

COMPREHENSIVE PROFESSIONAL VITAE

Erika S. Lewis, PT, EdD, MS, CHT

Department: Physical Therapy and Kinesiology

College: Zuckerberg College of Health Sciences

University of Massachusetts Lowell

Rank: Associate Professor

Appt Date: August 29, 2004

Field: Physical Therapy and Kinesiology

Date: May 14, 2024

A. EDUCATION AND ACADEMIC QUALIFICATIONS

Education

| | | |
|-----------|---|-------------------------------------|
| 2004, Oct | Doctor of Education Leadership and Schooling Dissertation: <i>Emotional Intelligence, Cognitive Intelligence and Clinical Performance in Physical Therapy Students</i> | University of Massachusetts Lowell |
| 1992, Oct | Master of Science Physical Therapy | University of Massachusetts Lowell |
| 1987, May | Bachelor of Science Pre-Physical Therapy, cum laude | University of Massachusetts Amherst |

Academic Experience

Associate Professor with Tenure
Department of Physical Therapy and Kinesiology,
University of Massachusetts Lowell, Lowell, MA.
August 2004 – Present

Sept 1, 2011- Present Associate Professor

March 2019 – August 2024 Co-Director, Education & Training
UMOVE UMOVEment Research Center

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| April 10, 2019- Aug 31, 2020 | Associate Professor & Interim Program Director, Doctor of Physical Therapy Program Faculty Advisor |
| August 2018– April 2019 | Associate Professor |
| April 2015– August 2018 | Department Chairperson, Director DPT Program, Associate Professor |
| Jan 2015–April 2015 | Interim Department Chairperson, Director DPT Program, Associate Professor |
| Aug 2011– Jan 2015 | Associate Professor |
| Aug 2004– Aug 2011 | Assistant Professor Instructor for 2 months until doctorate was conferred |
| 1997-1999 | Adjunct Faculty |

B. PROFESSIONAL ACTIVITIES

Professional Association Membership

| | |
|----------------------|---|
| 2007-Present | American Society for Hand Therapists (ASHT) |
| 1990-Present | American Physical Therapy Association (APTA) |
| 2012, 2015-Present | APTA Hand & Upper Extremity Physical Therapy, Service as: Coordinator of Virtual Education (Former title: Student Initiatives Coordinator) |
| 2018-2022 | Orthopedic Academy of Physical Therapy (AOPT) |
| 2003-2013,15-Present | APTA Academy of Education |
| 2009-2013,15-16 | APTA Geriatrics, An Academy of the APTA |
| 1995-2013 | Hand Therapy Special Interest Group Baystate Chapter, Chair '96-'97 |

Licensure

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|------|---------------------------|---|
| 1993 | Physical Therapist | Allied Health Professions License # 9393 Licensed Physical Therapist in Massachusetts x 30 years |
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Key Accomplishments as Chair of the Department of Physical Therapy and Program Director of DPT, all accomplishments are a result of collaborative work

1. Successfully manage department of 13-17 faculty members and one staff member. (Spring 2015- August 2018)
2. Supported TT faculty member through promotion and tenure process, obtaining external review letters
3. Hired 7 full-time faculty: **two** TT faculty in 2018 and **one** Professor and Chair with tenure in 2018, and **four** faculty in 2016. (Two TT international faculty required legal documentation)
4. Led the initiative to update the Department Name. Changed to Physical Therapy and Kinesiology. (2017-18)
5. Adoption and implementation of alternate curriculum pathway in Exercise Physiology to increase student retention "Exercise Science: Exercise & Fitness Management". (Spring 2018)
6. Assisted with planning and design of new physical therapy dept. research space at 110 Canal Street Fabric Discovery Center and NERVE center. State subsidized renovation including large equipment purchase of Instrumented Treadmill. (2017-2018)
7. Obtained funding for 3 new cadaver tables (~\$15,000) and donated old tanks to another university. Equipment upgrades for summer laboratories including three new cadaver dissection tables (2017) and one cadaver (2017)
8. Obtained increased funding for one additional cadaver (to equal 3 total) to improve curriculum in collaboration with anatomy instructor
9. Assigned workload annually for fall, spring and summer semesters for faculty and adjunct faculty. (2015-2018)
10. Created a summer semester budget in 2015. Revised budget annually. Conducted meeting with Director and Financial Officers of Office of Continuing Education with justification of increase in budget needs. Revenue: (\$349,025) Salary expenses: (\$96,721) Operating Expenses: (\$36,320) (Spring 2015- Summer 2018)
11. Planned & Executed plans for moving department offices to one floor in Weed Hall 2017
12. Managed Endowment fund, Dorsey Fund. (2015-2018)
13. Developed Operating Budget Proposal and justification for the Provost 2016, 2018
14. Interview and process all hires, including adjunct faculty. Time spent with on-campus Interview is one full day. Faculty searches have been conducted annually (2015-2018).
15. Initiated monthly Leadership meetings with a five-person department leadership team to increase communication in the department. (2016-18)
16. Successfully obtained funding from Provost's Office and hired a CAPTE consultant for our 2020 reaccreditation through cost sharing with department, Dean's Office and Provost's Office. (2017-18)
17. Assisted with planning and design new research space at Health Assessment Lab at Riverview Suites. (2015)
18. Equipment upgrades for DPT laboratories: exam tables (2016), stools (2017) and window treatments (2015 & 2017) with strategic cost sharing with Dean's Office.
19. Assisted to acquire Capital equipment: Diagnostic Ultrasound (\$10,000) and CosMed Portable metabolic testing equipment (\$44,000) utilizing funds from Provost Office.
20. Accomplished significant department goals in 2017-2018 despite 3 faculty/staff out on semester leave.
21. Participating in and conducting preparation for 2020 CAPTE accreditation for DPT Program. (2016-2018)

22. Participated in AQAD Self Study for Exercise Physiology undergraduate program. (2015)
23. Conducted annual Department Retreat at an off-site location promoting collaboration and strategic planning for fourth year in a row. (2015-18) Two-day retreat with focus on accreditation 2018.
24. Initiated communication with 5 local DPT chairs to develop network and professional support. (2017). Continued conversations in 2018.
25. Effectively managed reassigned office space to increase programmatic support. (2017)
26. Collaborative effort to develop marketing strategy for faculty lines by utilizing post card. Marketing Department produced postcard with professional photo of HSSB.
27. Organized & co-sponsored Hanger Workshop. Hanger Prosthetics Lower Limb Prosthetics & treatment for lower extremity. Guest speakers included prosthetists, physiatrist Dr. Crandell, Spaulding Rehabilitation Hospital, Community Volunteer and panel of three. Course was open to the university and public. DPT & EP students attended free. 3:30 – 7:00 pm. April 26, 2017
28. Organized & co-sponsored Forensic Biomechanics Workshop. Guest speaker, Dr. Jiri Straus, Prague, Czech Republic. Dr. Straus, from the Criminal Justice Department at the University of Finance and Administration in Prague has investigated over 800 cases in the court of law. He re-creates scenarios on computer to determine the cause of death: whether by falling, jumping or was pushed from a rooftop after analyzing trajectories. The course was open and free to the University. 1:00 – 3:00 pm. April 14, 2017.
29. Adopted a modified procedure for Excellence in Teaching for faculty based on material submission that was acceptable to department and compliant with contract. (2016)

Select Chair and Director of DPT Program Responsibilities

1. Assisted with interviewing three Associate Dean Candidates, Interview duration approximately 3 hours each candidate. (2017-2018)
2. Assisted with Interviewing three Biomedical and Nutritional Sciences Chair candidates, Interviews lasted approximately 4 hours each candidate. (2017-2018)
3. Collaboratively focused on increasing retention.
4. Generate and authorize purchases for operating (\$49,000)
5. Manage summer operating budgets Revenue: (\$349,025) Salary expenses: (\$96,721) Operating Expenses: (\$36,320)
6. Assign workload to faculty for fall, spring and summer faculty, requiring communication with faculty
7. Oversee and submit for schedule changes
8. Collaboratively worked with EP Program Director & Associate Director of DPT Program on projects including schedules and workload
9. Perform teaching evaluations both fall and spring, met with faculty members to provide feedback and professional development opportunities
10. Addressed student issues elevated above the level of the Director of EP, Associate Director of DPT and Transfer Coordinator
11. Assisted to improve curriculum for 2 programs in collaboration with two curriculum committees
12. Provided professional development feedback to NTT and adjunct faculty
13. Revisited Strategic Plan at Faculty Retreat annually
14. Collaboratively revised department mission and goals
15. Established written guidelines for some department procedures.
16. Assign faculty workload in June for the academic year
17. Assign faculty workload in January for the summer semester
18. Perform work performance evaluation for Program Administrator
19. Facilitate graduation procedures for undergraduate and graduate program

Clinical Experience

- 5/2023-present **RehabHealth360**, Acton, MA
Hand Therapist Physical Therapist, Part-time
Responsibilities: Provide patient care as hand therapist for evaluation on hand to shoulder for people following stroke or head injury (neurological), and orthopedic, including wound care, sensory testing, fabricating dynamic and static splints, scar management, and patient education on joint protection, in addition to the responsibilities of A/PROM, strengthening, modalities, and ADL's. Diagnoses treated include tendon lacerations and repair, crush injuries, traumatic amputations, nerve lacerations and compressions, arthroplasties, tendonitis, burns, and osteoarthritis.. Management functions include payment collection, scheduling and treatment assessments and notes on EMR, and maintaining inventory.
- 2000 –2005 **UMass Memorial Health Care (Hospital)**, Worcester, MA
Hand Therapist, Full time
Responsibilities: Wound care, sensory testing, fabricating dynamic and static splints, scar management, and patient education on joint protection, in addition to the responsibilities of A/PROM, strengthening, modalities, and ADL's. Diagnoses treated include tendon lacerations and repair, crush injuries, traumatic amputations, nerve lacerations and compressions, arthroplasties, tendonitis, burns, and osteoarthritis. Modalities frequently used are listed in next paragraph. Performed evaluations on Greenleaf software for disability ratings. Treated pediatric through geriatric populations. Performed in leadership capacity as a speaker for a variety of conferences.
September 2004 to January 2005 worked Per Diem one day a week while full-time faculty at the University of Massachusetts Lowell.
- 1996-2000 **New England Therapeutic Associates**, Newton, Lowell, North Andover, MA
Hand Therapist, Full Time
Responsibilities: Provided patient care as hand therapist with similar functions as listed above. Modalities frequently used include: ultrasound, fluidotherapy, whirlpool, iontophoresis, TENS, electrical stimulation, and biofeedback. Management functions included verification of insurance benefits and authorizations, scheduling patient appointments, collecting co-pays, and maintaining inventory. Member of Safety Committee.

Clinical Experience, Continued

- 1992-1995 **Brigham and Women's Hospital**, Boston, MA
Hand Therapist 1994-1995 (1 ½ years)
Inpatient Orthopedic physical therapist (1992-1994)
Pool Therapy 3-month rotation
Responsibilities: Hand therapist with traumatic and chronic diagnoses.
Same diagnoses and evaluation skills as listed above. Conducted
ergonomic evaluation and recommendations for laboratory employees.
- 1991-1995 **Whittier Rehabilitation Hospital**, Haverhill, MA
Physical Therapist, Per Diem 1992-1995
Physical Therapy Aide 1991-1992
Orthopedic, Cardiopulmonary, Neurology service

C. RESEARCH

Grants and Contracts Funded

Apr 1, 2024 UML Researchers and Scholars Investment Fund – Spring 2024

**3D Printed and 3D scanned Forearm Wrist and Hand Orthotic for Wrist Instability
Case Report**

UML Collaborative Interdisciplinary Research

Funding period: Jun 30, 2024- Mar 2024

\$3,000

Ehlers Danlos Syndrome is a group of heritable connective tissue disorders with characteristics that include joint hypermobility, skin hyperextensibility, pain, fatigue, and decreased mobility and has a prevalence of approximately 1 case in 500 patients. People with EDS often experience spontaneous dislocations at joints without even moving, and this disorder often leads to missing out on social activities and other opportunities of daily life. By synthesizing Professor Lewis' expertise in Hand Therapy/splint fabrication and Professor Oda's expertise in 3D scanning and 3D printing, the team successfully created 3D printed splint prototypes that fit the client's wrist, hand, and forearm with support and structural integrity so much that the client feels relaxed, no pain and no dislocation within the splint. We seek to create the 3rd iteration.

Funds will also be used by the faculty to purchase biomedically safe resin, Tough 1500 resin, a larger tray to hold the resin, an honorarium for our research participant, and to travel to a peer-reviewed presentation or poster at a professional conference. Publication of the case study will follow.

Role: PI : Yuko Oda, Associate Professor, Art & Design, UML
Role Co-PIs: Erika Lewis, Associate Professor of PTK, UMass Lowell
Funded notification 06/13/24

January 1, 2024 **VR Gaming in Physical Therapy and Occupational Therapy. Use and Preferences**– Spring 2024

UML-WPI Collaborative Seed Grant

Funding period: Jun 30, 2024- Mar 2024

This study was supported by the original grant funding for the UML-WPI Collaborative Seed Grant for WheelUP! We surveyed licensed PTs and OTs on their use and potential use of Virtual Reality Gaming for Outcomes in Therapy.

Role: PI Erika Lewis, Associate Professor of PTK, UMass Lowell

Role Co-PIs: Yuko Oda, Associate Professor, Art & Design, UML, Yunus Dogan Telliell, Assistant Professor of Anthropology and Rhetoric, WPI; Robert Dempksi, Professor of Chemistry and Biochemistry, Worcester Polytechnic Institute; Max Chen, Yihong Xu, Yichen Li PhD students at WPI

Feb 2022 **Wheel Up: Engaging Communities in the Development of a Wheelchair Training Simulator for Diverse Bodies**

UML-WPI Collaborative Seed Grant

Funding period: May 2022- February 2023

\$19,864

Over 131 million people require a wheelchair worldwide. In the United States alone, 6.1 million people suffer from neurodegenerative diseases; as these diseases progress, many become reliant on assistive devices, including wheelchairs, for their mobility needs. Wheelchair users may benefit from a simulated training environment in which, as their motor function diminishes, their muscle signals could be blended with other biopotential signals, as well as those of the wheelchair joystick with improved human-computer interface for wheelchair guidance control. By addressing the need to improve the fidelity of the wheelchair dynamics within the simulated platform, as well as utilizing more detailed measures of accuracy to discern effects on driving performance, wheelchair users may have an accessible alternative to gain the wheelchair training needed to qualify for power wheelchair insurance

Role: PI: Kelilah Wolkowicz, Assistant Professor, Mechanical Engineering, UML

Co-PI: Yunus Dogan Telliell, Assistant Professor of Anthropology and Rhetoric, WPI; Jennifer deWinter, Professor of Rhetoric, Worcester Polytechnic Institute; Yuko Oda, Associate Teaching Professor Art & Design; My role: Co-PI.

Grant Funded May 2022 upon IRB approval

August 2021 **Innovative Inventions for Better Life – An Interdisciplinary Course**
ZCHS COVID Comeback Mini-Grant Program: Teaching Innovations
Funding period: July 2021- December 2022 **\$5,000**

To address the challenge of a lack of appropriate assistive technology for children, four UMass Lowell faculty from Physical Therapy and Kinesiology, Mechanical Engineering, and Psychology have come together to create “Innovative Inventions for Better Life”, an interdisciplinary undergraduate experiential course where students collaborate in small interdisciplinary teams to create projects that improve the lives of children with disabilities. Student projects will be diverse in purpose and medium, and include Virtual Reality experiences, interactive games, physical adaptive technology and devices such as customized utensils for eating and self-care, sports, and robotic devices. To give students a real-world experience, we will partner with a hospital or center to visit and consult with PTs and OTs who work with children with disabilities for testing and feedback on projects. Available facilities and methods include virtual reality (VR) 3D sculpting, 3D modeling, scanning, and 3D printing to enable students to move from ideas to prototypes quickly. Additionally, students will be trained in Unity 3D or Unreal Engine. With funding, monetary support will help carry the invention to fruition.

The Vision: Offer an opportunity for real-world IPE learning experience for UML students while creating devices and experiences that will better the lives of children with disabilities.

Role: PI

Co-PI: Yuko Oda, Art & Design; Kelilah Wolkowicz, Mechanical Engineering; Jiabin Shen, Psychology

October 20, 2019 **UMass Movement Center (UMOVE) Seed Center Established**
The mission of UMOVE center is to understand the principles of movement, with a primary focus on vertebrate movement. Our approach is to combine principles of biomechanics with molecular techniques and human-based studies to develop a research environment that is integrative and transdisciplinary. **The Vision: establish internationally recognized center of research and graduate education focused in improving our understanding of biomechanics from a truly interdisciplinary perspective, including comparative biology, nutrition, and public health, which are not commonly associated with traditional biomechanical centers.**
Role: 1) Co-Director, overseeing the Clinical Biomechanics/Community Health Core and 2) Researcher in the Muscle/Organism biomechanics Core. PI: Matt Gage, Associate Professor, Chemistry
Seed Center Application submitted June 27, 2019. Seed Center was approved 10/20/19.

Feb 2018 **IDEA Inter-Disciplinary Exchange & Advancement Initiative \$8,000**
Role: Co-Investigator
PI: Matthew J. Gage, Chemistry
Working toward promoting the research of the UMOVE research group. The aim of this project is to improve musculoskeletal health especially among the elderly. This is a collaborative pilot for interprofessional graduate educational strategies.
Co-Investigators: Erika Lewis, Matt Nugent, Kelsey Mangano, Sabrina Noel, Nicolai Konow, Michelle Scriber-McLean.

April 2017 **UMass President's Office Science and Technology Initiative**
\$25,000
UMOVE UMass MOVEment Research Center- Exploring the mechanics of movement and muscle function
Funding period: July 2017-July 2018
The aim of this grant is to support a tri-UMass campus collaborative research project with research faculty from a variety of programs to provide interdisciplinary training providing breadth of knowledge to graduate students in biomechanics. **The significance** is that our **interdisciplinary group from UMass Lowell, UMass Medical School and UMass Amherst** is unique in providing interdisciplinary training which industry and community partners would find desirable. Departments involved include Chemistry, Biological Sciences, Physical Therapy, BNS, Education, etc. The group conducted a retreat in fall 2018. Seed grant proposals in the amount of up to \$5,000 were reviewed and funded. Products that were a result of this work is: A student symposium is

planned Jan 2019. An IDEA grant was submitted (2/18) and an S&T grant (1/18). Planning meetings are ongoing for strategies in writing.

Role: Co-PI, Director Education Division

PI: Matthew J. Gage, Chemistry

February 2011 **Deshpande Foundation Campus Catalyst Competition** **\$500**
Fall Risk Self Assessment: How to help yourself and the ones you love
The aim of this grant is to support a collaborative research project with Doctor of Physical Therapy students and Physical Therapy faculty to educate Merrimack Valley residents on ways to reduce their risk of falls and why it is so important. **The significance** of our project that millions of dollars in health care dollars is spent on fall related costs.
Lewis, E., Jarjoura, N. and M. Jensen-Battaglia.
Role: Principle Investigator

March 2009 **Exploration in Teaching and Learning Grant 2009** **\$2,500**
Strategies for Success in the Freshman Year: Improving Academic Performance and Student Retention in the Exercise Physiology Program
This grant supported an investigation into the retention of freshman students to a graduate program. About 90% of freshman Exercise Physiology students plan to attend physical therapy graduate school yet that number decreases significantly by junior year. Weekly freshman seminars and a junior seminar series were incorporated in the program to facilitate academic success and retention of Exercise Physiology students. **The significance** of this project is that with early intervention we aim to improve the academic quality of the University's Exercise Physiology Program and students.
Ferrara, C., Murphy D., Day, D., Lewis, E., and S. Collins.
Role: Co-Investigator

Grants and Contracts Funded, continued

| | | |
|------------|---|----------------|
| Aug. 2008 | <p>American Hand Therapy Foundation (AHTF) 2008 AHTF Burkhalter New Investigator Grant <i>Trigger Finger Treatment: An Outcome Study</i> Intercampus collaborative research involving UMass Lowell Physical Therapy Department doctor of physical therapy (DPT) students and clinicians from UMass Memorial Health Care Hospital and UMass Medical School (both Worcester, MA), including occupational therapists, certified hand therapists and orthopedic, plastic, and hand surgeons. The purpose of this study is to assess the benefits of various trigger finger treatments. Trigger finger affects 2.6% of the population and is a common and painful ailment in hand therapy. The significance of the study is that hand therapy could be a viable conservative treatment option for trigger finger, thus avoiding the need for surgery. This observational study will follow the path of patients with different treatment options. It will provide solid evidence to support physical therapy practice and orthopedic and plastic hand surgery. This research has led to the publication of two research articles. Lewis, E., Jones, M., and L. Fors. Role: Principal Investigator</p> | \$3,500 |
| April 2008 | <p>SHE Seed Grant <i>Trigger Finger Treatment: An Outcome Study</i> Intercampus collaborative research with UMass Lowell doctor of physical therapy students, and clinicians from UMass Memorial Health Care Hospital performing a similar study as explained above. This research study also includes analysis on the reliability of the finger goniometer and finger circumference gauge. The finger goniometer is a protractor-like device that measures range of motion of the finger joints of the hand. The finger circumference gauge is a unique instrument similar to a tape measure that is used to assess edema. The significance of the work on the reliability of the two instruments is that although they are used daily in hand therapy, there is a major lack of research performed on the reliability of these instruments. Lewis, E., Fors, L. Role: Principal Investigator</p> | \$5,000 |

Grants and Contracts Funded, continued

| | | |
|-------------|---|------------------|
| March 2008 | <p>SHE Creativity Fund <i>Hands-On Health Fair</i></p> <p>This is a Community Service initiative presented to community dwelling residents age 55 and older concerning the risk of falls and fall prevention as well as education on upper extremity injuries. Screening tests were performed, including balance and strength testing, and educational one-on-one conversations with hand therapists were held. Splint samples and written educational material were made available for participants to view and ask questions about. Further information about diagnoses is explained under the Community Service section of this document. This project was a collaboration between UMass Lowell Physical Therapy faculty, eleven Doctor of Physical Therapy students, and three Occupational Therapists from UMass Memorial Health Care Hospital. The program attracted a significant turnout with 40 participants attending the fair. There was very positive feedback from participants with a request for another health fair. The significance of this project is that by increasing health awareness and prevention in a target population, we hope to reduce injuries in the elderly.</p> <p>Role: Principal Investigator</p> | \$500 |
| 2006 - 2009 | <p>NIH SBIR <i>Novel Material for Conformable Splints</i></p> <p>This grant supports a collaborative research project with engineers at InfoSciTex (Waltham, MA). I was awarded \$28,800 as a Certified Hand Therapist Consultant. This small business innovation research (SBIR) Phase 1 grant funded a project to design a lighter weight splint material that is easy to adjust thus increasing efficiency in the clinic and patient compliance. Data collection included testing material in the clinic and feedback from hand therapists via written survey. Three phases of data collection on material testing in hand clinic have been completed. The significance of this study is that by utilizing a lighter weight splint material that is easy to adjust, it would increase time efficiency in the clinic and patient compliance.</p> <p>Galea, A., Lewis, E, LeRoy, K. Player, J.</p> <p>Role: PI for Subcontract</p> | \$150,187 |

Grants and Contracts, Not Funded

May 2024 UNREAL Engine MEGA Grant

WheelUp!: A better wheelchair training program through community engagement co-design

UML-WPI Collaborative Project

Funding period: Sept 1, 2024- Aug 31, 2025

\$249,464

Over 131 million people require a wheelchair worldwide. In the United States alone, 6.1 million people suffer from neurodegenerative diseases; as these diseases progress, many become reliant on assistive devices, including wheelchairs, for their mobility needs. Wheelchair users may benefit from a simulated training environment in which, as their motor function diminishes, their muscle signals could be blended with other biopotential signals, as well as those of the wheelchair joystick with improved human-computer interface for wheelchair guidance control. By addressing the need to improve the fidelity of the wheelchair dynamics within the simulated platform, as well as utilizing more detailed measures of accuracy to discern effects on driving performance, wheelchair users may have an accessible alternative to gain the wheelchair training needed to qualify for power wheelchair insurance coverage and more efficient and more cost effective and less frustrating wheelchair training. Direct cost: \$202,484

Role: Co-I Erika Lewis

PI: Yuko Oda, Associate Teaching Professor Art & Design

Co-I: Kelilah Wolkowicz, Assistant Professor, Mechanical Engineering, UML;

Erika Lewis Associate Professor of PTk, UMass Lowell; Yunus Dogan Telli, Assistant Professor of Anthropology and Rhetoric, WPI; Robert Dempksi, Professor of Chemistry & Biology Worcester Polytechnic Institute.

Submitted 5/16/24. Not funded 6/24

<https://uml.kuali.co:/res/kc-common/development-proposals/517>

Nov 2023 C-STAR The Center for Smart Use of Technologies to Assess Real World Outcomes. Shirley Ryan AbilityLab, Northwestern University

Pilot Development and Assessment of a Wheelchair Training Simulator using Participatory Design

UML-WPI Collaborative Project

Funding period: Oct 2023- Sep 2024

\$39,122

Resubmission of 2023 C-STAR Pilot Project Proposal. As neurodegenerative diseases progress, individuals often become reliant on assistive devices, including wheelchairs, for their mobility needs. Although current wheelchair technologies enhance mobility, many wheelchair functions remain arduous for users with diminished motor function (e.g., joystick control). Human-computer interface (HCI) technology can overcome such barriers to wheelchair user engagement by blending a range of biopotential signals. Wheelchair users have limited opportunity to test different wheelchairs in challenging environments (e.g., ramps, sidewalks/curbs).

Role: Co-I Erika Lewis

Grants and Contracts, Not Funded, continued

Role PI: Kelilah Wolkowicz, Assistant Professor, Mechanical Engineering, UML

Co-PIs: Erika Lewis Associate Professor of PTK, UMass Lowell; Yunus Dogan Telliel, Assistant Professor of Anthropology and Rhetoric, WPI; Robert Dempksi, Professor of Chemistry & Biology WPI

Oct 20, 2023 UML Researchers and Scholars Investment Fund 2023

Mentoring Student Innovation, Research, and Conference Presentations through Collaborative Interdisciplinary Team Teaching an Interprofessional Experiential Course

UML Collaborative Interdisciplinary Course

Funding period: Jan 2024- Dec 2024

\$3,000

A novel collaborative interdisciplinary team of professors are teaching ARTS.3765 for the first time at UMass Lowell. Teams of students from Physical Therapy & Kinesiology department, Art & Design, and Engineering are working together to design innovative inventions for a client panel from the community. These teams will enter the DifferenceMaker Challenge and go on to compete for funding, and obtain patents when appropriate. The curriculum of this successful course will be shared at professional conferences and grant funding will be used to mentor the students as they travel to the professional conference of higher education to present their story about the course. Funds will be utilized for purchasing additional supplies and progressing the top 1-3 student projects to the final stage in additional semesters so projects can go beyond one semester and reach the stage of completion.

Role: PI Erika Lewis, Associate Professor of PTK, UMass Lowell

Role Co-PIs: Yuko Oda, Associate Teaching Professor, Art & Design and Kelilah Wolkowicz, Assistant Professor, Mechanical Engineering, UML

Grant submitted 10/20/23

June 2023 C-STAR The Center for Smart Use of Technologies to Assess Real World Outcomes. Shirley Ryan AbilityLab, Northwestern University

Wheel Up: Engaging Communities in the Development of a Wheelchair Training Simulator for Diverse Bodies

UML-WPI Collaborative Project

Funding period: Oct 2023- Sep 2024

\$39,625

Over 131 million people require a wheelchair worldwide. In the United States alone, 6.1 million people suffer from neurodegenerative diseases; as these diseases progress, many become reliant on assistive devices, including wheelchairs, for their mobility needs. Wheelchair users may benefit from a simulated training environment in which, as their motor function diminishes, their muscle signals could be blended with other biopotential signals, as well as those of the wheelchair joystick with improved human-computer interface for wheelchair guidance control. By addressing the need to improve the fidelity of the wheelchair dynamics within the simulated platform, as well as utilizing more detailed measures of accuracy to discern effects on driving performance, wheelchair users may have an accessible

alternative to gain the wheelchair training needed to qualify for power wheelchair insurance coverage and more efficient and less frustrating wheelchair training.

Role: Co-I Erika Lewis

Role PI: Kelilah Wolkowicz, Assistant Professor, Mechanical Engineering, UML

Co-PI: Erika Lewis Associate Professor of PTK, UMass Lowell; Yuko Oda, Associate Teaching Professor Art & Design; Yunus Dogan Telli, Assistant Professor of Anthropology and Rhetoric, WPI; Robert Dempski, Professor of Chemistry & Biology Worcester Polytechnic Institute;

LOI accepted, Grant submission 6/1/23

Grants and Contracts, Not Funded, continued

- July 2022 **Innovative Inventions for Better Life – An Interdisciplinary Course
ZCHS Mini-Grant Program: Experiential Learning for VR Headsets**
Funding period: July 2022- June 2023 **\$2,000**
To address the challenge of a lack of appropriate assistive technology for children, four UMass Lowell faculty from Physical Therapy and Kinesiology, Mechanical Engineering, and Psychology have come together to create “Innovative Inventions for Better Life”, an interdisciplinary undergraduate experiential course where students collaborate in small interdisciplinary teams to create projects that improve the lives of children with disabilities. Student projects will be diverse in purpose and medium, and include Virtual Reality experiences, interactive games, physical adaptive technology and devices such as customized utensils for eating and self-care, sports, and robotic devices. To give students a real-world experience, we will partner with a hospital or center to visit and consult with PTs and OTs who work with children with disabilities for testing and feedback on projects. Available facilities and methods include virtual reality (VR) 3D sculpting, 3D modeling, scanning, and 3D printing to enable students to move from ideas to prototypes quickly. Additionally, students will be trained in Unity 3D or Unreal Engine. With funding, monetary support will help carry the invention to fruition.
The Vision: Offer an opportunity for real-world IPE learning experience for UML students while creating devices and experiences that will better the lives of children with disabilities.
Role: PI
Co-PI: Yuko Oda, Art & Design; Kelilah Wolkowicz, Mechanical Engineering; Jiabin Shen, Psychology
- Mar 2022 **3D Orthotic vs. traditional material and Wheelchair safety equipment with simulated training Pilot Data**
UMass Lowell Collaborative Internal Seed Grant
Funding period: June 2022- May 2023 **\$9,806**
3D printer hand orthotics may be a faster, easier and more economic option for creating an alternative to the traditional method of custom making heated thermoplastic custom orthosis to the consumer in the hand therapy clinic. The 3D printer would be a more convenient method to re-creating the orthotic in the case

of loss of orthotic or wear and tear failure. We seek to assess the conformity, comfort, durability, and function of these orthotics. This research study proposes to ask neurologically impaired volunteers to compare 2 of the 4 different 3D materials to the traditional thermoplastic material.

Role: PI

Co-PIs: Kelilah Wolkowicz, Assistant Professor, Mechanical Engineering, UML
Yuko Oda, Associate professor Art & Design.

May 26, 2021 **EPIC Games MEGAGRANT** **\$887,075**
Revised budget submitted on June 14, 2021 **\$499,855**

Innovative Inventions for Better Life: an Interdisciplinary Course

Funding period: July 2021- July 2022

The aim of this grant is to support a collaborative teaching project bring together students from different departments and colleges to design adaptive technology for children with disabilities in partnership with a hospital or center. **The significance** of our project is that children with disabilities do not have adequate equipment and often abandon their equipment due to lack of user involvement in selecting it.

Role: PI

Co-PI: Yuko Oda, Art & Design; Kelilah Wolkowicz, Mechanical Engineering; Jiabin Shen, Psychology

April 2, 2021 **UMass Lowell Internal Seed Awards** **\$10,000**

Innovative Inventions For Better Life: an IPE Course (Interprofessional)

Funding period: July 2021- July 2022

The aim of this grant is to support a collaborative teaching project bring together students from different departments and colleges to design adaptive technology for children with disabilities in partnership with a hospital or center. **The significance** of our project is that children with disabilities do not have adequate equipment and often abandon their equipment due to lack of user involvement in selecting it.

Role: PI

Co-PI: Yuko Oda, Art & Design

Grants and Contracts, Not Funded, continued

- February 13, 2019 **National Institute of Health NIH SBIR** **\$108,000**
Option: \$54,500
- Focused Microclimate Heating for Dexterity*
Funding period: June 2019-May 2022
The aim of this grant is to support a collaborative research project to design a hand warmer that can be used in the field during military combat. **The significance** of our project is that soldiers often shoot in cold conditions and their hands have difficulty functioning.
Role: Consultant
PI: Boston Engineering Corporation, Drexel University
- February 13, 2019 **National Science Foundation (NSF)** **\$3 million**
- NRT: UMOVE MOVEment muscular biomechanics Moving Mechanics- from Molecular to Musculoskeletal Mechanisms*
Funding period: Nov 2019-Oct 2024
The aim of this grant is to support a collaborative research project with research faculty from Biology, Chemistry, Biomedical & Nutritional Sciences, Physical Therapy and Kinesiology programs to provide interdisciplinary training to graduate students on musculoskeletal biomechanics from molecule, tissue and whole organism level. **The significance** of our project is that graduate students will be provided mentorship, internships, and interdisciplinary training to better prepare them for jobs in industry and academia.
Role: Co-PI, Co-Director Education Division & Community Outreach, Faculty Mentor
PI: Matthew J. Gage, Chemistry
- Jan 2018 **UMass President's Office Science and Technology Initiative** **\$150,000**
- UMOVE research group. The aim of this project is to improve musculoskeletal health especially among the elderly. This is a collaborative pilot interprofessional educational strategy project.
Co-Investigators: Michelle Scriber-McLean, Matt Nugent, Erika Lewis, Kelsey Mangano, Sabrina Noel, Nicolai Konow and UMass Amherst and UMass Medical for a total of 21 people. Call was put out, proposals accepted, funding was withdrawn. No awards were made.
Role: Co-Investigator
PI: Matthew J. Gage, Chemistry, UMass Lowell

Grants and Contracts, Not Funded, continued

- October 2017 **National Science Foundation (NSF)** **\$3 million**
NRT: Moving Mechanics- from Molecular to Musculoskeletal Mechanisms
Funding period: Sep 2017-Aug 2022
The aim of this grant is to support a collaborative research project with research faculty from a variety of programs to train graduate students on a variety of perspectives in biomechanics. **The significance** of our project is that millions of dollars in health care dollars is spent on the aging population without a full understanding of sarcopenia (loss of muscle function) and dysopenia (loss of muscle strength).
Role: Co-PI, Co-Director Education Division
PI: Matthew J. Gage, Chemistry
- January 2014 **NIH, SBIR, Phase 1** **\$6,000**
REACH: Rehabilitative Exercise and Assistive Cable-Driven Hand System
The aim of this grant is to support a collaborative research project with engineers and researchers at Vivonics, Inc. with the intent to address musculoskeletal injuries sustained in combat. Musculoskeletal injuries constitute a significant healthcare problem for military members returning from combat. The Vivonics REACH system is a low-profile robotically-based repetitive motion exerciser. **The significance** of our project is that almost half of combat vascular injuries are affecting the lower limbs and a quarter the upper limbs. The number of American battle wounded has passed 50,000.
LeRoy, K., Klem, E., Louis, E., O'Toole, S., Hirschman, G., Lewis, E., Albuquerque, M.
Role: Subcontractor/Consultant as Certified Hand Therapist
- June 2013 Founders Grant, **American Society for Hand Therapists** **\$5,000**
Pilot Study: A Randomized Controlled Trial Comparing the Outcome of Distal Radius Fractures and Traditional Hand Therapy vs. Home Exercise Program using Smart Phone.
The distal radius is the most commonly fractured bone in the upper extremity. Functional use following fracture and immobilization is severely limited. The aim of this grant is to support a collaborative research project with UMass Medical Center and UMass Lowell to study the effects of a home exercise program (HEP), with reminders on a smartphone, vs. an occupational therapy group for those with distal radius fractures. **The significance** of our project is potential of saving health care dollars spent on occupational therapy related costs.
Jones M, Franklin P, and E. Lewis.
Role: Co-Investigator

Grants and Contracts, Not Funded, continued

| | | |
|------------|---|-----------------|
| May 2012 | <p>SHE Seed Grant Proposal</p> <p><i>Comparison of Figure-of-Eight Hand Measurements to Standard Volumetric Measurements and the Reliability within a Clinical Setting With Hand Injured Patients.</i></p> <p>The aim of this grant is to support a collaborative research project with Hand Surgeons and Hand Therapists at UMass Memorial, Worcester, researchers at UMass Lowell, 3 Doctor of Physical Therapy Students, 6 Exercise Physiology undergraduate students and physical and occupational therapists from UMass Lowell faculty and local PT clinics. Edema is the retention of tissue fluid in the intracellular spaces; which is common in inflammatory conditions, traumatic injury and post-surgical conditions. Edema of the wrist and hand can result in detrimental physiological changes which decrease the range of motion of joint and limit the overall functional capacity and dexterity of the hand. The volumeter is an instrument used to calculate the amount of water displaced when the hand is submerged in water. This has been the fold standard. This instrument through reliable is not used in the clinical setting because it is cumbersome to use and is very time consuming. The circumferential method using a tape measure to measure the circumference around the wrists and around the MCP joints is inexpensive and very quick to apply. However, this method would not include the edema that commonly collects in the dorsum of the hand. An alternative method to measure peripheral edema is the figure-of-eight method. The figure-of-eight method is time and cost effective and captures the dorsum of the hand in measurements. The purpose of this study is to determine if the figure-of-eight tape measure method of assessing the amount of edema in a swollen hand is valid and reliable. The significance of this study is that no reliability or validity studies have been conducted on the figure-of-eight method using injured hands.</p> <p>Lewis, E., Jones, M., Fors, L. Howley, A, DeMasi, R., Tabor, N. Gray, J., and Joe Lee. June 2012 – May 2013.</p> <p>Role: Principle Investigator</p> | \$14,925 |
| April 2011 | <p>American Society for Surgery of the Hand (ASSH)</p> <p><i>A Randomized Controlled Study of Low Level Laser Treatment on Lateral Epicondylitis</i></p> <p>The aim of this grant is to support a collaborative research project with Hand Surgeons and Hand Therapists at UMass Memorial, Worcester, MA. Despite its prevalence in the clinic, there is no one treatment model whose efficacy has been consistently proven in the literature. Low Level Laser as a treatment for lateral epicondylitis has had variable results. Specific aims of the study include randomly controlled clinical trials</p> | \$20,000 |

comparing the Low Level Laser Treatment to a placebo treatment on patients with lateral epicondylitis pathology. **The significance** of our hypothesis is that treatment outcomes can be improved.

Lewis, E., Howley, A. and M. Jones.

Role: Principle Investigator

Grants and Contracts, Not Funded, continued

June 2010

NIH R03 Small Research Grant

\$224,661

Novel Material for Improved Outcomes with Custom Splints

The aim of this grant is to support a collaborative research project with engineers at InfoSciTex, Waltham, MA. Data acquired from hand therapists under a previously funded grant indicates that the unique properties of this novel material would be useful in static and dynamic splints. The strength of the novel material is engineered to match that of traditional material yet is thinner and lighter with increased breathability. Specific aims of the study include clinical trials comparing the new material to traditional material using the wrist splint and the short opponens thumb splint on patients with wrist and thumb pathologies. **The significance** of our hypothesis is that healing time can be reduced while providing a more comfortable splint. Laboratory testing and clinical feedback from hand therapists on physical properties and handling qualities of the material are included in the methodology.

Lewis, E., Galea, A., LeRoy, K., and J. Player.

Role: Principle Investigator

Current Research Activity

January 12, 2019 **Inaugural UMOVE UMass Lowell Student Organized Research Symposium.** Inn & Conference Center, UMass Lowell. 8:00 am – 5:00 pm. Keynote Speaker: Dr. Jonas Rubenson, Associate Professor of Kinesiology Penn State College of Health and Human Development. *UMOVE UMass MOVEment Research Center- Exploring the mechanics of movement and muscle function.* This event was funded by Seed Grant (\$5,000) Role

The aim of this symposium is to support a tri-UMass campus and beyond collaborative research symposium for graduate students from a variety of programs to provide interdisciplinary learning and collaboration providing breadth of knowledge to graduate students in Biomechanics, Biology, Exercise Science, Biomedical and Nutritional Sciences, Chemistry. **The significance** is that our **interdisciplinary group from UMass Lowell, UMass Medical School and UMass Amherst** is unique in providing interdisciplinary training. Industry and community partners were participants in judging the presentations. Departments involved include Chemistry, Biological Sciences, Physical Therapy, BNS, Education, etc. This event was funded by Seed Grant (\$5,000)

Role: Faculty and Event Planning Mentor to Graduate Students, assisted to manage event with Matt Gage, Chemistry. Met monthly for 9 months prior to event. Student leaders were to train the next generation of student event planners.

Academic & Professional Publications

Peer-Reviewed Publications

Chen, MJ; Xu, Y; Sirois, A; Li, Y; Dempski, R; Smith, GM; Oda, Y; Telliell, YD; **Lewis, E**; Wolkowicz, K. (2023) **WheelUp! Developing an Interactive Electric-Power Wheelchair Virtual Training Environment**. *IEEE CoG Conference on Games*. Boston, USA, August 2023.

The significance of this short paper is to present a novel way to provide training to new wheelchair users. Current training is inadequate for the user and lacking efficiency for the clinician. Initial data from a User Study while developing an open source electric wheelchair simulator indicated a positive response to the use of varied environments. This system offers immediate visual and audio feedback, and an offline visualization tool to aid in clinical assessment and monitoring of progress. This is the first step to building an interactive platform to address the inadequacy of wheelchair training.

ES Lewis. (2011). Longitudinal Assessment of Emotional Intelligence in Doctor of Physical Therapy Students. *The Internet Journal of Allied Health Sciences and Practice*, 9(2).

<https://nsuworks.nova.edu/ijahsp/vol9/iss2/11/>

This longitudinal project followed physical therapy students over their 3-year program during the years 2005 – 2009 to assess if emotional intelligence ability changed over time. It also examined if the emotional intelligence test score could be used as a predictor for success in the physical therapy program or a passing score on the National Physical Therapy Exam. The study design was complex with multiple data collections (24 data collections) from two physical therapy classes at each of the four colleges and universities over the entire duration of the three-year program. Data was also collected directly from the physical therapy department of each institution. Data collection was completed March 2010. My study expands the body of literature on physical therapy education and emotional intelligence. In addition, I developed working relationships with colleagues at these Boston universities and colleges that are significant as they will facilitate further collaborations for both the department and the university. The data shows that while emotional intelligence may be a factor in passing the National Physical Therapy Exam or in clinical proficiency it is not predictive of either. Results show that an accurate tool to predict proficiency is still needed.

Citation in Peer Reviewed Publications

15 Peer-reviewed citations referencing this article. Tracked via Google scholar accessed 1/20/21

Peer-Reviewed Publications, continued

E Lewis. (2010). Emotional intelligence as a predictor for clinical performance in professional physical therapy students. *The Internet Journal of Allied Health Sciences and Practice*, 8(4).

<https://nsuworks.nova.edu/ijahsp/vol8/iss4/6/>

The results of the study assessing the efficiency of the level of emotional intelligence as a predictor for clinical performance are detailed in this article. While the results showed that emotional intelligence was not a predictor for clinical proficiency under the scope of this project, they prompted further investigation in this area in the form of a longitudinal study.

Citation in Peer Reviewed Publications

17 Peer-reviewed citations referencing this article. Tracked via Google scholar accessed 1/20/21

Lewis E, Fors L, and W Tharion. (2010). Intertester and intratester reliability of finger goniometry. *American Journal of Occupational Therapy*, 64(4), 1-7. doi:10.5014/ajot.2010.09028

<https://ajot.aota.org/article.aspx?articleid=1854543>

This manuscript details our research on the efficiency, failings, and reliability of the use of the finger goniometer, which measures range of motion. This is a frequently used instrument. The results will improve the use of this tool in the clinical setting.

Citation in Peer Reviewed Publications

43 Peer-reviewed citations referencing this article. Tracked via Google scholar accessed 1/20/21. This manuscript was the 8th most cited article from Hand Therapy Journal as of 5/8/14.

ES Lewis. Finger circumference measurements: Inter-tester and intra-tester reliability. (2010). *Hand Therapy* (formerly known as the British Journal of Hand Therapy).15:69-72. doi:10.1258/ht.2010.010017

<https://journals.sagepub.com/doi/pdf/10.1258/ht.2010.010017>

This manuscript presents my research on the clinical use of finger circumference measurements, used to assess edema. Edema, common with each injury, causes permanent joint stiffness unless treated. These results show the variance of measurements between testers and provides suggestions for improving clinical results.

Citations in Peer Reviewed Publications

7 Peer-reviewed citations referencing this article. Tracked via Google scholar accessed 1/20/21

Manuscripts In preparation

Lewis E, Jones M, Howley, A. Figure-of-Eight Measurements Show High Reliability in a Clinical Setting in Assessing Injured Hand Edema. *American Journal of Occupational Therapy* (In preparation)

This study compared the “gold-standard” volumeters to the new figure-of-8 tape measure method for measuring hand swelling. Although volumeters are the gold standard for reliability they are expensive, time consuming, and in reality, not used by clinicians. The figure-of-8 method is quick and easy to learn, less expensive and tape measures are readily used in the clinic. This study examines the reliability and validity of the figure-of-8 methods on normal hands (Part A) and on hand injured hands in the clinical setting (Part B). The results will be generalizable to physical and occupational therapists and doctors and nurses working with hand injured patients.

Manuscripts In preparation

Lewis E, Jones M, and A. Howley. Trigger Finger Treatment: An Outcome Study. *Peer Reviewed Hand Therapy Journal*. (In preparation)

This manuscript presents our research on the efficiency and failings in the treatment of trigger finger diagnosis. This study is unique because it is the only study that examines all of the treatment options available. Surgery was compared to all combinations of conservative therapy examining six treatment groups in total.

Peer reviewed Citations

Dissertation: **E Lewis**. (2004) A Study of *Emotional Intelligence, Cognitive Intelligence and Clinical Performance in Physical Therapy Students*. Copyright 2004. APA PsycNet. Dissertation Abstracts International: Section B: The Sciences and Engineering, 65(6-B), 2905.

Citation in Peer Reviewed Publications

15 Peer-reviewed citations referencing this article. Tracked via Google scholar accessed 1/20/21

Refereed Published Abstracts

1. Jones M, **Lewis E**, Strepza R, Franklin P. (2016) Return of Range of Motion Following Volar Plating for Distal Radius Fracture. *American Society for Hand Therapists Annual Meeting*. An international conference.
2. **Lewis E**, Howley A, Jones, M. (2015) Figure of Eight Measurements Show High Reliability in a Clinical Setting in Assessing Edema in Patients with Hand Injuries. *New England Hand Society Annual Meeting*. A regional annual conference for Hand Surgeons.
3. **Lewis E**, Jones M, DeMasi R, Tabor N, Howley A. (2014) Figure of Eight Measurements Show High Reliability in a Clinical Setting in Assessing Edema in Patients with Hand Injuries. *American Society for Hand Therapists Annual Meeting*.
4. Jones M, **Lewis E**, Strepza R, Franklin P. (2014) Return of Range of Motion Following Volar Plating for Distal Radius Fracture. *American Association for Hand Surgery Annual Meeting*.
5. **Lewis E**, Howley A, Jones M. (2013) Trigger Finger Treatment: An Outcome Study. *American Society for Hand Therapists Annual Meeting*.
6. **Lewis E**, Howley A, Jones, M. (2012) Trigger Finger Treatment: An Outcome Study. *New England Hand Society Annual Conference*. Regional annual conference for Hand Surgeons.
This abstract summarized our research on the efficiency and failings in the treatment of trigger finger diagnosis. This study is unique because it is the only study that examines all of the treatment options.
7. **Lewis E**. (2011) Assessing the Ability of Emotional Intelligence as a Predictor for Clinical Performance in Professional Physical Therapy Students. American Physical Therapy Annual Conference and Exposition.
8. **Lewis E**, Fors L, Tharion W. (2011) Intertester and Intratester Reliability of Finger Goniometry. *American Society for Hand Therapists Annual Meeting*.
9. **Lewis E**, Howley A. (2011) Finger Circumference Measurements: Inter-rater and Intra-rater Reliability. *American Society for Hand Therapists Annual Meeting*.
10. **Lewis E**, Fors L, Tharion W. (2010) Intertester and Intratester Reliability of Finger Goniometry. *Physical Therapy*. 90:5.
This abstract summarized our research on the efficiency and failings in the use of the finger goniometer, which measures range of motion.

Other Research Invited Presentations

- Nov 15-16, 2024 *APTA Academy of Pediatric PT Annual Conference (APPTAC), Providence, RI.*
Presented on Nov 23, 2024.
“Interdisciplinary Interventions to Decrease Musculoskeletal Impairments and Pain and Increase Activity in Youth with Complex Regional Pain Syndrome (CRPS): A Scoping Review” presented by McElhinney O¹, Damice B², DeFabio R², **Lewis E¹**, O’Neil ME¹
University of Massachusetts, Physical Therapy & Kinesiology Department, Lowell, MA¹;
Mayo Family Pediatric Pain Rehabilitation Center (PPRC) at Boston Children’s Hospital, Boston, MA²
- Feb 15-16, 2024 *APTA CSM 2024 Boston, MA Annual Conference. Omni Hotel Boston Convention Center, Boston, MA.*
Presented on Feb 15, 2024.
Keynote speaker:
“The Value of Integrating Expertise to Your Practice” presented by Jane Fedorczyk, PT, MSPT, PhD, FAPTA
Mia Lane Erikson, PT, EdD
Melissa Joann Lazinski, PT, DPT, DHSc
Erika S. Lewis, PT, EdD, MS, CHT
- August 16, 2023 IEEE CoG Conference on Games. Boston, MA, USA.
WheelUp! WheelUp! Developing an Interactive Electric-Power Wheelchair Virtual Training Environment. Platform Presentation.
Chen, MJ; Xu, Y; Sirois, A; Li, Y; Dempki, R; Smith, GM; Oda, Y; Telliel, YD; **Lewis, E**; Wolkowicz, K.
Presented a novel way to provide training to new wheelchair users. Current training is inadequate for the user and lacking efficiency for the clinician. Initial data from a User Study while developing an open source electric wheelchair simulator indicated a positive response to the use of varied environments. This system offers immediate visual and audio feedback, and an offline visualization tool to aid in clinical assessment and monitoring of progress. This is the first step to building an interactive platform to address the inadequacy of wheelchair training.
- May 17, 2023 University of Massachusetts Lowell. Zuckerberg College of Health Sciences Faculty Retreat.

Adaptive Devices ARTS.3765 Innovative Invention for Better Life: Interprofessional Experience (IPE) Course, Lowell, MA

Invited Presentation.

Lowell, MA

PI: Erika Lewis, PT, EdD, MS, CHT, Associate Professor, Physical Therapy & Kinesiology

Co-Investigators:

Yuko Oda, MFA, Associate Teaching Professor, Art & Design Department

Kelilah Wolkowicz, PhD Assistant Professor, Mechanical Engineering

Using 3D scanning and printing, 3D modeling and VR sculpting to bring idea to prototype quickly. Undergraduate ES, Art & Design, Mechanical Engineering and Psychology students will create solutions to include children with various abilities in activities.

Invited Presentations, continued

May 25, 2022

University of Massachusetts Lowell. Zuckerberg College of Health Sciences Faculty Retreat.

Innovative Invention for Better Life: Interprofessional Experience (IPE) Course, Lowell, MA

Invited Presentation.

Lowell, MA

PI: Erika Lewis, PT, EdD, CHT

Co-Investigator: Erika S. Lewis, PT, EdD, MS, CHT, Associate Professor, Physical Therapy and Kinesiology

Yuko Oda, MFA, Associate Teaching Professor, Art & Design Department

Jiabin Shen, PhD, Assistant Professor, Psychology

Kelilah Wolkowicz, PhD Assistant Professor, Mechanical Engineering

Using 3D scanning and printing, 3D modeling and VR sculpting to bring idea to prototype quickly. Undergraduate ES, Art & Design, Mechanical Engineering and Psychology students will create solutions to include children with alternate abilities in activities.

Feb 5, 2022

UMOVE UMass Lowell MOVEment Research Center 3rd Annual Student Symposium.

Lowell, MA

Interdisciplinary Collaboration for Assistive Technology Innovation: Designing with VR and 3D Sculpting

Student Mentee PI: Kalp Soni, Acton Boxborough H.S. Junior

Co-Investigator: **Erika Lewis**, PT, EdD, MS, CHT

Poster Presentation on Zoom. Mr. Soni was **awarded 3rd place** for the Early Career Phase category (undergrad/H.S.) of posters. \$100 cash award.

Feb 5, 2022

UMOVE UMass Lowell MOVEment Research Center 3rd Annual Student Symposium.

Lowell, MA

Hand Pain & Swelling x 2.5 years due to Anomalous 1st Lumbrical Muscle

Student Mentee PI: Shaylyn Gallagher, DPT/S, 3rd Year UML DPT student

Co-Investigator, Poster Author: **Erika Lewis**, PT, EdD, MS, CHT

Poster Presentation on Zoom. Miss Gallagher presented a case study on anomalous intrinsic muscle of the hand. A journey over 2.5 years.

Sept 15-18, 2016

American Society of Hand Therapists (ASHT) 39th Annual Meeting. Washington, D.C.

Return of Range of Motion Following Volar Plating for Distal Radius Fractures

Co-Investigator: **Erika Lewis**, PT, EdD, MS, CHT,

PI: Marci Jones¹, MD, Department of Orthopedic Surgery, Hand and Upper Extremity Division, UMass Medical School, Worcester, MA

Co-Investigators: Ryan Strzepa Department of Orthopedic Surgery, Hand and Upper Extremity Division, UMass Medical School.

Patricia Franklin³, MD, MBA, Department of Orthopedic Surgery, University of Massachusetts, Worcester, MA.

Poster. Published Abstract.

Invited Presentations, continued

Sept 25-26, 2014

American Society for Hand Therapists (ASHT) 37th Annual Meeting. Boston, MA.

Figure-of-Eight Measurements show high reliability in a clinical setting in assessing edema in patients with hand injuries.

Refereed Poster Session

Boston, MA

PI: **Erika Lewis**, PT, EdD, MS, CHT,

Co-investigators: Anthony Howley, OTR/L, CHT, Robin DeMasi, OTR/L, CHT, Nancy Tabor, OTR/L, CHT, Hand Therapy Clinic UMass Memorial Hospital. Marci D. Jones, MD., Department of Orthopedic Surgery, Hand and Upper Extremity Division, UMass Medical School, Worcester, MA

Winner: Outstanding Scientific Poster 2014. Received Blue Ribbon and Certificate

Invited Presentations, continued

- April 22, 2014 University of Massachusetts Lowell. Student Research Symposium.
Reliability and Validity of Figure-of-Eight Measurement Compared to Volumeters Part 1.
Poster Session
Lowell, MA
PI: **Erika Lewis**, PT, EdD, MS, CHT,
Co-investigators: Jennifer Gray, PT/s, OTR/L, Joseph Lee, PT/s
- January 8-11, 2013 American Association for Hand Surgery (AAHS) Annual Meeting.
Grand Hyatt Hotel, Kauai, Hawaii
Return of Range of Motion Following Volar Plating for a Distal Radius Fracture.
Refereed Poster Session
Kauai, Hawaii
PI: Marci Jones, MD, Department of Orthopedic Surgery, Hand and Upper Extremity Division, UMass Medical School, Worcester, MA
Co-Investigators: **Erika Lewis**, PT, EdD, MS, CHT, Ryan Strzepa
Department of Orthopedic Surgery, Hand and Upper Extremity Division, UMass Medical School. Patricia Franklin³, MD, MBA,
Department of Orthopedic Surgery, University of Massachusetts, Worcester, MA.
- October 25-26, 2013 American Society for Hand Therapists (ASHT) 36th Annual Meeting.
Chicago, IL.
Trigger Finger Treatment: An Outcome Study. Comparing surgical intervention to all conservative treatments.
Refereed Poster Session
Chicago, IL
PI: **Erika Lewis**, PT, EdD, MS, CHT,
Co-investigators: Anthony Howley, OTR/L, Marci D. Jones, MD
Winner: Best Scientific Poster 2013. Received Blue Ribbon and Certificate

Invited Presentations, continued

- May 2, 2013 University of Massachusetts Lowell. 4th Annual Faculty Development Conference. School of Health and Environment Research Day.
Trigger Finger Treatment: An Outcome Study.
Refereed Poster Session
Lowell, MA
PI: **Erika Lewis**, PT, EdD, MS, CHT,
Co-investigators: Anthony Howley, OTR/L, UMass Memorial Hospital,
Marci D. Jones, MD UMass Medical School, Worcester, MA
- December 7, 2012 New England Hand Society's 40th Annual Meeting.
Trigger Finger Treatment: An Outcome Study
Refereed Platform Presentation
Sturbridge, MA
PI: **Erika Lewis**, PT, EdD, MS, CHT,
Co-investigators: Anthony Howley, OTR/L, Marci D. Jones, MD
- April 27, 2012 University of Massachusetts Lowell. 3rd Annual Faculty Development Conference. Research Day.
Finger Circumference Measurements: Inter-rater and Intra-rater Reliability
Invited Poster Session
Lowell, MA
PI: Erika Lewis, PT, EdD, MS, CHT
- November 15, 2011 *Physical Therapist's Management of Extensor Tendon Injuries.*
Guest lecture for "Musculoskeletal Physical Therapy II 34.610.803"
course at the invitation of Dr. Joyce White, Associate Professor in
Physical Therapy. Mahoney Hall.
University of Massachusetts Lowell
Lowell, MA

This presentation for 2nd year DPT students (31) communicated the latest research on the most efficient methods for treating lacerations and ruptures of extensor tendons from Zone 1- 7 for the purpose of improving patient treatment outcome.

- October 6, 2011 University of Massachusetts Lowell. Faculty Research Symposium and Recognition Reception. Faculty Research, Scholarship and Creative Works.
Finger Circumference Measurements: Inter-rater and Intra-rater Reliability
Invited Poster Session
Lowell, MA
PI: Erika Lewis, PT, EdD, MS, CHT

Invited Presentations, continued

Sept. 22-25, 2011 American Society for Hand Therapists (ASHT) 34th Annual Meeting. Instruments of Change. Gaylord Opryland Hotel and National Convention Center, Nashville, TN.
Reliability of Finger Circumference Measurements
Refereed Poster Session
Nashville, TN
PI: Erika Lewis, PT, EdD, MS, CHT
Co-PI: Anthony Howley, OTR/L, CHT
Awarded Blue Ribbon for Best Scientific Research Poster Finalist

This poster presented our most recent research findings on devices commonly used in the hand therapy clinic for assessing edema.

Sept. 22-25, 2011 American Society for Hand Therapists (ASHT) 34th Annual Meeting. Instruments of Change. Gaylord Opryland Hotel and National Convention Center, Nashville, TN.
Intrarater and Interrater Reliability of the Finger Goniometric Measurements.
Refereed Poster Session
Nashville, TN
PI: Erika Lewis, PT, EdD, MS, CHT
Co-PI: Lynn Fors, OTR/L, CHT, William J. Tharion, MS
Awarded Blue Ribbon for Best Scientific Research Poster Finalist

This poster presented our research findings on the efficiency and failings in the use of the finger goniometer, which measures range of motion.

June 8-11, 2011 American Physical Therapy Association (APTA) Annual Conference and Exposition. PT 2011 National Harbor. Gaylord National Resort & Convention Center.
Reliability of Finger Circumference Measurements
Refereed Poster Session
National Harbor, MD
PI: Erika Lewis, PT, EdD, MS, CHT

June 8-11, 2011 American Physical Therapy Association (APTA) Annual Conference and Exposition. PT 2011 National Harbor. Gaylord National Resort & Convention Center.
Assessing the Ability of Emotional Intelligence to Predict Clinical Performance in Professional Physical Therapy Students.
Refereed Poster Session
National Harbor, MD
PI: Erika Lewis, PT, EdD, MS, CHT

Invited Presentations, continued

April 29, 2011 University of Massachusetts Lowell. 2nd Annual Faculty Development Conference
Intrarater and Interrater Reliability of the Finger Goniometric Measurements.
Refereed Poster Session
Lowell, MA

June 18, 2010 American Physical Therapy Association (APTA) Annual Conference
Intrarater and Interrater Reliability of the Finger Goniometric Measurements.
Refereed Poster Session
Boston, MA

This poster presented our research on the efficiency and failings in the use of the finger goniometer, which measures range of motion.

April 21, 2010 *Physiological Measurements: Intrarater and Interrater Reliability*
Guest lecture for “Measurement in Health and Behavioral Research” class at the invitation of Dr. Jacqueline Dowling, Associate Professor in Nursing, Director of Baccalaureate Nursing Program
University of Massachusetts Lowell
Lowell, MA
PI: Erika **Lewis**, PT, EdD, MS, CHT

This lecture shared with students in the PhD Nursing Program, our research concerning the reliability and problems with a clinical instrument that is widely used in hand therapy.

April 8, 2010 University of Massachusetts Lowell. 1st Annual Faculty Development Conference
Trigger Finger Treatment: An Outcome Study
Refereed Poster Session
Lowell, MA
PI: Erika **Lewis**, PT, EdD, MS, CHT

This poster presented our most recent research findings on the therapeutic results of various commonly used treatments for trigger finger.

Invited Presentations, continued

July 8, 2009 UMass Medical School
Trigger Finger Research Study
Worcester, MA
PI: Erika **Lewis**, PT, EdD, MS, CHT

This presentation for research faculty, medical students, and fellows shared our research findings on the therapeutic results of various commonly used treatments for trigger finger.

April 25, 2009 *Comprehensive Evaluation and Treatment of the Elbow: Including Surgical and Conservative Diagnoses.* American Physical Therapy Association New Hampshire Chapter, Eliot Hospital, Manchester, NH
Co-Instructors: Erika Lewis, PT, EdD, MS, CHT
Natalie Helwing, OTR/L, MS, CHT

This was a 6-hour instructional hands-on course designed to improve the diagnosis and treatment of patients. It was presented to members of a local chapter of the American Physical Therapy Association, including clinicians and therapists who would be performing such diagnoses and treatments.

April 2008 University of Massachusetts Lowell. Faculty Research Day
Inauguration Week.
Emotional Intelligence, Cognitive Intelligence and Clinical Performance in Physical Therapy Students
Poster Session
Lowell, MA

This poster communicated our research on the role emotional intelligence can play in predicting the clinical performance of physical therapy students.

April 30, 2009 UMass Memorial Health Care Hospital, Worcester, MA
Oct. 25, 2007 Dartmouth-Hitchcock Medical Center Hospital, Lebanon, NH
May 2007 UMass Memorial Health Care Hospital, Worcester, MA
Trigger Finger Research Study

Presented for Orthopedic Hand Surgeons, hand therapists, residents, and Director and Manager of Rehabilitation Services and Hand Therapy to encourage their involvement with the project in order to create a collaborative, multi-center research project.

Invited Presentations, continued

Feb. 4, 2005 *A Study of Emotional Intelligence, Cognitive Intelligence and Clinical Performance of Graduate Physical Therapy Students*. Refereed Platform Presentation. American Physical Therapy Association Combined Sections Meeting, New Orleans, LA

This presentation communicated the research findings of our emotional intelligence study. Attendees included clinicians, therapists, and educators who are all interested in improving the clinical performance of newly graduated physical therapy students.

Feb. 6, 2004 *Hand Therapy for Rheumatoid Arthritis: Splinting and Adaptive Equipment*
UMass Memorial Hospital
Worcester, MA

This presentation for Attending MDs communicated the latest research on the most efficient methods for treating Rheumatoid Arthritis in order to improve patient treatment.

May 24-25, 2003 *Rehabilitation of the Upper Extremity: Elbow Rehabilitation*
UMass Memorial Hospital
Worcester, MA

This presentation for Physical and Occupational Therapists communicated the latest research on improved methods for elbow rehabilitation in order to enhance patient treatment.

Sept. 17, 2001 *Effective Management of Metacarpal and Phalangeal Fractures*
Annual Dufault Lecture Series
Worcester, MA

This lecture was aimed at Physical and Occupational Therapists in order to share the most efficient methods for hand and finger rehabilitation in order to improve hand therapy.

Oct. 6, 2000 *Orthopedics for Primary Care Providers: Enhancing Your Ambulatory Skills: Upper Extremity Splints and Braces*
Sturbridge, MA

This seminar for Primary Care Physicians conveyed classic and improved treatment and splints for physical therapy of the hand and arm.

Invited Presentations, continued

Feb. 4, 2000 *Joint Mobilization for the Glenohumeral Joint Hands-On Lab*
Baystate Hand Therapy Special Interest Group
Newton, MA

Physical and Occupational Therapists were trained in manual techniques for shoulder therapy.

1995 **Effects of Paraffin Bath on Upper Extremity Volume.**
Refereed Poster Presentation at the 12th International Congress of the
World Confederation for Physical Therapy in Washington, DC.

The results from my Master's project as presented by Dr. Roberta (Bobbi) Mawdsley, my
faculty advisor.

D. INSTRUCTION RELATED ACTIVITY

(All at University of Massachusetts Lowell in Department of Physical Therapy and Kinesiology)

Associate Professor

| | | | | Enrollment | Contact Hours |
|-------------|--|---------------------------------|-----------|------------|---------------|
| Fall 2024 | DPTH6080 | Musculoskeletal PT 1 Lec | Graduate | 31 | 3 |
| | DPTH6100 803 | Musculoskeletal PT 1 Lab | Graduate | 9 | 3 |
| | Supervised all lab sections/mentor 1 lab instructor for 2 sections | | | | |
| Spring 2024 | DPTH6210 | Musculoskeletal PT 2 Lec | Graduate | 35 | 3 |
| | DPTH6230 803 | Musculoskeletal PT 2 Lab | Graduate | 11 | 3 |
| | DPTH6230 802 | Musculoskeletal PT 2 Lab | Graduate | 12 | 3 |
| | Coordinated entire lecture and all lab sections. | | | | |
| Fall 2023 | DPTH6080 | Musculoskeletal PT 1 Lec | Graduate | 35 | 3 |
| | DPTH6100 803 | Musculoskeletal PT 1 Lab | Graduate | 12 | 3 |
| | Supervised all lab sections/mentor 1 lab instructor for 2 sections | | | | |
| | ARTS3765.8013 | Adaptive Device for Better Life | Undergrad | 14 | 3 |
| Spring 2023 | DPTH6210 | Musculoskeletal PT 2 Lec | Graduate | 35 | 3 |
| | DPTH6230 803 | Musculoskeletal PT 2 Lab | Graduate | 11 | 3 |
| | DPTH6230 802 | Musculoskeletal PT 2 Lab | Graduate | 12 | 3 |
| | Coordinated entire lecture and all lab sections. | | | | |
| Fall 2022 | DPTH6080 | Musculoskeletal PT 1 Lec | Graduate | 35 | 3 |
| | DPTH6100 803 | Musculoskeletal PT 1 Lab | Graduate | 12 | 3 |
| | Supervised all lab sections/mentor 1 lab instructor for 2 sections | | | | |
| Spring 2022 | DPTH6210 | Musculoskeletal PT 2 Lec | Graduate | 35 | 3 |
| | DPTH6230 803 | Musculoskeletal PT 2 Lab | Graduate | 12 | 3 |
| | DPTH6230 802 | Musculoskeletal PT 2 Lab | Graduate | 11 | 3 |
| | Supervised all lab sections, mentored 1 lab instructor. | | | | |
| Fall 2021 | DPTH6080 | Musculoskeletal PT 1 Lec | Graduate | 35 | 3 |
| | DPTH6100 803 | Musculoskeletal PT 1 Lab | Graduate | 11 | 3 |
| | Supervised all lab sections/mentored 1 lab instructor for 2 sections | | | | |
| Spring 2021 | DPTH6210 | Musculoskeletal PT 2 Lec | Graduate | 34 | 3 |
| | DPTH6230 803 | Musculoskeletal PT 2 Lab | Graduate | 12 | 3 |
| | DPTH6230 802 | Musculoskeletal PT 2 Lab | Graduate | 11 | 3 |
| | Supervised all lab sections, mentored 1 lab instructor. | | | | |

| | | | | | |
|-----------|--------------|--------------------------|----------|----|---|
| Fall 2020 | DPTH6080 | Musculoskeletal PT 1 Lec | Graduate | 34 | 3 |
| | DPTH6100 803 | Musculoskeletal PT 1 Lab | Graduate | 11 | 3 |

Supervised/collaborated with and mentored 1 lab instructor for 2 sections
 Developed hybrid, virtual and face to face courses in a timely manner with learning activities.

Associate Professor, Interim Program Director DPT

| | | | | | |
|-------------|--------------|--------------------------|----------|----|---|
| Spring 2020 | DPTH6210 | Musculoskeletal PT 2 Lec | Graduate | 44 | 3 |
| | DPTH6230 803 | Musculoskeletal PT 2 Lab | Graduate | 14 | 3 |

Supervised/collaborated with 2 lab instructors for 2 sections
 Successfully transitioned lecture and lab into virtual platform with short turn around time during the COVID-19 pandemic.

| | | | | Enrollment | Contact Hours |
|-----------|--------------|--------------------------|----------|------------|---------------|
| Fall 2019 | DPTH6100 802 | Musculoskeletal PT I Lab | Graduate | 14 | 3 |
| | DPTH6100 803 | Musculoskeletal PT I Lab | Graduate | 15 | 3 |

Supervised one instructor for lab, and one instructor for lecture
 Program Director Workload Reduction

Associate Professor

| | | | | | |
|-------------|--------------|--------------------------|----------|----|---|
| Spring 2019 | DPTH6210 | Musculoskeletal PT 2 Lec | Graduate | 38 | 3 |
| | DPTH6230 803 | Musculoskeletal PT 2 Lab | Graduate | 14 | 3 |

Supervised 2 lab instructors

Fall 2018 Sabbatical

| | | | | | |
|-------------|--------------|--------------------------|----------|----|---|
| Spring 2018 | DPTH6210 | Musculoskeletal PT 2 Lec | Graduate | 34 | 3 |
| | DPTH6230 802 | Musculoskeletal PT 2 Lab | Graduate | 11 | 3 |

Supervised 3 lab instructors for 2 sections

| | | | | | |
|-----------|----------|------------------------------|----------|----|---|
| Fall 2017 | DPTH6080 | Musculoskeletal PT I Lecture | Graduate | 34 | 3 |
|-----------|----------|------------------------------|----------|----|---|

Supervised and trained one instructor. She instructed 2 other lab instructors
 Research Active Workload Reduction

Associate Professor and Chair and Program Director DPT

D. INSTRUCTION RELATED ACTIVITY, continued

Associate Professor and Chair and Program Director DPT, continued

| | | | | Enrollment | Contact Hours |
|-------------|--------------|--|-----------|------------|---------------|
| Spring 2017 | DPTH6230 803 | Musculoskeletal PT 2 Lab | Graduate | 12 | 3 |
| | DPTH6230 802 | Musculoskeletal PT 2 Lab | Graduate | 14 | 3 |
| | EXER4210 709 | Directed Study | Undergrad | 1 | 3 |
| Fall 2016 | DPTH6100 802 | Musculoskeletal PT I Lab Workload Reduction | Graduate | 15 | 3 |
| Spring 2016 | DPTH6230 | Musculoskeletal PT 1 Lab Workload Reduction Oversee Adjunct Faculty for Prof Prep PT | Graduate | 13 | 3 |
| Fall 2015 | DPTH6230 | Musculoskeletal PT 2 Lab | Graduate | 8 | 3 |
| | DPTH6230 | Musculoskeletal PT 2 Lab * Supervised 1 Lab Instructor | Graduate | 11 | 3 |
| | | | | Enrollment | Contact Hours |
| Spring 2015 | 34.640.201 | Professional Prep for PT Lec | Graduate | 32 | 3 |
| | 34.623.802 | Musculoskeletal PT 1 Lab | Graduate | 11 | 3 |

Associate Professor

| | | | | | |
|-------------|------------|---|---------------|----|---|
| Fall 2014 | 38.315.101 | Kinesiology Lecture* | Undergraduate | 58 | 3 |
| | 38.315.102 | Kinesiology Lecture** | Undergraduate | 53 | 3 |
| | 34.623.802 | Musculoskeletal PT 2 Lab | Graduate | 12 | 3 |
| | 38.421 | Directed Study- Health | Undergraduate | 1 | 3 |
| | | * Supervised 4 Lab Instructors for 7 lab sections | | | |
| | | **Honors by Contract section Kinesiology (1) | | | |
| Spring 2014 | 34.608.101 | Musculoskeletal PT 1 Lec | Graduate | 37 | 3 |
| | 34.623.801 | Musculoskeletal PT 1 Lab** | Graduate | 12 | 3 |
| | 34.623.802 | Musculoskeletal PT 1 Lab | Graduate | 12 | 3 |
| | 34.629.709 | Directed Research | Graduate | 2 | 3 |
| | | * Supervised Adjunct Faculty Lab Instructor | | | |

D. INSTRUCTION RELATED ACTIVITY, continued

Associate Professor, continued

| | | | | Enrollment | Contact Hours |
|---|------------|-----------------------------|---------------|------------|---------------|
| Fall 2013 | 38.315.101 | Kinesiology Lecture* | Undergraduate | 47 | 3 |
| | 38.315.102 | Kinesiology Lecture | Undergraduate | 48 | 3 |
| | 34.623.802 | Musculoskeletal PT 2 Lab | Graduate | 14 | 3 |
| | 34.629.709 | Directed Research | Graduate | 2 | 3 |
| | 38.421 | Directed Study- Health | Undergraduate | 1 | 3 |
| * Supervised 5 Lab Instructors **Honors by Contract section Kinesiology (1) | | | | | |
| Summer 2013 | 38.421.011 | Directed Study-Health Promo | Undergraduate | 3 | 3 |
| Spring 2013 | 34.626.201 | Geriatric Physical Therapy | Graduate | 36 | 3 |
| | 34.640.201 | Clinical Reasoning PT II | Graduate | 29 | 3 |
| | 34.623.803 | Musculoskeletal PT 1 Lab | Graduate | 13 | 3 |
| | 34.629.709 | Directed Research | Graduate | 2 | 3 |
| | 38.421 | Directed Study-Health | Undergraduate | 5 | 3 |
| Fall 2012 | 38.315.101 | Kinesiology Lecture | Undergraduate | 41 | 3 |
| | 38.315.102 | Kinesiology Lecture | Undergraduate | 32 | 3 |
| | 34.623.802 | Musculoskeletal PT 2 Lab | Graduate | 14 | 3 |
| | 34.629.709 | Directed Research | Graduate | 2 | 3 |
| | IB 550.789 | BMBT Lab Experience | Graduate PhD | 1 | 3 |
| Summer 2012 | 38.421.011 | Directed Study-Health Promo | Undergraduate | 2 | 3 |
| Spring 2012 | 34.626 | Geriatric Physical Therapy | Graduate | 31 | 3 |
| | 34.640 | Clinical Reasoning PT II | Graduate | 21 | 3 |
| | 38.421 | Directed Study-Health | Undergraduate | 4 | 3 |
| | 34.610.803 | Musculoskeletal PT 1 Lab | Graduate | 14 | 3 |
| Fall 2011 | 38.315.101 | Kinesiology Lecture | Undergraduate | 40 | 3 |
| | 38.315.102 | Kinesiology Lecture | Undergraduate | 38 | 3 |
| | 38.317 | Kinesiology Laboratory* | Undergraduate | 74 | 12 |
| | 38.421 | Directed Study-Health | Undergraduate | 1 | 3 |
| *supervised TAs | | | | | |
| Spring 2011 | 34.626 | Geriatric Physical Therapy | Graduate | 31 | 3 |
| | 34.640 | Clinical Reasoning PT II | Graduate | 21 | 3 |
| | 34.629 | Directed Research | Graduate | 2 | 3 |
| | 38.421 | Directed Study-Health | Undergraduate | 2 | 3 |

Associate Professor, cont.

| | | | Enrollment | | Contact Hours |
|-------------|--------|----------------------------|---------------|----|---------------|
| Fall 2010 | 38.315 | Kinesiology Lecture | Undergrad | 56 | 3 |
| | 38.317 | Kinesiology Laboratory* | Undergrad | 56 | 12 |
| | 34.629 | Directed Research | Graduate | 2 | 3 |
| | 38.421 | Directed Study-Health | Undergraduate | 2 | 3 |
| Spring 2010 | 34.626 | Geriatric Physical Therapy | Graduate | 21 | 3 |
| | 34.640 | Clinical Reasoning PT II | Graduate | 21 | 3 |
| | 34.629 | Directed Research | Graduate | 5 | 3 |
| | 38.421 | Directed Study-Health | Undergraduate | 1 | 3 |
| Fall 2009 | 38.315 | Kinesiology Lecture | Undergrad | 56 | 3 |
| | 38.317 | Kinesiology Laboratory* | Undergrad | 56 | 12 |
| | 34.629 | Directed Research | Graduate | 5 | 3 |

*Supervised teaching assistant

D. INSTRUCTION RELATED ACTIVITY, continued

Assistant Professor

| | | | | Enrollment | Contact Hours |
|-------------|--------|-------------------------------|-----------|------------|---------------|
| Spring 2009 | | Pre-Tenure Sabbatical | | | |
| | 34.629 | Directed Research | Graduate | 7 | 3 |
| | 38.421 | Dir. Study Health Promotion | Undergrad | 2 | 3 |
| Fall 2008 | 38.315 | Kinesiology Lecture | Undergrad | 39 | 3 |
| | 38.317 | Kinesiology Laboratory* | Undergrad | 39 | 9 |
| | 34.629 | Directed Research | Graduate | 7 | 3 |
| Spring 2008 | 34.616 | Research Methods | Graduate | 23 | 3 |
| | 34.626 | Geriatric Physical Therapy | Graduate | 23 | 3 |
| | 34.629 | Directed Research | Graduate | 4 | 3 |
| Fall 2007 | 38.315 | Kinesiology Lecture | Undergrad | 39 | 3 |
| | 38.317 | Kinesiology Laboratory* | Undergrad | 39 | 9 |
| | 34.629 | Directed Research | Graduate | 4 | 3 |
| Summer 2007 | 34.650 | Clinic Site Visits | Graduate | | |
| Spring 2007 | 34.616 | Research Methods | Graduate | 26 | 3 |
| | 34.629 | Directed Research, Co-advisor | Graduate | 3 | 3 |
| Fall 2006 | 38.315 | Kinesiology Lecture | Undergrad | 37 | 3 |
| | 38.317 | Kinesiology Laboratory* | Undergrad | 37 | 9 |
| | 34.629 | Directed Research, Co-advisor | Graduate | 3 | 3 |
| Spring 2006 | | Maternity Leave | | | |
| Fall 2005 | 38.315 | Kinesiology Lecture | Undergrad | 33 | 3 |
| | 38.317 | Kinesiology Laboratory* | Undergrad | 33 | 9 |
| | 34.629 | Directed Research | Graduate | 3 | 3 |
| Summer 2005 | 34.650 | Clinic Site Visits | Graduate | | |
| Spring 2005 | 34.616 | Research Methods | Graduate | 19 | 3 |
| | 34.626 | Geriatric Physical Therapy | Graduate | 19 | 3 |
| | 34.629 | Directed Research | Graduate | 3 | 3 |

D. INSTRUCTION RELATED ACTIVITY, continued**Assistant Professor, cont.**

| | | | | | Enrollment | Contact Hours |
|--------------------------------|--------|-------------------------|-----------|----|------------|---------------|
| Fall 2004 | 38.315 | Kinesiology Lecture | Undergrad | 27 | 3 | |
| | 38.317 | Kinesiology Laboratory* | Undergrad | 27 | 9 | |
| *Supervised teaching assistant | | | | | | |

Adjunct Faculty

| | | | | | Enrollment | Contact Hours |
|------|--------|--------|------------------------------|----------|------------|---------------|
| 1999 | Fall | 34.623 | Musculoskeletal PT II Lab | Graduate | 20 | 3 |
| 1999 | Spring | 34.610 | Musculoskeletal PT I Lab | Graduate | 20 | 3 |
| 1998 | Fall | 34.623 | Musculoskeletal PT II Lab | Graduate | 20 | 3 |
| 1998 | Spring | 34.608 | Musculoskeletal PT I Lecture | Graduate | 50 | 3 |
| | | 34.610 | Musculoskeletal PT I Lab | Graduate | 50 | 9 |
| 1997 | Spring | 34.610 | Musculoskeletal PT I Lab | Graduate | 20 | 3 |
| | | 34.616 | Research Methods Lecture | Graduate | 50 | 3 |

Faculty Advisor for Honor's College Project

Honor's Project Symposium

Sept – Dec 2023 Olivia McElhinney, Exercise Science. Scoping Review on Complex Regional Pain Syndrome Faculty Advisor: Dr. Maggie O'Neal Faculty Advisor for Content: Dr. Erika Lewis Presented on Dec. 15, 2023

Faculty Advisor for Doctor of Physical Therapy Student Research Projects

Jan. 2012 – May 2014 Comparing Figure-of-Eight Measurement to Gold Standard Volumeters. 2 DPT students
Jennifer Gray, Joseph Lee

Dec. 2008 – May 2012 Trigger Finger Surgical vs. Conservative Treatment. An Outcome Study Continued. 2 DPT students
Megan Brady, Meghan Ierardi

Jan. 2008 – May 2010 Sex Differences in Grip Strength. A Pilot Study. 3 DPT students
David Thu, Mike Anderson, James Knowles

Jan. 2007 – May 2009 Trigger Finger Treatment. An Outcome Study. 4 DPT students
Pella Anderson, Rachel Blakeslee, Sheela Mudholkar, Rebecca D'Amour

Jan. 2005 – May 2007 Factors Affecting Compliance with a Home Exercise Program in the Outpatient Physical Therapy Setting. A Pilot Study. 3 DPT students
Judith West, Nicole Tehrany, Caitlin Wilson

PhD Dissertation Faculty Advisor

Spring 2011 –Fall 2012 Bryanna Hawkins

Faculty Advisor for Directed Study of Health Promotion Undergraduate Exercise Physiology Students

2017 Spring Aaron Holmberg

2014 Fall Adam Nardelli

2013 Fall Alixandra McElroy

D. INSTRUCTION RELATED ACTIVITY, continued

Faculty Advisor for Directed Study of Health Promotion Undergraduate Exercise Physiology Students, continued

| | |
|-------------|--|
| 2013 Spring | Michelle Couture Courtney Dias Ariel McKenna Melissa Dukich Sarah Pilley |
| 2013 Summer | Alixandra McElroy Victoria Aspell Andrea Lemelin |
| 2012 Summer | Katina Giannopolous Janelle Melanson |
| 2012 Spring | Kate Looby Hollie Letendre Tara Brodeur Vanessa Sousa |
| 2011 Fall | Lawrence White |
| 2011 Spring | Joseph Lee Bryanna Hawkins |
| 2010 Fall | Hung Le Cyrus Ramani |
| 2010 Spring | Jennifer Gray |
| 2009 Spring | Sarah Brassard Ann Zammuto |

D. INSTRUCTION RELATED ACTIVITY, continued

Student Advising

| | |
|----------------------|--|
| Spring 2019 -Present | Advisor for 28 ES undergraduate students. |
| Spring 2019 –Present | Faculty Advisor for all 3 classes of the DPT students. |
| Fall 2017 –Fall 2018 | Advisor for all EP and DPT students with difficult academic issues |
| Spring 2015 – 2017 | Advisor for 6 undergraduates, Assist undergraduate students and graduate student issues at the level of Director of Program. |
| Fall 2013 – Sp2015 | Advisor for 28 undergraduate students, Seniors, Juniors, Sophomores |
| Fall 2009 – May 2013 | Advisor for 23-28 undergraduate students, mostly in Class of 2013 |
| Fall 2005 – May 2009 | Advisor for 23-28 undergraduate students in the Class of 2009 |

Adjunct Faculty

| | | | | | Enrollment | Contact Hours |
|------|--------|--------|------------------------------|----------|------------|---------------|
| 1999 | Fall | 34.623 | Musculoskeletal PT II Lab | Graduate | 20 | 3 |
| 1999 | Spring | 34.610 | Musculoskeletal PT I Lab | Graduate | 20 | 3 |
| 1998 | Fall | 34.623 | Musculoskeletal PT II Lab | Graduate | 20 | 3 |
| 1998 | Spring | 34.608 | Musculoskeletal PT I Lecture | Graduate | 50 | 3 |
| | | 34.610 | Musculoskeletal PT I Lab | Graduate | 50 | 9 |
| 1997 | Spring | 34.610 | Musculoskeletal PT I Lab | Graduate | 20 | 3 |
| | | 34.616 | Research Methods Lecture | Graduate | 50 | 3 |

D. INSTRUCTION RELATED ACTIVITY, continued

Guest Lecturer

- 2021 Doctor of Physical Therapy Program DPTH.6470.801, 802, & 803
Physical Therapy Interventions III Lecture 2nd year DPT students
Instruction of Hands on Lab and Lecture on virtual platform and presented real time during pandemic.
Principles of Splint Fabrication, Hands on splinting lab
Invited by Dr. Courtney Larginho, Adjunct, PTK
3 hours of presentation April 2021 with 7 hours of preparation.
- 2020 Doctor of Physical Therapy Program DPTH.6470.801, 802, & 803
Physical Therapy Interventions III Lecture 2nd year DPT students
Transitioned Hands on Lab to virtual platform and presented real time during pandemic.
Principles of Splint Fabrication, Hands on splinting lab
Invited by Dr. Edgar Torres, Associate Clinical Professor
3 hours of presentation April 1, 2020 with 10 hours of preparation and family participation for subject and recording.
- 2019 Doctor of Physical Therapy Program DPTH.6470.801, 802, & 803
Physical Therapy Interventions III Lecture 2nd year DPT students
Hands on Lab 3 lab sections
Principles of Splint Fabrication, Hands on splinting lab
Invited by Dr. Edgar Torres, Associate Clinical Professor
9 hours of presentation over two weeks in April (4/4 & 4/8, 4/9, 4/10)
- 2018 Doctor of Physical Therapy Program DPTH.6470.801, 802, & 803
Physical Therapy Interventions III Lab, 2nd year DPT students
Principles of Splint Fabrication, Hands on splinting lab
Invited by Dr. Edgar Torres, Associate Clinical Professor
2 hours each lab x 3 sections = 6 hours in one week in March
- 2014 Doctor of Physical Therapy Program 34.605.101
Physical Therapy Interventions I Lecture, 1st year DPT students
Wound Care and Wound Healing
Invited by Dr. Deirdra Murphy, Associate Professor & Chair
2 hours of lecture recorded on Brainshark in October
- 2011 Doctor of Physical Therapy Program 34.610.803
Musculoskeletal Physical Therapy II
Physical Therapist's Management of Extensor Tendon Injury
Invited by Dr. Joyce White, Associate Professor
- 2010 PhD Nursing Program 33.706.201
Physiological Measurement in Research

Measurement in Health and Behavioral Research Course
Invited by Dr. Jacqueline Dowling, Associate Professor

2009 Exercise Physiology Program 38.101
Exercise Physiology Freshman Seminar
Presented Research Agenda
Invited by Dr. Cynthia Ferrara, Associate Professor

E. SERVICE ACTIVITIES

Committee Activities

Physical Therapy & Kinesiology Department Service

Currently:

| | |
|--------------------------------|--|
| December 2022 - present | PTK Dept. Anatomy Committee, Chair |
| Sept 2022 – May 2023 | PTK Dept. Faculty Search Committee, Chair |
| Sept 2011 - present | PTK Dept. personnel committee, DPT Professional Review Committee, DPT Program Committee |
| June 2002 - Present | DPT Curriculum Committee |
| Nov. 2004 - present | DPT Admissions Committee |
| | |
| April 2019- August 31, 2020 | Interim Director of DPT Program |
| December 2015– Present | CAPTE subcommittees |
| April 2015 – August 2018 | Chairperson of the Department and Director of DPT Program Elected to a 3 year term |
| Jan 2015 – April 2015 | Appointed as Interim Department Chair and Director DPT Program |
| Sept 2014 – Fall 2015 | AQAD Self-report Committee, Exercise Physiology Program |
| Jan 2014 – 2018 | Exercise Physiology Professional Review Committee |
| April 2013 – Jan 2015 | Chair, Curriculum Committee, Exercise Physiology Program |
| Dec 2013 – May 1, 2014 | Chair, Faculty Search Committee, Exercise Physiology Program |
| Sept. 2011– Present | PTK Department Personnel Committee |
| Sept. 2011– Present | DPT Program Professional Review Committee |
| June 2009 – 2018 | Alumnae Advisory Board, Doctor of Physical Therapy Program |
| June 2008 – Present | Doctor of Physical Therapy Curriculum Committee |
| Oct. 2006 – 2018 | Exercise Physiology Curriculum Committee |
| Nov. 2004 – Present | DPT Admissions Committee |
| Sept. 2007 – May 2008 | Faculty Search Committee |
| April - May 2007, 2012 | Stecchi Scholarship Committee |

Zuckerberg College of Health Sciences Service

| | |
|--------------------|---|
| 2015 - present | ZCHS Personnel Committee |
| May-July 2022 | Immersive Scholars x 2 students for the summer. Madilyn Bruno and Wesley Brattain, both going into sophomore year. |
| 2005- present | Graduate Open House for DPT Program |
| April 2017 | Co-sponsored Hanger Prosthetics Lower Extremity Physical Therapy Treatment. Prosthetist speakers from Hanger, Dr. Crandell, Physiatrist from Spaulding Rehabilitation Hospital, community volunteer and panel. Open to university and public, free to DPT and EP students. ICC. 3:30 – 7:30 pm. |
| April 2017 | Collaboratively, organized & co-sponsored Workshop on Forensic Biomechanics, free & open to the University. Guest speaker from Czech Republic. |
| April 2017 | Salary Review, College Personnel Committee |
| Nov. 2016 | College of Health Sciences Promotion and Tenure Committee |
| Mar 2015-Mar 2018 | College Workload Committee, met biweekly |
| Jan 2015 – Present | Leadership Committee, Meet with Dean biweekly |
| 2014 – Present | College of Health Sciences Personnel Committee |
| 2004-2007 | Student Services Committee |
| 2004-2006 | Common Space Committee |

E. SERVICE ACTIVITIES, continued

University of Massachusetts Lowell

| | |
|------------------------------|--|
| 2019-present | New IPE Course Development – Innovative Inventions Art, EXER, Mechanical Engineering for creating adaptive technology for children with disabilities using 3D sculpting, VR, 3D printing. |
| June 2016 – Fall 2017 | UML Intercollegiate Athletics Council (IAC), 2 hours/sem |
| Fall 2017 | Subcommittees for IAC – a couple hours each/semester |
| November 2015 – March 2016 | Vice Provost for Research and Innovation Search Committee |
| October 2015 – February 2016 | Provost Search Committee, met biweekly |
| 2014 – Jan 2015 | Faculty Senate Library Services Committee |
| August 2015 – 2017 | NCAA Academic Integrity Subcommittee, meets weekly |
| January 2014 – 2017 | NCAA Self Study Committee, 4-year study |
| Sept 2013 – May 2017 | Executive Committee |
| April 2013-May 2017 | Vice President Faculty Senate, Invited & Elected |
| Jan. 2007 – 2008 | Commencement Committee |
| Sept. 2005 – April 2017 | Faculty Senate |
| June 2005 – Dec. 2007 | Dissertation Committee for doctoral student in the Graduate School of Education. “The Validation of an Instrument Assessing Athletic Training Students’ Clinical Evaluation Skills” by Carey L. MacDonald. |

Other Services to the University of Massachusetts Lowell

| | |
|--------------------|---|
| 2018 | Department Name Change Ice Cream Social |
| 2016-August 2018 | All Open Houses (2), Accepted Students (2) and Welcome Days (1) Dept & university every year |
| 2017, 3 candidates | Associate Dean Search Presentation & lunch, 2 hours x 3 candidates |
| 2016, Oct 12 | <i>Going for Gold</i> . Olympic Games, Rio. Speaker: Alexandre Lopes, PT Dept. Open to College & University |
| 2016, Dec | UML Interdisciplinary Research Workshop, V.Provost Research & Innovation |
| 2016, Aug 23 | College of Health Sciences New Faculty Orientation |
| 2016-2018 | New Student Convocation |
| 2016, June 2 | Girls Incorporated of Greater Lowell 23 rd Anniversary Gala |
| 2016 | 19 th Annual Student Research and Community Engagement Symposium |
| 2016 | 4 th Annual DifferenceMaker Idea Challenge |
| 2015 | Inauguration of Chancellor Jacqueline F. Moloney |
| 2015 | <i>I’mPossible</i> . Speaker: Cameron Clapp. Multi-limb amputee hosted by Dept PT. |
| 2015 | New Faculty Welcome Reception |
| 2015 | Pharmacy Practice Chair Candidate Interview |

E. SERVICE ACTIVITIES, continued

| | |
|-----------|---|
| 2015 | University Accepted Students Day, Undergraduates |
| 2015 | Welcome Day, DPT Accepted Student Day, DPT Orientation |
| 2013-'14 | Leadership role in supervising new faculty (1), adjunct faculty (3) |
| 2014 | Welcome Day, Open House, undergraduates |
| 2011-2018 | DPT Accepted Student Welcome Day |

Other Services to the University of Massachusetts Lowell

| | |
|-------------------------------|---|
| 2007-08, 2010-2013, 2015-2018 | University Commencement Ceremonies |
| 2013-2014, 2017 | College of Health Sciences/PT Alumnae Hockey Night |
| 2012 | Faculty Marshal University Undergraduate Commencement |
| 2008-9, 2011-2018 | Freshman Convocation/ New Student Convocation |
| 2004, 2014-present | Open Houses, Undergraduates, Accepted Students |

Professional Activities

| | |
|--------------------|--|
| Oct 2018 – Present | Academy of Hand & Upper Extremity Physical Therapy, American Physical Therapy Association Virtual Education Group Formerly titled “Student Initiatives Coordinator”. Active, invited member of the Hand Academy for Monthly conference call meetings x 1.5 hours+. Objective to provide outreach to meet the needs of physical therapy students with an interest in Hand Therapy. Full responsibilities include meeting at APTA Combined Sections Meetings (CSM) (Jan/Feb) and NEXT APTA annual conferences (June). |
| Oct 2018 – Present | Hand Therapy Advisor Mentor to ETRA Lock Group for the physical therapy and hand therapy perspective, student entrepreneur group DifferenceMaker Competition and Freshman Convocation Presentation and winners of the \$2,000 Personalized Learning Award Hands Free unlock/relock device. This group of three designed a wearable device that individuals can use to unlock their house door without the use of hands. The device will also open the doorknob and relock the door once inside. The significance of this project is critical for the large population of individuals with orthopedic and neurological disorders (both chronic and |

Professional Activities, continued

short-term) and the aging population with dexterity and hand/wrist/forearm weakness.

Entrepreneurs: Robinson Arias Gonzalez, Michael Silva, and Edwin Taveras, Graduates of the Electrical Engineering Program, UMass Lowell.

2014 – November 2020

Research Division Committee Member for ASHT. Active, invited member of the Research Division Committee for the American Society for Hand Therapists (ASHT) which serves the Board of Directors. Monthly conference call meetings x 1 hour (bimonthly meetings beginning in 2019), bimonthly assignments include survey instrument review prior to release to membership, writing quarterly Research Blasts, website improvement, journal club oversight discussion, brainstorm ideas related to research that benefit membership. Annual abstract review scoring for posters and platform presentations for ASHT annual conference. Future responsibilities to include poster grading at the annual conference.

2010 - Present

Manuscript Reviewer

American Journal of Physical Medicine & Rehabilitation
One manuscripts: 2019

Journal of Hand Therapy
Four manuscripts: 2016 and Fall 2017 and 2018 (2)

Journal of Physical Therapy Education
Three manuscripts: 2010, 2013, 2017

Journal of Hand Surgery
Five manuscripts: 2011, 2013 (2), 2018 (2)

Journal of Sport Engineering & Technology
One manuscript: 2015

2009

Reviewer for F.A. Davis Publisher Book Proposal on "HandNotes"

Community Service

- 2024 Dance -a-thon Acton Community, Nara Park RehabHealth360. Role : Physical Therapist to assist people with neurological injuries to dance and enjoy the party. Encouraged movement.
- 2023 Dance -a-thon Acton Community, Nara Park RehabHealth360. Role : Physical Therapist to assist people with neurological injuries to dance and enjoy the party.
- 2021-2022 **Acton Boxborough Junior High School Student, Kalp Soni**, Research Mentor to Kalp. mentor him in research. He is interested in working in Biomedical Research. We met weekly for 2 hours from April 2021 to January 2022 to instruct him in research, levels of evidence, literature reviews, and poster fabrication and presentation. Kalp presented at the 2022 UMOVE Annual Student Symposium on February 5th, 2022. His poster “Interdisciplinary Collaboration for Assistive Technology Innovation: Designing with VR and 3D sculpting” was awarded 3rd place for the Early Career Stage category (Undergrad/high school).
- 2016 & 2017 Lowell Wish Project. Donating items, packing, wrapping 63-72 Mother’s Day Gift Bags for those struggling with poverty, abuse, and homelessness.
- April 16, 2015 2015 University Alumni Awards...Celebrating Achievement Award Reception at UMass Lowell Inn and Conference Center
- March 25, 2017 Fight like a Ferrier 5K Walk/Run charity event sponsored by the EP Club. I participated in event.
- Sept. 2004-Present Community Contact as Certified Hand Therapist Triage both university and local area telephone calls for hand injuries. Referral information includes surgical, therapeutic, and splinting related information. Facilitate by expediting entry into the medical system.
- April 16, 2014 2014 University Alumni Awards...Celebrating Achievement Award Reception at UMass Lowell Inn and Conference Center
- March 2012 Fall Risk Self Assessment: How to help yourself and the ones you love Presentation Stow, MA

Principal Investigator, responsible for IRB forms, liaison with facility, overseeing project and managing four 2nd year DPT students. Events included Power Point presentation, balance testing using Timed Up and Go Test (TUG) and Functional Reach Test, research survey, 15 raffle prize drawings and refreshments. Performed assistive device education and fitting. 40 participants. This project is significant for student hands on learning, community outreach to reduce falls and health care dollars and promote community relationships.

Roles: PI

Community Service, continued

April 2011 Fall Risk Self Assessment: How to help yourself and the ones you love
Presentation
Chelmsford Senior Center, Chelmsford, MA
Lowell Senior Center, Lowell, MA
Participated in fund raising and acted as project member to present to 170 participants education on reducing the risk of falls. Events included Power Point presentation, 14 raffle prize drawings and research survey.
Role: Senior member of Fall Risk Fighters.

May 2008 Hands-On Health Fair #2 Balance and Strength Testing
A Community Service initiative presented to community dwelling residents age 55 and older on the risk of falls, fall prevention, and education on upper extremity injuries. Screening tests, including balance and strength testing, educational one-on-one discussions with hand therapists, splint samples, and written educational material were provided. Diagnoses presented were adhesive capsulitis of the glenohumeral joint, lateral epicondylitis, osteoarthritis of the first carpometacarpal (basal thumb joint), carpal tunnel syndrome, and trigger finger. Educational materials were also distributed on Nutrition and Fall Prevention in the home as well as individualized patient education. Pedometers were given away as raffle prizes. This project was an **intercampus collaboration** between UMass Lowell Physical Therapy Department, eleven DPT students, and three Occupational Therapists from UMass Memorial Health Care Hospital. There was a significant turnout as 40 participants attended the fair. We received very positive feedback from attendees with request for another fair.
Lewis, E., Tabor, N., Howley, A.
Role: Principal Investigator/Project Manager

May 2007– 2008 Nashoba Valley Mothers of Multiples (NVMOM), Westford, MA
One year term as Programs, Co-Chair.
Recruited a physical therapist and occupational therapist for panel presentation of the condition Torticollis and Plagiocephaly, the

evaluation, treatment and critical importance of tummy time. Significance of this event is that the prevalence is higher in multiple births due to space limitations in utero. Torticollis is a condition where the head is rotated in utero due to lack of space resulting in tight neck muscles causing head rotation and tilting. Sequela of Plagiocephaly is flat skull on one side and parallelogram shaped head with facial asymmetries. Complications lead to vision problems, difficulty wearing glasses due to asymmetries, neurological problems. Other educational programs were developed that were not job related, so not presented here.

Community Service, continued

- March 2007 Hands-On Health Fair #1 Hands
Leadership role in this initiative for community dwelling residents age 55 and older on the prevention and treatment of common upper extremity diagnoses. Provided participants with the opportunity for one-on-one discussions with hand therapists, issued written educational material, and demonstrated splint samples. Diagnoses presented were osteoarthritis in the 1st carpometacarpal (thumb), carpal tunnel syndrome, and trigger finger. This project was in collaboration with UMass Lowell Physical Therapy Department faculty, two Doctor of Physical Therapy students from UMass Lowell, and two Occupational Therapists from UMass Memorial Health Care Hospital. Approximately 35 participants attended the fair. Received very positive feedback from attendees with request to return and cover additional diagnoses.
Lewis, E., Fors, L, Sherman, J.
Role: Principal Investigator/Project Manager
- May 2005-Sept. 2010 Multiple Myeloma Research Foundation (MMRF).
And Sept. 2012 Participated in annual 5K Race and Fund Raising
- 2006-2012, 2014 Committee Member: Mothers of Multiples organization semi-annual event and fund raising for Lowell Wish Foundation
- June 2006 Special Olympics, Harvard Stadium, Cambridge, MA

Awards and Honors

Volunteer Service Award APTA Hand & Upper Extremity.

March 2023

For my significant contribution and lasting service to the development and implementation of Virtual Education Opportunities within APTA Hand & Upper Extremity.

Outstanding Reviewer. Journal of Hand Therapy.

February 2017

Acknowledgement Award. Awarded for being in the top 10% of productivity for reviewers for Journal of Hand Therapy with minimum of two manuscripts reviewed in two years.

Excellence in Teaching Award UML

April 2016

Winner. Department of Physical Therapy. University of Massachusetts Lowell. Nominated by peers.

Best Scientific Poster 2014 ASHT

September 26, 2014

Winner of Best Scientific Poster at American Society for Hand Therapists (ASHT) 37th Annual Meeting receiving top scores on abstract and nominated by peers. Recognized for organization of poster, scientific quality and implications for hand therapy. Certificate awarded at conference *Figure-of-Eight Measurements Show High Reliability in a Clinical Setting in Assessing Edema in Patients with Hand Injuries.*

Best Scientific Poster 2013 ASHT

October 26, 2013

Winner Best Scientific Poster at American Society for Hand Therapists (ASHT) 36th Annual Meeting receiving top scores on abstract and nominated by peers. Recognized for organization of poster, scientific quality and implications for hand therapy.

Trigger Finger Treatment: An Outcome Study. Comparing surgical intervention to all conservative treatments.

Excellence in Innovative and Transformational Education UMass Lowell 2013

Nominated by Department Chairperson, PT Dept. UML

National Student Athlete Day for select faculty, UMass Lowell.

April 5, 2013

Selected by the student-athlete with the highest GPA on the track team in fall 2012, Chris Favrulli, in recognition for my efforts in “inspiring the student and supporting him in his effort both as a student and athlete”. Event was sponsored by 1) The National Consortium for Academics and Sports, 2) Northeastern University’s Sport in Society, 3) The National Collegiate Athletic Association 4) National Federation of State High School Associations.

Finalist for Outstanding Scientific Research Poster Award

August 2011

Blue Ribbon and certificate awarded at the American Society of Hand Therapists 34th Annual Meeting receiving top scores on abstract and nominated by peers. Recognized for organization of poster, scientific quality and implications for hand therapy. *Finger Circumference Measurements: Inter-rater and Intra-rater Reliability*

Awards and Honors, continued

Finalist for Outstanding Scientific Research Poster Award

August 2011

Blue Ribbon and certificate awarded at the American Society of Hand Therapists 34th Annual Meeting receiving top scores on abstract and nominated by peers. Recognized for organization of poster, scientific quality and implications for hand therapy. *Intrarater and Interrater Reliability of the Finger Goniometric Measurements.*

Certificate of Excellence Nomination

April 2010

Nominated by students for the Certificate of Excellence award from the Student Government Association in recognition of excellence and dedication to teaching.

Award of Excellence in Community Service

May 2008

Acknowledging my dedication to the Hands On Health Fair from the President of the Board of Trustees of Meeting House at Stow

Description of Journals

Hand therapy manuscripts are noteworthy because they are published in journals that are read by clinicians. The clinicians who read these articles have the potential to positively impact clinical practice based upon the novel findings presented in these journals. Therefore, once the research is disseminated through publication, it can quickly improve the treatment and recovery of patients.

The American Journal of Occupational Therapy

The stated goal of this peer-reviewed journal is to present information on the research, practice, and health care issues central to the field of occupational therapy. The *American Journal of Occupational Therapy* had an acceptance rate of 35% and an impact factor (IF) of 1.419 at the time of publication. The Journal currently has a **five year impact factor of 3.325**. (1/31/19) Ranked as Number 19 in the Social Science Division of JCR. The impact factor of this journal reflects the fact that the target audience works in a specialized field.

Hand Therapy

I was the sole author on the hand therapy article entitled "Finger Circumference measurements: Inter-tester and intra-tester reliability". This article was published in *Hand Therapy* (formerly known as *The British Journal of Hand Therapy*). This journal does not currently have an impact factor rating due to the change in publishers that occurred in 2009. This is an international journal aimed at hand therapists, surgeons, and specialists as well as occupational therapists.

The Internet Journal for Allied Health Sciences and Practice

I was the sole author of two articles submitted to this journal (one published in October 2010 and one accepted with revisions). The readers of this journal are health professionals and educators, such as physical therapists, occupational therapists, and nurses. This international journal has an acceptance rate of 47% for submitted manuscripts and readership from over 100 countries. Contributing authors are also from all over the world.

¹Griggs, S.M., A.P. Weiss, et al. (1995). "Treatment of Trigger Finger in Patients with Diabetes Mellitus." *Journal of Hand Surgery* 20(5): 787-789.

Professional Development

Associate Professor

- Oct 28, 2024 *Broken Wrists, Broken Futures? Unraveling the Long-Term Impact of Distal Radius Fractures?* APTA Hand & Upper Extremity Live Webinar 2024. Presented on Oct 28, 2024. 1.0 contact hour. Presented by Saurahb Mehta, **PT, PhD**. I hosted and managed live presentation.
- Oct 1, 2024 *Started from the Bottom, Now We're Here: Bridging the Gap from Upper Extremity Injury to Athletic Performance.* APTA Hand & Upper Extremity Live Webinar 2024. Presented on Oct 1, 2024. 1.0 contact hour. Presented by Maris Pontillo, **PT, PhD, DPT, SCS** and Corbin Hedt, PT, DPT, SCS, CSCS. I hosted and managed live presentation.
- May 1, 2024 *Tips and Tricks for Restoring Elbow Function after Fracture.* APTA Hand & Upper Extremity Live Webinar 2024. Presented on Mar 25, 2024. 1.0 contact hour. Presented by Stacy Hite PT, PhD, DHSc. I hosted and managed live presentation.
- April 3, 2024 *Wrist Instability: Putting the Pieces Together.* APTA Hand & Upper Extremity Live Webinar 2024. Presented on Apr 3, 2024. 1.0 contact hour. Presented by Ann Porretto-Loehrke PT, DPT, CHT, COMT. I hosted and managed live presentation.
- Mar 25, 2024 *Conservative Treatment for Cubital Tunnel Syndrome. Entertainment Beyond the Funny Bone!* APTA Hand & Upper Extremity Live Webinar 2024. Presented on Mar 25, 2024. 1.0 contact hour. Presented by Emily Altman, PT, DPT, CHT, OCS, CLT-LANA, WCC. I hosted and managed live presentation.
- Feb 15-16, 2024 *APTA CSM 2024 Boston, MA Annual Conference. Omni Hotel Boston Convention Center, Boston, MA.*
Presented on Feb 15, 2024.
"The Value of Integrating Expertise to Your Practice" presented by Jane Fedorczyk, PT, MSPT, PhD, FAPTA
Mia Lane Erikson, PT, EdD
Melissa Joann Lazinski, PT, DPT, DHSc
Erika S. Lewis, PT, EdD, MS, CHT
2.0 Credits 2/15/24

"Hand and Upper Extremity Platforms". Moderated by Jane Fedorczyk.
2.0 credits 2/16/24

"Implementing an At-Home Rehabilitation Program Using a 3D Printed Prosthetic Hand in Pediatrics". Presented by:

Amanda Thomas, PT, DPT
Teresa Munecas, PT, DPT, EDS
2.0 credits 2/16/24

“Distal Radius Fracture Rehabilitation: An APTA Clinical Practice Guidelines Summary and Recommendations”

Saurabh Mehta, PT, PhD
Bryon Todd Ballantyne, PT, PhD,
Marie-Eve S. Pepin, PT
Joy Christine MacDermid, PT
Susan Michlovitz, PT, PhD, FAPTA
Christos Karagiannopoulos, PT, MPT, ATC, Med, PhD
2.0 Credits 2/16/24

- Nov 11, 2023 *APTA MA 2023 Annual Conference “Moving Forward Together”.*
Sheraton Four Points, Norwood, MA. Presented on May 11, 2023.
3.5 contact hours.
Keynote speaker: Conor Walsh Harvard Biodesign Lab. Assisting and Assessing Human Movement for Home- and community-Based Rehabilitation. This is very related to the “Adaptive Device for Better Life” course that I am teaching and the VR wheelchair simulator research projects.
“More than chronic dizziness: A deep dive into PPPD” presented by Ana Sanchez Junkett
“Assessing Clinical Reasoning: How and What to ask”. Presented by Jane Baldwin.
“Remote Therapeutic Monitoring: Tips, Tricks & Practical Applications” presented by Susan @ Plymouth State University
- Nov 11, 2023 *APTA MA 2023 Annual Conference “Moving Forward Together”.*
Sheraton Four Points, Norwood, MA. Presented on May 11, 2023.
2 contact hours.
Platforms attended:
“Professional Ethics and Decision Making: Know your Ethical and Legal Responsibilities” (Ethics biannual requirement to PT license).
- Nov 6, 2023 *Differential Diagnosis of Shoulder, Neck and Arm Pain: Understanding Rotator Cuff Pathology, Thoracic Outlet Syndrome and Cervical Radiculopathy.* APTA Hand & Upper Extremity Live Webinar 2023. Presented on Nov 4, 2023. 1.0 contact hour. Presented by Melissa Lazinski PT, PhD, DHSc. I hosted and managed live presentation.
- Sep 18, 2023 *Where are we in 2023 with clinical decision making for criteria for return to sports in individuals with shoulder pathologies?* APTA Hand & Upper Extremity Live Webinar 2023. Presented on Sep 18 2023. 1.0 contact

hour. Presented by George Davies DPT, MED, PT, SCS, ATC, LAT, CSCS, PES, CSMS, FAPTA. I hosted and managed live presentation.

- May 23, 2023 *Exercise relative motion orthoses: Use of the pencil test and variations of its use for assessing and managing different finger conditions.* Julianne W. Howell, MS, PT, CHT, Sarah G. Ewald, OTR, ECHT, Deborah A. Schwartz, OTD, OTR/L, CHT. *Journal of Hand Therapy* in press Jan- Mar (2023). ASHT 2023 May Journal Chat Club. Presented on May 23, 2023 by Tauni Malmgren, OTD, OTR/L. Contact Hours: 1.0 hour/credit.
- May 16, 2023 JHT Read for Credit. 3 Journal Articles from The Journal of Hand Therapy. 3.0 credits for 3 hours. # 897, 916, 937.
- May 2, 2023 *CE-Non-Operative Rehabilitation of Rotator Cuff Impingement and Tear.* ASHT Live Webinar 2023. 1.0 contact hour. Presented by Kevin Wilk, PT, DPT, FAPTA.
- April 28, 2023 JHT Read for Credit. 3 Journal Articles from The Journal of Hand Therapy. 3.0 credits for 3 hours. #166, 544, 864.
- Apr 28, 2023 *2023 Medicare Updates.* ASHT Live Webinar 2023. 1.0 contact hour. Presented by Danielle Sparks, DHS, MOT, OTR, CHT & Angela Stephens, DHS,OTR/L, CHT
- Apr 25, 2023 *Esports 101: Understanding the Health and Performance Landscape in Esports and Video Games.* ASHT Live Webinar 2023. 1.0 contact hour. Presented by Caitlin McGee, PT, DPT, MS
- Apr 25, 2023 *Are We Effectively Managing Task Specific Hand Dystonia with Comprehensive Behavioral Training?.* APTA Hand & Upper Extremity Live Webinar 2023. Presented on April 5, 2023. 1.0 contact hour. Presented by Nancy Byl PT, PhD. I hosted and managed live presentation.
- Mar 29, 2023 *LGBTQ+ Health & Cultural Safety University of Massachusetts Lowell Live Webinar 2023.* Presented on March 29, 2023. 1.5 contact hour. Sponsored by the UMass Lowell STRIDES group in PTK and Presented by Karla Bell PT, DPT, PhD
- Mar 20, 2023 *Contemporary Exercise Prescription for Lateral Elbow Tendinopathy: It's All About the Dose.* APTA Hand & Upper Extremity Academy Live Webinar 2023. Presented on March 20, 2023. 1.0 contact hour. Presented by, Ann Lucado PT, PhD, CHT. I hosted and managed live presentation.
- March 7, 2023 JHT Read for Credit. 4 Journal Articles from The Journal of Hand Therapy. 4.0 credits for 4 hours. #204, 408, 868, 876.

- February 27, 2023 *Clinical effects of proprioceptive thumb exercise for individuals with carpometacarpal joint osteoarthritis: A randomized controlled trial .* Raquel Cantero-Télez, PhD, PT, OT, CHT, Lori A. Algar, OTD, OTR/L, CHT, Kristin A Valdes, OTD, OTR, CHT, Nancy Naughton, OTD, OTR/L, CHT. *Journal of Hand Therapy* 35 (2022) 358-366. ASHT 2023 February Journal Chat Club. Presented on February 27, 2023 by Laurie Rogers, MS, OT, CHT. 1.0 hour/credit.
- Nov 5, 2022 *APTA MA Annual Conference. Advancing Your Passion.* The Bridge to the Future of ACL Rehabilitation-The Bridge Enhanced ACL Repair (BEAR) and the development and implementation of the unique PT protocol; Technology and Objective Strength Measures Guide Clinical Decision Making Following ACLR; Integration of Virtual Reality in PTA Education; Handgrip Strength Testing: An Underutilized Vital Sign. 5.0 contact hour.
- Nov 7, 2022 *Managing the Unstable Elbow.* APTA Hand & Upper Extremity Academy Live Webinar 2022. Presented on November 7, 2022. 1.0 contact hour. Presented by, Emily Altman PT, DPT, CHT, OCS, CLT-LANA, WCC. I hosted and managed live presentation.
- Oct 19, 2022 *Newer Concepts in Treating CRPS.* APTA Hand & Upper Extremity Academy Live Webinar 2022. Presented on October 7, 2022. 1.0 contact hour. Presented by, Susan Stralka PT, DPT, MS. I hosted and managed live presentation.
- Sept 14, 2022 *Neurodynamics, Examination Treatment and Clinical Reasoning: Beyond Nerve Mobilization.* APTA Hand & Upper Extremity Academy Live Webinar 2022. Presented on September 14, 2022. 1.0 contact hour. Presented by, Mark Walsh PT PhD, CHT. I hosted and managed live presentation.
- June 2022 Completed the Champion Sports and Physical Therapy Certification. Mike Reinold. Boston, MA.
- June 3-5, 2022 The Teaching Professor's Conference, Atlanta, GA.
- May 25, 2022 Zuckerberg College of Health Sciences Spring Retreat. Conference attended. Presented *Innovative Inventions for Better Life: Interprofessional Experience Course.* ICC, UML.
- May 2, 2022 Journal Chat Club. ASHT. 1.0 credits
- April 11, 2022 *Targeted UE Rehab Strategies for Infants & Toddlers.* APTA Hand & Upper Extremity Live Webinar 2022. Presented on April 11, 2022. 1.0

- contact hour. Presented by, Sue Duff, MPT, OT/L, EdD, CHT. I hosted and managed live presentation.
- March 23, 2022 *Thumb CMC Arthritis: Conservative Hand Therapy*. APTA Hand & Upper Extremity Live Webinar 2022. Presented on March 23, 2022. 1.0 contact hour. Presented by, Stacy Hite PT PhD, CHT. I hosted and managed live presentation.
- March 16, 2022 *Look at your Patient's Hands! The Importance of Examining the Hands for Differential Diagnosis*. APTA Hand & Upper Extremity Live Webinar 2022. Presented on May 16, 2022. 1.0 contact hour. Presented by, Jane Fedorczyk PT, PhD, CHT. I hosted and managed live presentation.
- June 23, 2021 *Rehabilitating Athletes: Expand Your Toolbox*. Recommendations and demonstration on video of PT with Steph Curry, with the Golden State Warriors. 1.0 hour webinar via GoToMeeting by ASHT. Presenters: Mo Herman, PT.
- June 10, 2021 *Designing a Good Research Survey*. 1.0 hour webinar via GoToMeeting by ASHT. Presenters: Kristen Valdes.
- March 31, 2021 APTA Combined Sections Meeting (CSM) Annual Conference. 0.55 credits. Webinar via Zoom. Presenters: Sharon L. Dunn.
- March 29, 2021 *Wrist Proprioception Assessment & Rehabilitation: Emphasis on Wrist Instabilities*. APTA Hand & Upper Extremity. Presented on March 29, 2021. 1.0 credits. Presented by Christos Karagionnopolous, MPT PhD, ATC, CHT. I hosted and managed live presentation.
- March 29, 2021 *The effect of muscle fatigue on wrist joint position sense in healthy adults*. ASHT 2021 March Journal Chat Club. Presented on March 30, 2021. 1.0 credits. ASHT Presented by Christos Karagionnopolous, MPT PhD, ATC, CHT. I hosted and managed live presentation.
- March 29, 2021 Journal Chat Club. ASHT. 1.0 credits
- February 22, 2021 Read for Credit. 3 Journal Articles from The Journal of Hand Therapy. 3.0 credits
- February 2, 2021 *The Value of Adding a PT, CHT To Your Private Practice*. 1.5 hour webinar via Zoom by APTA Combined Sections Meeting (CSM). Presenters: Mia Erickson.
- February 1, 2021 *Not Just Wear and Tear: Osteoarthritis Today*. 1.5 hour webinar via Zoom by APTA Combined Sections Meeting (CSM).

- November 10, 2020 Virtual-Pandemic Pressures: A Woman's Guide. 1 hour webinar by UMass Amherst. Moderator: Susan Krauss Whitbourne. Panelists: Michelle-Kim Cohen, Mary Custard, Stacey Shipman.
- October 30, 2020 Rehabilitation of the Overhead Thrower. 1 hour webinar via Zoom by ASHT. Presenters Ashley Beers Haapapuro, PT< DPT and Jonny Diercks, MS, ATC.
- October 1, 2020 ASHT Annual Conference performed virtually every Thursday from 7-9:00. 2 hour webinar via Zoom. Presented by Presidential Address.

Associate Professor and DPT Interim Program Director, Most Recent

- August 28, 2020 Classroom Technology Open Forum. Provost Excellence in Learning and Teaching Series (PELT) workshop. 1 hour webinar at UMass Lowell. Presented by Randy Tyndall.
- July 29, 2020 Pain interference may be an important link between pain severity impairment, and self-reported disability in participants with wrist/hand pain. 1 hour webinar via Zoom by ASHT.
- July 29, 2020 Group work for participation and deep learning. PELT workshop. 1 hour webinar at UMass Lowell. Presented by Matt Hurwitz & Olga Tines.
- July 28, 2020 Telehealth and Hand Therapy: A Panel Discussion Focused on the Unique Needs and Challenges of Treating Hand Therapy Patients.. Presented by Nora Barrett, MS, OTR/L, CHT, WCC; Emily Skoza Brackenridge, MS, OTR/L CHT; Gary Solomon, MBA, MS, OTR/L, CHT 1 hour webinar via Zoom by ASHT.
- July 28, 2020 Using feedback to engage students (informal feedback, polling & Gradescope). PELT workshop. 1 hour webinar at UMass Lowell. Presented by Johanna Choo & Amy Smalarz.
- July 23, 2020 Creating Video Assets and Linking in Blackboard. PELT workshop. 1 hour webinar at UMass Lowell. Presented by Andy Alfano, IT.
- July 22, 2020 Blackboard Course Management (Open Forum). PELT workshop. 1 hour webinar at UMass Lowell. Presented by Mac Wishart and Melanie Maxham, IT.
- July 22, 2020 Engaging large class with Blackboard and other strategies. PELT workshop. 1 hour webinar at UMass Lowell. Presented by Cecil Joseph.

- July 21, 2020 Addressing tricky concepts through low-stake peer review exercises. PELT workshop. 1 hour webinar at UMass Lowell. Presented by Sarah Rozelle, Alison Hamilton, and Ann Dean.
- July 9, 2020 Zoom Meetings and Recordings in Blackboard. PELT workshop. 1 hour webinar at UMass Lowell. Presented by Randy Tyndall, IT.
- July 9, 2020 Practical classroom management and tools for remote teaching. PELT workshop. 1 hour webinar at UMass Lowell. Presented by Ed Hajduk & Adam St. Jean.
- July 8, 2020 Transparent & learner-centered syllabi for Covid-19 & trauma-informed teaching. PELT workshop. 1 hour webinar at UMass Lowell. Presented by Jim Nehring.
- July 7, 2020 Approaches to organizing course materials for clarity & engagement. PELT workshop. 1 hour webinar at UMass Lowell. Presented by Jill Pruett.
- June 29, 2020 A Systematic review of the benefits of occupation-based intervention for patients with upper extremity musculoskeletal disorders. 1 hour webinar via Zoom by ASHT.
- May 21, 2020 Lessons from the Trenches: The Nuts & Bolts of Implementing a Lab Immersion. 1 ½ hour webinar with ACAPT and Baylor University presented by Dr. Casey Unverzagt, Dr. Brian Young, and Dr. Kendra Gagnon.
- May 13, 2020 Complex Regional Pain Syndrome. 1 ½ hour webinar with ASHT presented by Shrikant Chinchalkar, M.Th.O, B.Sc.OT, OTR, CHT.
- Dec. 4, 2019 High-Strength, Novel Prosthetic Intervention for Partial Hand and Finger Amputees. One hour webinar with ASHT.
- Nov. 5, 2019 Massachusetts' Directors of DPT Programs meeting. Current items discussed.
- Oct. 26, 2019 *APTAMA*. Annual Conference 2019. Moving Forward. Innovations in Physical Therapy. 7:00 am-5:00 pm. Four Points by Sheraton Norwood, Norwood, MA
- Sept. 19, 2019 *Sport Related Concussion*. One and a quarter hour presentation. Presented by Gerry Gioia, PhD George Washington State University School of Medicine and Troy Furutani MS, ATC University of Hawaii at Manoa. UMass Lowell, O'Leary Mezzanine.

- Sept. 11, 2019 *Movement System Balance Diagnoses: Recommendations from the ANPT (Academy of Neurological Physical Therapy)* One and a half hour presentation. Presented by Kathy Gill-Body, PT and Laura Plummer, PT. Newton-Wellesley Hospital.
- August 28, 2019 *Management of Phalangeal Fractures.* ASHT Webinar. Presented on August 28, 2019. One hour of continuing education awarded. ASHT-one hour of continuing education awarded. Presented by Sam Biafora, MD and Gary Solomon, MS, OTR/L, CHT
- August 26, 2019 *Efficacy of orthotic devices for increased active proximal interphalangeal extension joint range of motion: A systematic review.* ASHT 2019 August Journal Club Chat. Presented on August 26, 2019. One hour of continuing education awarded. ASHT Presented by Gene Boegel, OTR/L, CHT online
- June 24, 2019 *Effectiveness of Lavendula stoechas essential oil in treatment of mild to moderate carpal tunnel syndrome: A randomized controlled trial.* ASHT 2019 June Journal Club Chat. Presented on June 4, 2019. One hour of continuing education awarded. ASHT Presented by Nancy Byl, OTR/L, CHT online
- June 1, 2019 *2019 Mass General Sports Medicine Conference: Upper Extremity Injuries in the Athlete.* Interprofessional conference designed for the sports medicine professional and students working with or interested in patients with orthopedic and sports related conditions of the upper extremity. At Northeastern University, Boston, MA. Live Learning. 7.75 hours continuing education credit. Topics covered: Shoulder, Elbow, Wrist/Hand, special topics.
- June 2019 *Movement System Balance Diagnosis Webinar.* Academy of Neurologic Physical Therapy. Presented on June 19, 2019. Two hours of continuing education webinar awarded. ASHT Presented by Kathleen Gill-Body, PT, DPT, NCS: Lois D. Hedman, PT, DScPT, MS

Professional Development as Associate Professor

- February 2019 JHT Read for Credit. Read article and take a quiz. 4 contact hours for 2019
- January 2019 Bloodborne Pathogen Training and Laboratory Safety Training UMass Lowell Environmental & Emergency Management

December 2018 *Effects of client-centered multimodal treatment on impairment, function, and satisfaction of people with thumb carpometacarpal osteoarthritis.* ASHT 2018 November Journal Club Chat. Presented on December 4, 2018. One hour of continuing education awarded. ASHT Presented by Gwen Weinstock-Zlotnick, PhD, OTR/L, CHT online

Professional Development as Associate Professor, continued

November 27, 2018 Massachusetts' Directors of DPT Programs meeting. Current items discussed: opioid training for faculty, collaborative efforts in legislative action for PT on the Hill. Mass College of Pharmacy Health Sciences MCPHS, Worcester, MA. Members: Julia Chevan, Springfield College; Tracy Brudvig, AIC; Francis Kistner, MCPHS; Diane Heislein, Boston University; Julie Keysor, MGHHP; Kristin Greenwood, Northeastern University; Amy Heath, Simmons College; Erika Lewis, UMass Lowell.

November 2018 *Motion Capture Workshop. Perception Neuron Suit.* Technology Workshops in Department. One hour. Art and Design, UMass Lowell Lowell, MA. Presented by: Yuko Oda

October 2018 Knee Joint Loading in Healthy Adults During Functional Exercises: Implications for Rehabilitation Guidelines. Lower Extremity. Read for Credit by JOSPT. JOSPT and APTA approved. Two contact hours of continuing education. Journal of Sports Physical Therapy.

October 2018 APTA of MA Neurology Special Interest Group. Concussion Seminar/Panel on *Post Concussive Syndrome*. Case studies were presented and discussed. Emerson Hospital Rehab Center, Concord MA. Panelists include: Dr. Robert Cantu, Kathy Gill-Body, James Camarinos, Nicole Kelly, Janet Callahan.

Professional Development as Chairperson and Director DPT Program

June 27-30, 2018 *2018 NEXT Conference and Exposition by the APTA.* Annual conference. Orlando, FL. Live Learning. 18 hours continuing education credit. Topics covered: Integrative Movement System into Practice, Developing Diagnoses and Movement Analysis. Mary McMillan Lecture: Wisdom and Courage: Doing the Right Thing. Beyond #ChoosePT: Physical Therapy and the Opioid Crisis. Do you See a Pattern? Link the Movement Faults Across Your Exam. Shoulder, Hip, Knee, Foot/Ankle, Head, Trunk, and Hot topics.

May 9-11, 2018 *Sports Medicine 2018.* A Comprehensive sports medicine updates for MDs, PTs, NPs, PAs, ATCs Harvard Medical School, Cambridge, MA. Live Learning. 28.5 hours continuing education credit. Topics covered:

Shoulder, Elbow, Wrist/Hand, Hip, Knee, Foot/Ankle, Head, Neck, Trunk, and Hot topics.

March 2018

Diagnostic Ultrasound. Hands on use in Physical Therapy. An Introduction. Connie Seymour, PT. 2 hours. On LE & UE.

Professional Development, Chairperson and Director DPT Program continued

- March 20, 2018 *Relative active motion programs following extensor tendon repair: A pilot study using a prospective cohort and evaluating outcomes following orthotic interventions.* ASHT Journal Club Quiz. 1 hour continuing education credit.
- Feb 28, 2018 University of Massachusetts Lowell Provost's Department Chair Retreat. Creating a Culture of Engagement. When things don't work: Recognizing and Resolving Conflict. HR. Moloney Hall. UCC. **LEADERSHIP**
- January 2018 Bloodborne Pathogen Training, renewing certification online.
- Dec 6, 2017 University of Massachusetts Lowell Provost's Department Chair Retreat. Building a Department Chair's Manual. Alumnae Hall. **LEADERSHIP**
- Oct 20, 2017 University of Massachusetts Lowell Provost's Department Chair Retreat. Optimizing Workload while Minimizing Stress. Moloney Hall. UCC
- April 26, 2017 Hanger Prosthetics Lower Limb Prosthetics & treatment for lower extremity. Organized & co-sponsored Hanger Workshop. Guest speakers included prosthetists, physiatrist Dr. Crandell, Spaulding Rehabilitation Hospital, Community Volunteer and panel of 3. Course was open to the University and public. DPT & EP students attended free. 3:30 – 7:00 pm
- April 14, 2017 Forensic Biomechanics. Guest speaker, Dr. Jiri Straus, Prague, Czech Republic. Dr. Straus, from Criminal Justice Department at a university in Prague has investigate over 800 cases in the court of law. He re-creates events to determine cause of death i.e. whether someone fell, jumped or was pushed from a rooftop by studying trajectories and recreating scenario on computer. Speaker availability was offered to us. I organized & co-sponsored this collaborative presentation. Presentation was open and free to the University. 1:00 – 3:00 pm
- April 7, 2017 Making Waves. Women Academics Valued and Engaged in STEM. "Am I Unconsciously Bigoted? Climate, Implicit Bias and Academia." Presented by Dr. Lisako McKyer Ph.D., M.P.H. Texas A&M School of Public Health. University of Massachusetts Lowell, Lowell, MA. The College of Health Sciences hosted Dr. McKyer for lunch. **LEADERSHIP**

Professional Development, Chairperson and Director DPT Program continued

- March 27, 2017 University of Massachusetts Lowell Department Chairs Retreat. ETIC
LEADERSHIP
- March 13, 2017 University of Massachusetts Lowell Faculty Writing Retreat. O’Leary
Library. 8:30 am – 4:00 pm.
- March 2, 2017 UML Faculty Symposium. Teaching, Learning, Research & Creative
Works. 3:00-6:30 pm.
- February 8-10, 2017 34th Annual Academic Chairpersons Conference. Kansas State
University. New Orleans, Louisiana. **LEADERSHIP**
- December 19, 2016 University of Massachusetts Lowell Department Chairs Retreat. Faculty
Recruitment, Planning, and Search. **LEADERSHIP**
- October 13, 2016 University of Massachusetts Lowell Department Chairs Retreat.
Fostering Teaching Excellence. Fostering Teaching Excellence. Case
Studies. **LEADERSHIP**
- April 11, 2016 American Society of Hand Therapists Webinar, *Lateral Elbow
Tendinopathy*. Presented by Jane Fedorczyk. 2 hours.
- April 1, 2016 *An Introduction to Postural Restoration Institute (PRI) Concepts in
Managing Musculoskeletal Dysfunction*. Presented by Michael J. Mullin,
Clinical Adjust Faculty at the University of New England. University of
Massachusetts Lowell, Lowell, MA.
- March 29, 2016 American Society of Hand Therapists Webinar, *The Neuroscientific Basis
of Pain, Clinical Implications to Upper Extremity Practice*. Presented by
Paul Bonzani. 1 hour
- March 7, 2016 Chairs’ Retreat. *The Chair As Academic Leader*. Speaker: Luis M. Falcon,
Dean of Fine Arts, Humanities, & Social Sciences for the University of
Massachusetts Lowell. Location was University of Massachusetts Lowell,
Lowell MA. **LEADERSHIP**
- February 3-5, 2016 33rd Academic Chairpersons Conference. Kansas State University.
Charleston, SC. Valuable for learning skills and networking. **LEADERSHIP**

Professional Development, Chairperson and Director DPT Program continued

- Oct 1-3, 2015 Educational Leadership Conference (ELC). American Physical Therapy Association (APTA). Voting on professional issues for Commission on Accreditation for Physical Therapy Education. Baltimore, MD.
LEADERSHIP
- May 1, 2015 Promotion Workshop for NTT Faculty. University of Massachusetts, Lowell. Sponsored by the Provost's Office.
- May 1, 2015 Promotion & Tenure Workshop. Panel of Rank and Tenor Committee faculty. University of Massachusetts, Lowell. Sponsored by the Provost's Office. Attended as Chair.
- February 4-6, 2015 32nd Academic Chairpersons Conference. Kansas State University. Austin, TX. **LEADERSHIP**

Professional Development continued, Associate Professor

- October 2018 APTA of MA Neurology Special Interest Group. Concussion Seminar/Panel on *Post Concussive Syndrome*. Emerson Hospital Rehab Center, Concord MA. Panelists include: Dr. Robert Cantu, Kathy Gill-Body, James Camarinos, Nicole Kelly, Janet Callahan.
- June 2014 Work \$mart Alumnae: *How to Get Paid What You are Worth: Salary Negotiation Workshop for UMass Lowell Alumnae*. Speaker: Megan Cooney, Financial Advisor for Morgan Stanley. Location was University of Massachusetts Lowell, Lowell, MA
- April 2014 Exam Writing Workshop for Educators. Licensure Exam. 3 days at Federation for State Board of Physical Therapy, Virginia
- December 2013 University of Massachusetts Lowell. Snack and Learn Symposium. *Learning Centered Syllabus: Selecting and Organizing Course Content in a DPT Curriculum*. Presented by Connie Seymour. University of Massachusetts Lowell, Lowell, MA
- November 2013 University of Massachusetts Lowell. Snack and Learn Symposium. *Writing Exam Questions in NPTE format*. Presented by Deirdra Murphy. University of Massachusetts Lowell, Lowell, MA

Professional Development as Associate Professor, continued

- November 7, 2013 University of Massachusetts Lowell. Teaching and Learning Symposium and Recognition Reception. *The Committee on Transformational Education*. University of Massachusetts Lowell, Lowell, MA
- May 21, 2013 *School of Health and Environment Educational Retreat*, Inn and Conference Center, University of Massachusetts Lowell, Lowell, MA
- May 18, 2013 Twenty-Second Annual Commencement of University of Massachusetts Lowell, Tsongas Center, University of Massachusetts Lowell, Lowell, MA
Attend all graduations
- May 2, 2013 (Fourth Annual Faculty Development Conference.) *School of Health and Environment Research Day*, Inn and Conference Center, University of Massachusetts Lowell, Lowell, MA
- Feb 20, 2013 The Ups and Downs, Ins and Outs of NIH Grant Applications. School of Health and Environment *Faculty Development Workshop*, Weed Hall, University of Massachusetts Lowell, Lowell, MA.
Susan Woskie, PhD and Susan Sama, ScD
- April 27, 2012 Third Annual Faculty Development Conference. *School of Health and Environment Research Day*, Inn and Conference Center, University of Massachusetts Lowell, Lowell, MA
- October 6, 2011 University of Massachusetts Lowell. Faculty Research Symposium and Recognition Reception. *Faculty Research, Scholarship and Creative Works*.
University of Massachusetts Lowell, Lowell, MA
- Sept 22-25, 2011 American Society for Hand Therapists (ASHT) 34th Annual Meeting *Instruments of Change*. Gaylord Opryland Hotel and National Convention Center, Nashville, TN
- June 8-11, 2011 American Physical Therapy Association (APTA) Annual Conference and Exposition. PT 2011 National Harbor. Gaylord National Resort & Convention Center, National Harbor, MD

Professional Development as Associate Professor, continued

- April 2011 Second Annual Faculty Development Conference. *School of Health and Environment Research Day*, Inn and Conference Center, University of Massachusetts Lowell, Lowell, MA
- April 2011 Conversation Dinner. *The Scale-Up Project: Student-Centered Active Learning Environments*. University of Massachusetts Lowell, Lowell, MA
- March 2011 Enterprise Bank *Non-Profit Collaborative Grant Writing and Networking Seminar*. Tewksbury Inn, Tewksbury, MA
- March 2011 NIH Grant Writing Seminar. Lowell, MA
- April 2010 First Annual Faculty Development Conference. *Linking Assessment, Technological Innovations in Pedagogy, and Scholarship of Teaching & Learning* at University of Massachusetts Lowell, Lowell, MA

Professional Development as Assistant Professor

- September 2010 American Society for Surgery of the Hands. Boston, MA
- June 16-19, 2010 American Physical Therapy Association. PT2010: Boston. Boston, MA
- June 2010 Certified Exercise Expert for Aging Adult (CEEAA) Course III. Boston, MA
- April 2010 Certified Exercise Expert for Aging Adult (CEEAA) Course II. Boston, MA
- March 2010 Balancing Our Work and Our Lives. Voices of Working Women at University of Massachusetts Lowell, Lowell, MA
- Nov. 2009 Certified Exercise Expert for Aging Adult (CEEAA). Boston, MA
- Oct. 2009 Boston Shoulder and Sports Symposium 2009. Waltham, MA
- June 2009 Blackboard Vista Web-Enhanced Course.
- May 2009 Promotion and Tenure Workshop.
- May 2008 Doctors Demystify The Wrist on Posters for OTs and PTs

Professional Development as Assistant Professor, continued

- May 2008 Doctors Demystify The Elbow on Posters for OTs and PTs.
- May 2008 Doctors Demystify The Thumb on Posters for OTs and PTs.
- April 2008 Doctors Demystify The Wrist on Posters for OTs and PTs,
- April 2008 Rehabilitation Management of the Wrist and Hand. Lexington, MA
- April 2008 Doctors Demystify The Elbow for OTs and PTs, April 2008. Boston, MA
- April 2008 Modalities for the Upper Extremity. Boston, MA
- April 2008 Doctors Demystify Shoulder and Arm Anatomy for OTs and PTs.
- March 2008 Health Behaviors and Misbehaviors of Older Adults with and without Heart Disease. Lowell, MA
- March 2008 Balancing Our Work and Our Lives. Voices of Working Women at University of Massachusetts Lowell. Lowell, MA
- March 2008 Doctors Demystify The Brachial Plexus for OTs and PTs.
- March 2008 Doctors Demystify Forearm and Hand Anatomy for OTs and PTs.
- Feb 2008 Doctors Demystify The Thumb on Posters for OTs and PTs.
- Feb 2008 Doctors Demystify The Wrist on Posters for OTs and PTs,
- Nov. 2007 Grant Writing 101. Lowell, MA
- June 2007 Blackboard Vista Web-Enhanced Course. Lowell, MA
- May 2007 Emotional Intelligence: A Distinguishing Quality of Outstanding Leadership. Lowell, MA
- Feb. 2007 Combined Sections Meeting of the American Physical Therapy Association (CSM 2007). Boston, MA
- June 2005 Promotion and Tenure Workshop. Lowell, MA

Professional Development as Assistant Professor, continued

- Feb. 2005 Combined Sections Meeting of the American Physical Therapy Association (CSM 2005). New Orleans, LA
- Jan. 2005 Grant Writing Seminar. Lowell, MA
- Oct. 2004 Orthopaedics for the Aging Adult. Manchester, NH
- April 2004 Rehabilitation of the Patient with Peripheral Vestibular Dysfunction. Worcester, MA