

# **ENMG Symposium 2024**

The event will be held at Rocky Mountain University of Health Professions in Provo, Utah

**Friday, March 24**

**8:00 am - 5:00 pm Mountain Daylight Time (+2 EDT, -1 PDT)**

**Saturday, March 25**

**8:00 am - 4:00 pm Mountain Daylight Time (+2 EDT, -1 PDT)**

## **[Promo Code Request Form](#)**

### **Important Conference Information:**

- Event Format: Blended (virtual and onsite tickets available)
- Onsite Location: Rocky Mountain University, Building 3, in Provo, Utah
- This event is offered LIVE. Recordings will not be available for CEUs after the event
- ACEWM Members: To request your \$25 discount, please submit the form above.
- RMU Alumni: To request 15% off the Non-Member price, please submit the form above.
  - Note: RMU Alumni who are also ACEWM Members should use the RMU Alumni discount.
- Tech Support Contact: [con.ed@rmu.atlassian.net](mailto:con.ed@rmu.atlassian.net)

### **Pricing**

	<b>Early by 2/9/2024</b>	<b>Regular by 3/10/2024</b>	<b>Late 3/11 - 3/22/2024</b>
<b>ACEWM Member</b>	\$595	\$625	\$695
<b>Non-Member</b>	\$620	\$650	\$720

### **Description**

The Annual Electroneuromyographic Symposium is designed specifically for healthcare providers that specialize in electroneuromyography (ENMG). Invited speakers (researchers, educators, and clinicians) are given a forum to present original research, topic reviews, and case reports. Either the full article or abstract is published in The Proceedings.

**13.5 contact hours will be awarded for full attendance to both days. Of these hours, 9.75 hours are related to differential diagnosis.**

# Symposium Schedule

Friday, March 22 (all times listed in Mountain Daylight Time)

TIME (MDT)		PRESENTER	TOPIC
<i>*Onsite Continental Breakfast in Room 206</i>			
AM	8:00	8:05	<b>Welcome</b>
	8:05	8:45	Art Nitz, PT, PhD (ECS) <i>Dispelling the Myth of Back “Spasm” Using EMG Evidence</i>
	8:50	9:30	Dave Hutchinson, PT, MS, DSc, (ECS) <i>Electrodiagnostic testing for suspected median nerve entrapment across the wrist in the presence of congenital thumb hypoplasia</i>
	9:30	9:50	<b>Vendor &amp; Refreshment Break</b>
	9:50	10:30	Braden Plowman, PT, DPT, (ECS) <i>Electrodiagnostic Testing of the Female Pelvic Floor</i>
	10:35	11:15	Austin Andrus, PT, DPT, (ECS) <i>Ulnar Neuropathy at the Elbow: A New Electrodiagnostic Severity Scale for Improved Prediction</i>
	11:20	12:00	Rick McKibben, PT, DSc, (ECS) <i>Unilateral hemihypertrophy with suspicious neuropathic and myopathic electrodiagnostic characteristics</i>
PM	12:00	1:30	<b>Vendor Break &amp; Lunch</b>
	1:30	2:10	Randall Hulet, PT, DPT, (ECS) <i>Herpes Zoster Radiculopathy: A Case Study and Discussion of Other Herpes Zoster Virus Complications and Treatment</i>
	2:15	2:55	Elizabeth Painter, PT, DPT, DScPT <i>Ulnar and Medial Cutaneous Nerve of the Forearm Mononeuropathies after Creation of Arteriovenous Fistula</i>
	3:00	3:30	<b>Vendor &amp; Refreshment Break</b>
	3:35	4:15	Nancy Mansell, PT, DPT, OCS, FAFS, (ECS) <i>Fibular nerve injuries: current evidence and serial EDX of traumatic fibular nerve injury case</i>
	4:20	5:00	Nathan Savage, PhD, DPT, OCS, RMSK, (ECS) <i>Relationship between electrodiagnostic and sonographic classifications of median neuropathy in patients with suspected CTS</i>

Saturday, March 23 (all times listed in Mountain Daylight Time)

TIME (MDT)		PRESENTER	TOPIC
<i>*Onsite Continental Breakfast in Room 206</i>			
AM	8:00	10:00	Bob Sellin Alain Claudel David Johnson Leon Romero Mark Brooks Mark Simmons  <i>Panel: Quickfire Polyneuropathy Topics</i>
	10:10	10:30	<b>Vendor &amp; Refreshment Break</b>
	10:30	11:10	John Lugo, PT, DPT  <i>Let's get physical! Which physical exam components best predict EDX exam abnormalities?</i>
	11:15	11:55	Breck Leonard, PT, DPT, FMSK, (ECS)  <i>Toxic neuropathy: Case study on Agent Orange exposure</i>
PM	11:55	12:00	<b>Grab Lunch Box</b>
	12:00	12:40	Dimitrios Kostopoulos, DPT, MD, PhD, DSc, (ECS)  <i>Physical Therapy as Primary Care: Unpacking the EMG &amp; MSK            Ultrasound Testing Landscape</i>
	12:45	4:00	Quinn Millington PT, DPT, OCS, (ECS)  <i>EMG/NCS Professional Development and Governmental Affairs            and the EDX SIG</i>

## Presenters

In order of appearance...

### **Art Nitz, PT, PhD, (ECS)**

Dr. Nitz attended Wheaton College from 1971-1975, receiving a B.S. in Biology. Dr. Nitz received his Master of Physical Therapy from Baylor University (US Army) in 1976 and a PhD in Anatomy and Neurobiology from the University of Kentucky in 1984. He recently retired from full time faculty position at the University of Kentucky after 37 years of fulltime teaching and research, holding the rank of Full Professor; he continues to teach various courses and maintains clinical practice as the owner of ProActive Therapy. He has authored numerous articles and book chapters and was the co-editor of the textbook, Orthopaedic and Sports Physical Therapy. Dr. Nitz was the recipient of the US Army-Baylor University Alumni of the Year Award in 2001 and continues to teach and conduct research at the University of Kentucky while maintaining clinical practice.

### **Dave Hutchinson, PT, DSc, MS, (ECS)**

Dr. Hutchinson received his Bachelor of Science in Physical Therapy from Temple University, Master of Science in Physical Therapy from Hahnemann University, Pediatric Fellowship at Children's Hospital of Philadelphia and Doctor of Science in Clinical Electrophysiology from Rocky Mountain University. He currently works as an electrophysiologist at Philadelphia Hand to Shoulder Centers in Philadelphia, PA. Dr Hutchinson has presented at various local and national conferences in the areas of functional electrical stimulation research, nerve and tendon transfer restoration testing and treatment methodologies, electrophysiologic treatment and testing, movement analysis assessment approaches, and outcomes-based research. He served 15 years at Shriners Hospital for Children where he was the director of the electrodiagnostic testing, intraoperative monitoring program and the movement analysis center. He is associate faculty at Arcadia University and conducts a yearly EDX series for Thomas Jefferson Hand Surgeons Fellowship program.

### **Braden Plowman, PT, DPT, (ECS)**

Dr. Plowman began his career as an outpatient physical therapist, specializing in orthopedics. He earned his ECS board certification in 2019 and started Proof Laboratories in 2021. It took over a year to credential his business, so he started seeing patients in a room at his wife's clinic (New Mom Guru, which is a pelvic floor physical therapy practice). During his time at New Mom Guru, he learned of the need for someone to perform electrodiagnostic examinations of the pelvic floor and was able to learn from the local network of pelvic floor/birth professionals.

### **Austin Andrus, PT, DPT, (ECS)**

Austin Andrus was born in Bellevue, Washington, and grew up in Utah Valley, where he attended Brigham Young University and Rocky Mountain University of Health Professions. He has always had a passion for research and innovation, finding time to author and present several studies during his undergraduate and doctoral schooling. He obtained his DPT in 2016 and board certification in Clinical Electrophysiology in 2020. Through the support of his company, EMG Solutions, as well as the Hughston Foundation, since then he has been able to continually have 2 or 3 research projects underway at a time in addition to his full-time electrophysiology practice. Away from the clinic, he and his lovely wife Danery enjoy dabbling in many new hobbies and experiences.

### **Rick McKibben, PT, DSc (ECS)**

Dr. McKibben is a physical therapist and clinical electrophysiologist with over 28 years of clinical practice. He achieved a Doctor of Science in Clinical Electrophysiology from Rocky Mountain University and a Master of Science in Physical Therapy from North Georgia College. He works in private outpatient and hospital-based electrodiagnostic labs in the southeast with Integrity Diagnostics as a full-time electromyographer and administrator. He is board certified in Clinical Electrophysiology by the American Board of Physical Therapy Specialties. Dr. McKibben has mentored numerous physical therapists that have gone on to achieve ABPTS board certification and he teaches professional continuing education in the field

of electrophysiological testing and has authored/co-authored several textbook chapters on electrodiagnostic testing. He presents routinely at national meetings, served as an associate professor in Rocky Mountain's DSc in Clinical Electrophysiology and serves as guest/adjunct faculty in the areas of neurophysiology, diagnostic tests and the electrophysiological evaluation at several universities. Dr. McKibben is active in the American Physical Therapy Association, the APTA's Academy on Clinical Electrophysiology and Wound Management. He has served in several leadership roles over the years including ACEWM Practice Chair, ACE Membership Chair, and Treasurer of both the ACEWM and ACEWM's EDX SIG.

### **Randall Hulet, PT, DPT (ECS)**

Randall Hulet grew up in State College, Pennsylvania, but ventured out west to Utah to attend Brigham Young University followed by physical therapy school at Rocky Mountain University of Health Professions, graduating with his DPT in 2017. Following PT school, he worked in a rural outpatient orthopedic setting in Arizona for 3 years before moving to Alabama where he was a part of and graduated from EMG Solutions' first clinical electrophysiology residency cohort and obtained his board certification in Clinical Electrophysiology in 2022. Outside of work, he enjoys spending time with his wife and 3 little girls, singing for fun and in church, and playing pickleball.

### **Elizabeth Painter, PT, DPT, DSc (ECS)**

Dr. Painter received a Master of Physical Therapy from the Army-Baylor University Program in Physical Therapy in 1999 and a Doctor of Physical Therapy from Baylor University in 2007. She completed the Army-Baylor Doctoral Fellowship in Orthopaedic Manual Physical Therapy in 2014, earning a Doctor of Science in Physical Therapy. Dr. Painter holds board certifications in both in Clinical Electrophysiologic and Orthopaedic Physical Therapy. She has served on the Clinical Electrophysiologic Specialty Council and is currently a Clinical Content Expert, involved in writing and editing exam questions for the clinical electrophysiologic specialty exam. Dr. Painter is currently in private practice in electrophysiological testing at Neurosurgery and Spine Consultants in San Antonio, TX.

### **Nancy Mansell, PT, DPT, (ECS)**

Dr. Mansell completed her undergraduate degree at Penn State and received her Doctor of Physical Therapy from the Army/Baylor Program. She served in the Army until 2011 and during her time was deployed to Iraq with the 82nd Airborne Division. Her interest in EDX began in 2013 and with RMU ENMG training and help from many mentors, she earned her ECS in 2016. Her EDX laboratory is accredited by FELA, and she performs EDX in rural communities on the picturesque Olympic Peninsula in the Puget Sound. She is the Nominating Chair and Education Committee Chair for the EDX SIG, serves as a mentor for AACE and has presented at the multiple RMU Symposiums.

### **Nathan Savage, PT, PhD, DPT (ECS)**

Dr. Savage started clinical practice in 2000. He is Board Certified in Orthopaedic Physical Therapy and Clinical Electrophysiology by the American Board of Physical Therapy Specialties. He is registered in musculoskeletal sonography by the Alliance for Physician Certification and Advancement. He has advanced training and certifications in orthopaedic manual therapy and acupuncture dry needling. Dr. Savage received his PhD in Rehabilitation Science from the University of Utah with peer-reviewed publications appearing in the European Spine Journal, the Journal of Orthopaedic & Sports Physical Therapy, the Journal of Orthopedic Case Reports, and JOSPT Cases. Dr. Savage received his Doctor of Physical Therapy degree from the University of Kansas Medical Center, his Master of Science degree in Physical Therapy from the University of Rhode Island, and his Bachelor of Science degree in Exercise Physiology from the University of Utah. Dr. Savage began practice in Knoxville, TN, returned to Utah in 2003 where he ran an outpatient orthopedic and sport medicine clinic until 2021. Dr. Savage is currently an Assistant Professor in the Department of Physical Therapy at Winston-Salem State University. He is happily married to his lovely wife and has 3 children.

### **Robert Sellin, PT, DPT (ECS)**

Dr. Sellin has a private practice in Lexington, Kentucky, devoted exclusively to electrophysiologic testing. He has had a diverse career that includes 16 years in the US Navy, and 28 years in both private civilian practice and teaching in entry-level and post professional physical therapy programs. He earned his Bachelor of Science degree in physical therapy from East Carolina University, a Master of Science degree in physical therapy with a specialization in musculoskeletal disorders from the University of Southern California, and a Doctor of Science degree in electrophysiologic physical therapy from Rocky Mountain University of Health Professions. Throughout his career Dr. Sellin has been active in both state and national physical therapy associations. He is a past president of the Kentucky Physical Therapy Association, past president of the American Physical Therapy Association's Academy of Clinical Electrophysiology and Wound Management and past chair of the American Board of Physical Therapy Specialties.

### **Alain Claudel, PT, DPT (ECS)**

Dr. Claudel received his physical therapy degree from Université Claude Bernard Lyon 1 in 1988 and his DPT from Rocky Mountain University of Health Profession. He served as the Director of Rehabilitation Services at the Community Hospital of the Monterey Peninsula (CHOMP) where he has also served as the Wound Healing and Hyperbaric Medicine Program Coordinator. Dr. Claudel started practicing neurophysiology in 2005 and obtained his American Board of Physical Therapy Specialties (ABPTS) board certification in clinical electrophysiology (ECS) in 2008 and re-certified in 2018. In 2022 Dr. Claudel opened his own practice, Neurophysiology Solutions, and has been providing high quality studies to the greater Monterey, CA areas since that time. Dr. Claudel has been active in the ENMG community and currently serves on the ABPTS specialty council as the MOSC Item Review Coordinator. He has also provided lectures and presentations at multiple national conferences. He loves hiking and being outdoors and has served for the past 23 years as a volunteer on the Monterey County Sheriff's Office Search and Rescue Team.

### **David Johnson, PT, MPT (ECS)**

David Johnson completed undergraduate studies at Brigham Young University in 1992, after which time he received his Master of Physical Therapy from Baylor University in San Antonio, Texas. David then completed a three-year residency in Electroneuromyography (EMG) at Ireland Army Community Hospital in Fort Knox, Kentucky. He went on to become the senior electroneuromyographer and then Director of Residency in EMG at the same hospital. David joined the Neurological Associates team in 1999 and has performed over 20,000 EMG procedures in his career. David often travels with his medical equipment to serve smaller communities throughout the state of Utah, where EMG services are not available. David's passion for helping and his unique experience allow him to benefit the lives of many people. David is certified by the American Board of Physical Therapy Specialties in Clinical Electrophysiology. He contributes to the academics of EMG as a frequent guest lecturer and researcher at Rocky Mountain University of Health Professions in Provo, Utah.

### **Leon Romero, PT, DSc (ECS)**

Leon Romero, PT, DSc, OCS, ECS is presently the COO/Owner/Founder of Integrity Diagnostics and is a physical therapist with over 18 years teaching and clinical experience. He is the first person of Caribbean and African American descent to achieve board certification in Clinical Electrophysiology. As well as to complete a Doctorate in Clinical Electrophysiology. Dr. Romero is also the CEO-Founder of Synapse EMG Services, LLC and Physical Therapy Pros, LLC. These companies provide physical therapy, hand therapy and electrodiagnostic testing (EMG/Nerve Conduction Testing) services to clients in the metro Atlanta region. His clinical and teaching experience spans across multiple settings including outpatient physical therapy and electrodiagnostic testing, acute care, inpatient rehabilitation and aquatic physical therapy. Internationally, he is also one of the few ABPTS Board Certified Specialists who is doubly board certified in both Clinical Electrophysiology and Orthopedic Physical Therapy. There are only 210 physical therapists in the world who are Board Certified in Clinical Electrophysiology. This combination of education and experience places him in the top 1% of physical therapy and diagnostic testing providers globally. Other areas of expertise and interest

include research in Clinical Electrophysiology, innovative treatment approaches for Orthopedic and Sports rehabilitation, and business strategy in the changing healthcare market.

### **Mark Brooks, PT, DSc (ECS)**

Dr. Brooks has over 25 years of experience as a clinician, administrator, and educator in the field of physical therapy. He received his bachelor's and master's degrees from the University of Kentucky and completed his doctorate in clinical electrophysiology at Rocky Mountain University in 2005. He is board certified by the American Board of Physical Therapy Specialties in both clinical electrophysiology and orthopedics. Dr. Brooks has worked as a physical therapist in many settings, including outpatient, acute care, home health, and long-term care. His teaching experience includes the University of Kentucky, University of Indianapolis, Midway College, and Somerset Community College. He was one of the first instructors in Rocky Mountain University's transitional DPT program and has also taught numerous continuing medical education courses.

### **Mark Simmons, PT, DSc (ECS)**

Mark Simmons received his Bachelor's Degree in Health Science with an emphasis in Physical Therapy, along with a Doctorate of Physical Therapy from the University of Central Arkansas in 2010. He was awarded his Doctor of Science in Clinical Electrophysiology from Rocky Mountain University of Health Professions in 2023. Dr. Simmons became a Board Certified Electrophysiological Clinical Specialist (ECS) through the American Board of Physical Therapy Specialists (ABPTS) in 2015. Prior to performing clinical electrophysiology full time, he worked for the Department of Veteran Affairs in Central Arkansas. Mark is active in furthering his field by annually presenting 'ENMG for the Orthopedic Surgeon' at the Hughston Clinic fellowship program. He has contributed to anatomy and nerve innervation research, which has been presented at the American Physical Therapy Associations (APTA) Combined Sections Meeting (CSM). Mark is an active member of the American Physical Therapy Association and the EDX special interest group. He is also a Certified Kinesio Taping Practitioner.

### **John Lugo, PT, DPT (ECS)**

John is a licensed physical therapist with twenty years of experience performing electrodiagnostic studies. He achieved board certification from the American Board of Physical Therapy Specialties in 2010 as an Electrophysiological Clinical Specialist and recertified in 2020. He has fourteen years of experience as a faculty member in an entry-level physical therapy program and has served as a faculty member and mentor in two accredited American Board of Physical Therapy Residency and Fellowship Education postgraduate programs for twelve years.

### **Breck Leonard, PT, DPT, (ECS)**

Breck Leonard graduated from Rocky Mountain University of Health Professions in 2017 with a Clinical Doctorate of Physical Therapy. He has been working and managing an outpatient clinic in Pasco, Washington for 5 years. In 2019, he began EMG testing and completed his residency with AACE in 2020. He became board-certified in Clinical Electrophysiology in June 2021. At the same time, he completed a fellowship in musculoskeletal ultrasound imaging. These specialties have opened new avenues for treating his patients and continuing his education. Outside of work, he spends his time with his wife and four children. He loves to be outdoors, playing golf or paddleboarding are at the top of his list.

### **Dimitrios Kostopoulos, PT, DPT, MD, PhD, DSc (ECS)**

Dr. Kostopoulos is a board-certified Clinical Electrophysiology Specialist with over 35 years of clinical experience and over 26-years experience in electrodiagnostic testing. He is one of very few Electrophysiology Specialists who have achieved a Doctorate of Science (DSc) in Clinical Electrophysiology Testing, ECS board certification and accreditation by FELA (Federation of Electrodiagnostic Laboratory Accreditation). He is the Residency Program Director in Clinical Electrodiagnosis of the American Academy of Clinical Electrodiagnosis. Past Clinical Affiliate Assistant Professor for Charles E. Schmidt College of Medicine at Florida Atlantic University, past member of SACE (Specialization Academy of Content Experts) for the electrophysiology board exam of ABPTS and served as an elected member of the Executive

Committee of the Academy of Clinical Electrophysiology (ACEWM) of the APTA. He also served as an Adjunct Faculty of Springfield College teaching the Clinical Electrophysiology module. A world-renowned, leading expert, and best-selling author in myofascial pain, business development, and co-founder of the Hands-On Companies (Est. 1992 in New York). Dr. Kostopoulos has extensive training and teaching experience in different areas of manual therapy with emphasis in trigger point, myofascial, neurofascial therapy, and manipulation. Dr. Kostopoulos holds four Doctorate degrees. He earned his Doctorate (PhD) and Master's degrees at New York University and his second Doctorate of Science (DSc) degree at Rocky Mountain University (Clinical Electrodiagnosis). Dr. Kostopoulos has obtained his MD degree from UHSA School of Medicine and a DPT from Evidence in Motion. He has numerous publications; he is the Editor of the Diagnostic Section for the Journal of Bodywork and Movement Therapies published by Elsevier and has taught thousands of students worldwide through Hands-On Seminars. Dr. Kostopoulos is the recipient of a multitude of business and humanitarian awards.

### **Quinn Millington, PT, DPT (ECS)**

Dr. Millington received his Bachelor of Science degree in Exercise Science from Brigham Young University in Provo, UT where he also earned a minor in psychology and studied Korean. He earned his Master of Science degree in Physical Therapy from the University of Alabama at Birmingham and a Doctor of Physical Therapy from Rocky Mountain University in Provo Utah. Dr. Millington is board certified in clinical electrophysiology and orthopedics. He has presented on orthopedic physical therapy and clinical electroneuromyography at CSM and as a guest lecturer at Alabama State University, Samford University, the University of Alabama at Birmingham and Auburn University, Montgomery. He is a member of the American Physical Therapy Association and the Alabama Physical Therapy Association and currently serves as the Clinical Electrophysiology Special Interest Group Chair within the Academy of Clinical Electrophysiology and Wound Management (ACEWM).

## **Description**

The Annual Electroneuromyographic Symposium is designed specifically for healthcare providers that specialize in electroneuromyography (ENMG). Invited speakers (researchers, educators, and clinicians) are given a forum to present original research, topic reviews, and case reports. Either the full article or abstract is published in The Proceedings.

## **35<sup>th</sup> Annual Electroneuromyographic Symposium Course Objectives**

1. Identify probable underlying cause(s) for acute onset low back pain, generally attributed to back "spasm".
2. Describe the clinical and EMG features of true back spasm and differentiate those from causes that mimic back "spasm".
3. Recognize the medical conditions associated with a congenital thumb presentation.
4. Understand the testing paradigm for electrophysiologic testing in the presence of a congenital thumb presentation.
5. Identify pelvic floor anatomy and electrodiagnostic testing approaches.
6. Recognize conditions that can be diagnosed by EDX testing and how electrodiagnostic examination can change treatment approaches.



7. Describe the electrophysiologic findings with the most prognostic value for ulnar neuropathy at the elbow.
8. Recognize electrophysiologic findings which tend to occur together in patients with ulnar neuropathy at the elbow.
9. Describe and discuss potential etiologies for hemihypertrophy.
10. Differentiate the electrodiagnostic characteristics of neuropathic vs myopathic conditions and the pitfalls of reliable assessment.
11. Understand the etiology of and potential complications that can come from shingles and their presentations.
12. Comprehend the risk factors for developing a zoster radiculopathy or segmental zoster paresis along with the treatment to decrease the risk of its development.
13. Identify findings from the clinical exam that suggest neurological injury after creation of an arteriovenous fistula.
14. Plan an electrophysiologic exam (EMG/NCS) to evaluate a patient with neurological injury after creation of an arteriovenous fistula.
15. Identify causes of fibular nerve injury at or distal to the knee and list surgical interventions for fibular nerve injuries
16. Describe EDX techniques for serial testing in traumatic fibular nerve injuries and recognize challenges of fibular nerve NCS motor testing.
17. Evaluate and discuss the relationship between electrodiagnostic and sonographic classifications of median neuropathy in patients with suspected carpal tunnel syndrome.
18. Discuss the value of combining electrodiagnostic and sonographic evaluations of common peripheral nerve injuries of the upper extremity.
19. Identify the recent literature investigating physical exam components and electrodiagnostic examination outcomes.
20. Design a physical exam protocol that will optimize efficiency while providing insight prior to an electrodiagnostic exam.
21. Identify various etiologies related to toxic neuropathies through updated research.
22. Understand basics of agent orange exposure and its relevance to neuropathy.
23. Analyze the clinical significance and applications of EMG and MSK ultrasound within the realm of physical therapy as a primary care profession.
24. Formulate strategies for effective advocacy to position physical therapy as a primary care profession.

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