admitted to the program in audiology.

For individuals not meeting all requirements, Conditional admission is considered upon recommendation of the faculty.

Financial Support for Au.D. Students

Financial support is available through several sources at Bloomsburg University. In addition to the support listed below, conventional financial aid packages are available through the Financial Aid Office located in the student Services Center (570-389-4279). Graduate assistantships and teaching associate information are available through the Graduate School at www.bloomu.edu.

1. **Graduate Assistantships** – Available through the Department of Audiology & Speech Pathology, other academic and non-academic departments across the university.
2. **International Tuition Scholarships** – Available through the International Education Office located in the Student Services Center.
3. **Minority Graduate Assistantships** – Available through the School of Graduate Studies Office.
4. **Teaching Associate** – Available through the Department of Audiology and Speech Pathology.
5. **Private Scholarships and Foundations** – Information is available through the financial aid office or the Department of Audiology & Speech Pathology Office. (Ex: AMBUUCS Scholarship), AYSR Foundation..

FACULTY:

- Dr. Richard Angelo – Dept Chairperson, Director of Clinical Services
- Dr. Steven Cohen – Professor, Statistics
- Dr. Jackie Davie – Assistant Professor, Audiology
- Dr. Darren Hohn – ENT, Assistant Professor, Audiology, D.O.
- Dr. Deborah John – Clinical Supervisor, Audiology
- Dr. Jorge González – Assistant Professor, Audiology
- Dr. Cynthia Richburg – Associate Professor, Audiology
- Dr. Thomas Pollack – ENT, Assistant Professor, Audiology, D.O.
- Dr. Christi Moncavage – Clinical Supervisor, Audiology
- Dr. Amanda Pisarz – Clinical Supervisor, Audiology
- Dr. Suzanne Sklaney – Assistant Professor, Audiology
- Dr. David Stine – Professor of Physics
- Dr. Gary Wassmer – Assistant Professor, Neurophysiology
- Dr. Qing Yue – Associate Professor, Neurophysiology/Neurology, M.D., Ph.D.
- Dr. Thomas Zalewski – Associate Professor, Audiology

Contact Information:

For further information and application material contact:

Dr. Qing Yue, M.D., Ph.D.

Telephone: 570-389-5369/5380

e-mail: kmiller@bloomu.edu



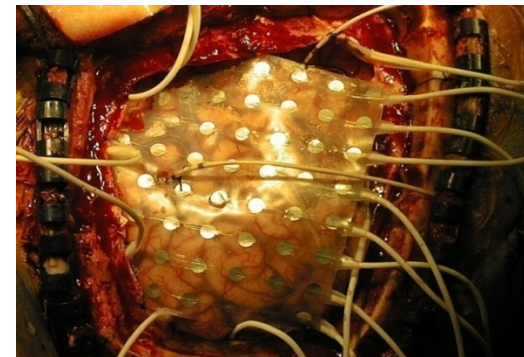
Intraoperative Monitoring Clinical Neurophysiology



Bloomburg University of Pennsylvania

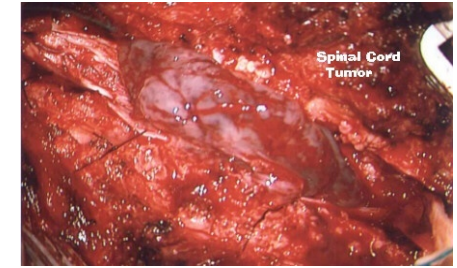
Doctorate of Audiology

Intraoperative neurophysiological monitoring involves the application of electrodiagnostic modalities to identify and monitor the functional integrity of neurological structures to reduce the risk of injury and complications during surgery on the nervous system, its blood supply, or adjacent tissue. The intent of this monitoring is to alert the surgeon so that he/she can decide how the surgical procedure may be altered to avoid permanent neurological damage.

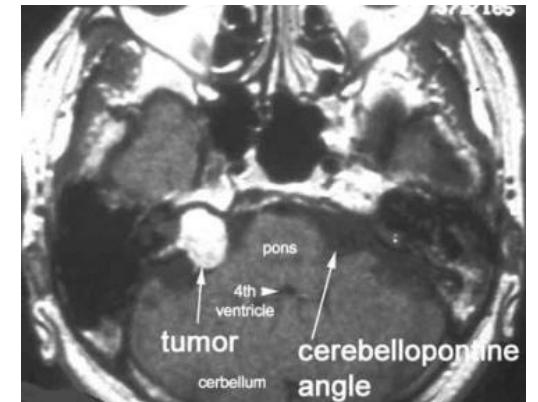


Brain Mapping

Neural injury during microsurgery represents one of the patient's and surgeon's greatest concerns for mortality and morbidity. Over the last decade, the benefits of intraoperative monitoring during surgery have prompted the use of electrophysiological recordings in many procedures. Pathologies or conditions that distort the usual anatomic landmarks have made neurophysiologic recordings increasingly important (tumors, trauma, infection, radiation).



Intraoperative monitoring as an evolving field crosses the boundaries of many medical specialties (Neural surgery, spinal surgery, acoustic surgery) and is becoming a common part of surgical procedures.



As surgeons rely on monitoring, the highest quality of patient care must be ensured through education. This education must include an understanding of patient anatomy, physiology, electrophysiology, imaging, drug effects, operating room environment, and surgical procedures to name a few areas. Intraoperative monitoring will play an increasingly important role in determining the functional integrity of neural structure during surgery.