The cover of this issue of *Biofeedback* shows a neurofeedback session at the University of North Texas (UNT) in Denton. The photo was chosen for two reasons. The session illustrates the case described by Cara Guziak and Julia Smith in an article on anxiety misdiagnosed as dementia. The photo also serves as a tribute to Dr. Eugenia Bodenheimer-Davis, who has skillfully guided so many students into the field of neurofeedback. Dr. Bodenheimer-Davis has now retired, and her UNT lab, where Guziak and Smith conducted their research, is closing. Both Genie and the lab have contributed decades of service to the field of biofeedback.

**Professional Issues**

Cynthia Kerson, a Board member of the International Society for Neurofeedback and Research (ISNR) Research Foundation, begins a two-part series in this issue about the foundations that support research and education in biofeedback and neurofeedback. In this first article, she interviews David Trudeau, the president of the ISNR Foundation. In the interview, Trudeau describes trends in current research in neurofeedback, the challenges in obtaining funding for neurofeedback research, and the role of the ISNR Research Foundation.

Judy Crawford and Fred Shaffer provide an update on the Biofeedback Certification International Alliance (BCIA). They quote a line from a Bob Dylan song, “He not busy being born is busy dying.” BCIA is busy growing and renewing itself through growth of an international BCIA affiliate in Australia, increases in international certifications, and streamlined certification and recertification requirements worldwide.

**Special Section: Case Study in Biofeedback and Neurofeedback**

Cara Guziak and Julia Smith provide a case study of “J. C.,” a 63-year-old woman referred with a diagnosis of dementia after difficulties locating her new office building. The authors describe a thorough assessment including psychometric testing as well as a Test of Variable Attention (TOVA) and a quantitative electroencephalogram (QEEG). The assessment documented measurable anxiety, depression, hopelessness, sleep disturbance, and impulsivity, as well as a QEEG pattern typical of persons with heightened anxiety but with additional markers possibly reflective of dementia and/or medication effects. Their intervention included counseling, training in diaphragmatic breathing, heart rate variability training, and neurofeedback. J. C. improved with treatment, showing improved cognitive function, enhanced sleep, and improved scores on anxiety, depression, and hopelessness. Both the TOVA and the QEEG showed normalization. This case study shows the positive role for biofeedback and neurofeedback for some patients with apparent dementia.

**Feature Articles**

Erik Peper, Annette Booiman, I-Mei Lin, and Fredric Shaffer provide an article on the use of surface electromyography biofeedback to teach muscle awareness and reduce chronic muscle contraction. The authors observe that poor awareness of low-level muscle tension and poor ergonomics contribute to muscle bracing and the development of musculoskeletal symptoms, including pain. They describe a research study with a sample of 34 physical therapists, which conducted an initial assessment of muscle awareness and then utilized visual feedback of muscle activity to train muscle awareness and control. The participants, who were physical therapists educated in muscle kinesiology, were surprised at the extent of their muscle awareness on the initial task. The article closed with a brief case study showing the usefulness of muscle awareness training in a woman with severe pelvic girdle pain.

Rafal Sztembis, a cardiologist in Poland, and Donald Moss contribute an article showing the role of biofeedback in the clinical practice of cardiology. Increasing attention is being given to psychological factors, including depression, anxiety, and stress, as important factors that influence progression of heart disease. Sztembis conducted a study in
a Polish hospital-based cardiology unit, utilizing a Psycho-physiological Stress Profile to assess patients after myocardial infarction. The researchers identified patients who could implement diaphragmatic breathing practice at home and others who required more extensive biofeedback training. The authors call for further research to document improved medical and psychological outcomes using this model.

Elizabeth Bigham, Lauren McDannel, Isabel Luciano, and Guadalupe Salgado-Lopez contribute an article reporting a study measuring the impact of a guided imagery intervention on perceived stress. The researchers studied 29 participants and administered a symptom checklist and a biofeedback assessment of heart rate and heart rate variability coherence levels before and after an intervention. Their intervention consisted of a guided imagery script of a beach scene. Their postintervention assessment documented significant reductions in emotional symptoms and in heart rate and a correlation between symptom reduction and heart rate reduction.

**Book Review**


**Proposal and Abstracts**

Authors are invited to submit case studies illustrating any application of biofeedback, neurofeedback, or self-regulation–oriented therapies for a special issue on The Assessment and Treatment of Attention Deficit, Hyperactivity, and Related Disorders for Summer 2014. Articles are also invited for a special issue on Integrating Biofeedback and Neurofeedback into Comprehensive Treatment Programs in Medicine and Mental Health for Fall 2014.