Course Description: A human pain experience associated with sensitization of the nervous system should be viewed as a continuum. During the acute phases of injury or postoperatively the nervous system is hypervigilant doing what it does best – protect by pain. With time, tissue recovery and skillful treatment the nervous system decreases its temporary sensitization in line with recovery. One in four people however, following injury or surgery, never experience a lessening sensitization of the nervous system, but increased sensitization, pain and dysfunction. The clinical presentation of past the healing time, sensitization to stimuli that should not hurt, widespread sensitization to palpation and neurodynamic tests and various psychosocial issues is known as central sensitization. For therapists treating various peripheral neuropathic pain states such as carpal tunnel syndrome, cubital tunnel syndrome, cervical radiculopathy, etc., with neurodynamics interventions, this “too hot to handle” clinical presentation may create a significant challenge. This 8-hour hands-on course aims to explore the clinical examination and treatment of central sensitization for the upper extremity, with a focus on peripheral nerves. This class will include updated neurobiology of central sensitization and peripheral neuropathic pain, sensorimotor and neurological testing, pain neuroscience education, graded motor imagery, sensory discrimination and neurodynamics.

Objectives:
Upon completion of this educational session the participants will be able to:

1. Develop an updated clinical understanding of the biology and physiology associated with central sensitization and peripheral neuropathic pain
2. Skillfully interview patients with upper extremity dysfunctions to distinguish nociceptive, peripheral neurogenic and central sensitization pain states
3. Learn, practice and be able to apply a neurological, sensorimotor and neurodynamics physical examination to patients suffering upper extremity pain
4. Learn, practice and be able to apply various treatments aimed at peripheral neuropathic and central pain states
5. Apply the information from the educational session into clinical practice

Course Layout:

08:00 – 09:00 Update on the neurobiology and neurophysiology of central sensitization and peripheral neuropathic pain
09:00 – 09:45 Skillful interview and differential diagnosis of pain mechanisms
09:45 – 10:00 Break
10:00 – 12:00 Physical examination: Neurological, sensorimotor and neurodynamics
12:00 – 1:00 Lunch
1:00 – 2:00 Evidence, clinical rationale and guidelines for treatment
2:00 – 2:30 Pain neuroscience education: Know pain; know gain
2:30 – 3:15 Desensitizing the nervous system
3:15 – 3:30 Break
3:30 – 5:00 Neurodynamic treatments for the median, radial and ulnar nerves
5:00 – 5:30 Clinical application: Case studies
Adriaan Louw, PT, PhD, CSMT
Adriaan earned both an undergraduate as well as a master's degree in physiotherapy from the University of Stellenbosch in Cape Town, South Africa. He is an adjunct faculty member at St. Ambrose University and the University of Nevada Las Vegas, teaching pain science. Adriaan has taught throughout the US and internationally for 15 years at numerous national and international manual therapy, pain science and medical conferences. He is a Certified Spinal Manual Therapist and has authored and co-authored various articles, books and book chapters related to spinal disorders and pain science. Adriaan completed his Ph.D. on therapeutic neuroscience education.

Steve Schmidt PT, M.Phys, OCS, FAAOMPT
Steve graduated from the University of the Pacific with an M.S. in Physical Therapy and completed his Masters of Physiotherapy at the University of South Australia. He treats a wide variety of patients as well as teaching orthopedic manual therapy at Samuel Merritt College. Steve is a Fellow in the American Academy of Orthopedic Manual Physical Therapists and a board certified specialist in orthopedic physical therapy. He completed the six month post-graduate training in Proprioceptive Neuromuscular Facilitation at the Kaiser Foundation Rehabilitation Center and continues to work in Vallejo, California, treating patients with neurological impairments. Steve has been an instructor for The Neuro Orthopaedic Institute (Australia) for over 15 years, teaching various pain science, neurodynamics and neuromuscular courses nationally and internationally.

Selected references: