CURRICULUM VITAE

Hao (Howe) Liu, PT, PhD, MS, FGSA

Date:	**February 6, 2025**
School:	School of Allied Health Professions
Department/Program:	**Department of Physical Therapy**
Current Title:	Head of Physical Therapy
Business Address:	1900 Gravier St, New Orleans, LA 70112
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Initial Appointment at LSUHSC Date:	**12/1/2023**
Current Academic Rank:	Professor & Head of Physical Therapy
Date of Appointment to Current Rank:	**12/1/2023**
Military Service:	**NA**

Education:

Undergraduate: **09/1982 - 07/**1987 B.S. in Medicine
Jiangxi Medical College, Nanchang, China

Graduate/medical 09/1987 **-** 07/1990 MS in Neuroscience/Neuroanatomy
Suzhou Medical College, Suzhou, China

11/1992-05/1998 PhD in Anatomy
University of Mississippi Medical Center, Jackson, MS

07/1999 - 05/2001 MS in Physical Therapy
University of Mississippi Medical Center, Jackson, MS

Post-doctoral fellowships: 03/1998 - 07/1999
Otorhinolaryngology Division,
Department of Surgery
University of Mississippi Medical Center
Jackson, MS

Certification:	1998	USMLE I
	2016 -	Certified Exercise Expert in Aging Adults (CEEAA), American Academy of Geriatric Physical Therapy

Licensure:

2001, 2023 – now	License: #04878 Louisiana Board of Physical Therapy Examination.
2010 – 2024	License: #1194329 Texas Board of Physical therapy examiners.
2023 – no	Privilege: # CP0190247 Iowa PT Licensure Privilege

Academic, Professional, and Research Appointments:

09/90 – 11/92	Instructor of Anatomy Department of Anatomy Jiangxi Medical College, Nanchang, China
06/01 – 11/01	Staff physical therapist, Plantation Manor Nursing Home & Rehabilitation Center, Winnsboro, LA
01/02 – 06/03	PRN physical therapist, MetroWest (HealthSouth) Hospital, Birmingham, AL
12/01 – 06/03	Staff physical therapist, Rehabilitation services Bibb Medical Center Centreville, AL
06/03 – 08/09	Assistant Professor of Physical Therapy University of Central Arkansas, Conway, AR
11/03 – 12/09	PRN physical therapist, Aegis Therapies Little Rock, AR
09/09 – 12/09	Tenured associate Professor of Physical Therapy, University of Central Arkansas, Conway, AR
01/10 –08/15	Tenured associate professor of Physical Therapy, Department of Physical Therapy, University of North Texas Health Science Center, Fort Worth, TX
01/11 – 07/22	Adjunct Professor and PhD Advisor of Anatomy, Center for Anatomical Science, University of North Texas Health Science Center, Fort Worth, TX
01/15 – 02/17	PRN Physical Therapist, Green Valley Nursing and Rehabilitation Center, Reliant Rehabilitation, North Richland Hills, TX

12/16/ - 02/18	PRN Physical Therapist, The Carlyle at Stonebridge Park Rehab & Nursing Center, Cantex Continuing Care Network, Southlake, TX
08/17 – 07/19	Adjunct Professor of Anatomy, Department of Medical Education, School of Medicine of Fort Worth, Texas Christian University, Fort Worth, TX
09/19 – 03/20	PRN Physical Therapist, Baylor Scott & White Institute for Rehabilitation, Fort Worth, TX
09/15 – 08/22	Professor of Physical Therapy, Department of Physical Therapy, University of North Texas Health Science Center, Fort Worth, TX
09/20 – 11/23	Clinical Consultant, ATC Acupuncture & Chiropractic Therapy Clinic, Frisco, TX
08/22 – 11/23	Professor and Director of Collaborative Research Department of Physical Therapy Allen College, Waterloo, Iowa
03/23 – 11/23	PRN Physical Therapist Reliant Rehabilitation/TruCare Solutions. Flower Mound and Saginaw, TX
12/23 – present	Professor and Head of Physical Therapy, Department of Physical Therapy, Louisiana State University Health Science Center, New Orleans, LA
01/24 – Present	Adjunct professor of Department of Anatomy Louisiana State University Health Science Center, New Orleans, LA.

Awards and Honors:

2009	Nominee of Researcher of The Year (2009). University of Central Arkansas.2009.
2014	Outstanding Physical Therapy Researcher Award. Texas Physical Therapy Association, 2014
2016	Valubility of the Month (October). University of North Texas Health Science Center. 2016

2017 Faculty Achievement Award (Plaque with cash $2500). University of North Texas Health Science Center (UNTHSC), 2017.

2021 Service Commendation of 2021 American Congress of Rehabilitation Medicine. For service as the communication officer of Complementary & Integrative Rehab Medicine Networking Group. December 2021.

2021 Award of Best Scientific Poster in Geriatric Rehabilitation. 2021 (Virtual) Annual Conference of American Congress of Rehabilitation Medicine.

2021 Research Mentor of Recipient of 2021 American Congress of Rehab Medicine.(ACRM) Student's Scientific Poster Award in Complementary & Integrative Rehab Medicine. Joshua Baker - Effects of Tai Chi on people with sleep dysfunctions

2021 Research Mentor of the recipient 2021 APTA Cardiovascular & Pulmonary Section Student Research Poster Award (Logsdon L: Tai Chi for Chronic Obstructive Pulmonary Disease).

2021 Fellow of Gerontological Society of America. Approved and Starting in May 2021

2021 Faculty Achievement Award (Plaque with cash $2500). University of North Texas Health Science Center (UNTHSC), 2021.

2022 FOCUS Spotlight Award, Allen College. December 2022

2022 William Gould Memorial Faculty Award. Texas Physical Therapy Association; October 2022.

2023 FOCUS Spotlight Award, Allen College. April 2023.

Teaching Awards: ***None***

TEACHING EXPERIENCE AND RESPONSIBILITIES

Since beginning my teaching career in 2003, I have had the privilege of contributing to the education of physical therapy students across four prestigious institutions: the University of Central Arkansas, the University of North Texas Health Science Center (UNTHSC), Allen College in Iowa, and currently, LSU Health Sciences Center in New Orleans. Over the years, I have developed a deep commitment to providing an enriching and supportive learning environment that fosters both academic success and clinical competence among students. Teaching is not just a responsibility; it is the cornerstone of my professional identity. In my role, I strive to create an engaging, student-centered

atmosphere, where students feel encouraged to actively participate, ask questions, and challenge their thinking. I emphasize the importance of translating classroom knowledge into real-world clinical applications. This holistic approach is grounded in my teaching philosophy, which prioritizes fostering critical thinking, clinical decision-making skills, and a deep understanding of course content.

As a physical therapy educator for 22 years, my primary teaching responsibilities included serving as the course director for Anatomy, Neuroanatomy, Diagnostic Imaging, Pathology, Pharmacology, and the EBP (I-4) series. In addition to these courses, I have frequently taken on additional responsibilities based on departmental needs. Through my dedication to providing quality education, I am committed to shaping the next generation of physical therapists, equipping them with both the knowledge and skills needed to excel in the clinical environment. My teaching philosophy remains rooted in the belief that high levels of student engagement, critical thinking, and clinical application are essential to their academic and professional success.

Course/Clerkship/Residency or Fellowship/CME Directorships

Teaching PT at University of Central Arkansas (Summer 2003 – Fall 2009)

2003	Summer:	Adv. Anatomy (PTHY 7390)	Course director
	Fall	Gross Anatomy (PTHY 5055)	Course director
2004	Spring	Neuroscience (PTHY 6501)	Lab director
	Summer	Adv. Anatomy (PTHY 7390)	Course director
		Applied Histology, Physiology & Pathology (PTHY 7330)	Course director
	Fall	Gross Anatomy (PTHY 5055)	Course director
2005	Spring	Neuroscience (PTHY 6501)	Lab director
		International PT study (PTHY 5190/5290)	Course director
	Summer	Adv. Anatomy (PTHY 7390)	Course director
		Differential Dx (PTHY 7365)	Co-course director
	Fall	Gross Anatomy (PTHY 5055)	Course director
		Gross Anatomy – OT (combined with PT)	Course director
2006	Spring	Neuroscience (PTHY 6501)	Lab director
		International PT study (PTHY 5190/5290)	Course director
	Summer	Applied Histology, Physiology & Pathology (PTHY 7330)	Course director
		Res Design (PTHY 6340)	Co-Course director

	Fall	Gross Anatomy (PTHY 5055)	Course director
		Gross Anatomy – OT (combined with PT)	Course director
2007	Spring	Neuroscience (PTHY 6501)	Lab director
		International PT study (PTHY 5190/5290)	Course director
	Summer	Advanced Anatomy (PTHY 7390)	Course director
		Res Design (PTHY 6340)	Course director
	Fall	Gross Anatomy (PTHY 5055)	Course director
2008	Spring	Neuroscience (PTHY 6501)	Lab director
	Summer	Res Design (PTHY 6340)	Course director
		Applied Histology, Physiology & Pathology (PTHY 7330)	Course director
	Fall	Gross Anatomy (PTHY 5055)	Course director
2009	Spring	Neuroscience (PTHY 6501)	Lab director
		International PT study (PTHY 5190/5290)	Course director
	Summer	Advanced Anatomy (PTHY 7390)	Course director
		Res Design (PTHY 6340)	Course director
	Fall	Gross Anatomy (PTHY 5055)	Course director

Teaching PT at Univ North Texas Health Science Center (2010-2023)

2010	Fall:	DPHY7305 Applied Anatomy (Kin)	Course director
		DPHT 7221EBP I	Course director
2011	Spring:	PHT 7301 Clin Med (Path/Pharm)	Course director
	Summer:	DPHT 7333 EBP II	Course director
	Fall:	DPHT 7400 Clinical Anatomy	Course director
		DPHT 7200 Neuroanatomy:	Course Director
		DPHT 7221 EBP I	Course director
2012	Spring	PHT 7301 Clin Med (Path/Pharm)	Course director
	Summer:	DPHT 7333 EBP II	Course director
	Fall:	DPHT 7400 Clinical Anatomy	Course director
		DPHT 7200 Neuroanatomy:	Course Director
		DPHT 7221 EBP I	Course director
2013	Summer:	DPHT 7333 EBP II	Course director
	Fall:	DPHT 7400 Clinical Anatomy	Course director
		DPHT 7200 Neuroanatomy:	Course Director

2014	Spring	PHT 7301 Clin Med (Path/Pharm)	Course director
	Summer:	DPHT 7333 EBP II	Course director
	Fall:	DPHT 7400 Clinical Anatomy	Course director
		DPHT 7200 Neuroanatomy:	Course Director
2015	Summer:	DPHT 7333 EBP II	Course director
	Fall:	DPHT 7400 Clinical Anatomy	Course director
		DPHT 7200 Neuroanatomy:	Course Director
		IPE (interprofessional education)	Group leader
2016	Summer:	DPHT 7333 EBP II	Course director
	Fall:	DPHT 7400 Clinical Anatomy	Course director
		DPHT 7200 Neuroanatomy:	Course Director
		IPE (interprofessional education)	Group leader
2017	Summer:	DPHT 7333 EBP II	Course director
	Fall:	DPHT 7400 Clinical Anatomy	Course director
		DPHT 7200 Neuroanatomy:	Course Director
		IPE (interprofessional education)	Group leader
2018	Spring	DPHT 7202 Clini Med II (Pharm)	Co-Course director
		IPE (interprofessional education)	Group leader
	Summer	DPHT 7333 EBP II	Course director
	Fall:	DPHT 7400 Clinical Anatomy	Course director
		DPHT 7200 Neuroanatomy:	Course Director
		IPE (interprofessional education)	Group leader
2019	Spring	Tai Chi for Health	Course Director
		DPHT 7254 Diagnostic Imaging	Course director
		DPHT 7244 EBP III	Co-Course Director
		Graduate Lab rotation (BMSC 5150)	Lab Mentor
	Summer	DPHT 7333 EBP II	Course Director
	Fall	DPHT 7400 Clinical Anatomy I	Course director
		SPHT 7200 Neuroanatomy	Course Director
2020	Spring	Tai Chi for Health	Course Director
		DPHT 7254 Diagnostic Imaging	Course director
		DPHT 7244 EBP III	Co-Course Director
		Graduate Lab rotation (BMSC 5150)	Lab Mentor
	Summer	DPHT 7333 EBP II	Course Director
	Fall	DPHT 7400 Clinical Anatomy I	Course director
		SPHT 7200 Neuroanatomy	Course Director
2021	Spring	Tai Chi for Health	Course Director
		DPHT 7254 Diagnostic Imaging	Course director
		DPHT 7244 EBP III	Co-Course Director
		Graduate Lab rotation (BMSC 5150)	Lab Mentor

	Summer	DPHT 7333 EBP II	Course Director
	Fall	DPHT 7400 Clinical Anatomy I	Course director
		SPHT 7200 Neuroanatomy	Course Director
2022	Spring	DPHT 7254 Diagnostic Imaging	Co-Course director
	Summer	DPHT 7333 EBP II	Course Director
	Fall	DPHT 7400 Clinical Anatomy I	Course director
		SPHT 7200 Neuroanatomy	Course Director
2023	Fall	DPHT 7400 Gross Anatomy I	Co-Course director

Teaching PA Anatomy and Neuroanatomy at UNTHSC

2011	Fall:	Clinical Anatomy - PA	Co-Course director
		Neuroanatomy - PA	Course Director
2012	Fall:	Clinical Anatomy - PA	Co-Course director
		Neuroanatomy - PA	Course Director
2013	Fall:	Clinical Anatomy - PA	Co-Course director
		Neuroanatomy - PA	Course Director
2014	Fall:	Clinical Anatomy - PA	Co-Course director
		Neuroanatomy - PA	Course Director
2015	Fall:	Clinical Anatomy - PA	Co-Course director
		Neuroanatomy - PA	Course Director
2016	Fall:	Clinical Anatomy - PA	Co-Course director
		Neuroanatomy - PA	Course Director
2017	Fall:	Clinical Anatomy - PA	Co-Course director
		Neuroanatomy - PA	Course Director
2018	Fall:	Neuroanatomy - PA	Course Director

Teaching Responsibility for PT in Allen College (PT Dept)

2022	Fall	DPT 621Pathology (4)	Course director
		DPT 631 Pharmacology (3)	Course director
2023	Spring	DPT 601 Anatomy (5)	Course director
		DPT 863 Geriatric PT (3)	Co-Course director
		DPT 878 PT for Special Population (3)	Co-Course director

Revised: January 2021
Revised: August 2024

Fall	DPT 621Pathology (4)	Course director
	DPT 631 Pharmacology (3)	Course director

Teaching at LSUHSC PT Department

2024	Spring	PHTH 7123 Pathophysiology (4)	Course director
	Summer	PHTH 7000 Anatomy (PT/OT/PA)(5)	Lecturer/Lab
	Fall	PHTH 7300 Health Wellness (2)	Course director

Curriculum Development/Implementation

Curricula Development at University of Central Arkansas (2003- 2009)

PTHY 7390 Advanced Anatomy Course director Summer 2003
Description: This was a 1-credit hour elective course I had developed to help 2nd and 3rd year PT students to review cadaver-based anatomy in anatomy lab. The course focused on reviewing musculoskeletal anatomy with all teaching time in the lab.

PTHY 6501 Neuroscience Lab director Spring 2004
Description: Assigned to be responsible for neuroanatomy lab teaching and redesign the lab contents and how they should be delivered to match them well with the lecture contents that students just learned in classroom.

PTHY 7330 Applied Histology, Physiology & Pathology Summer 2004
Description: This was a 1-credit hour elective course I had developed to introduce 2nd and 3rd year PT students on the development of musculoskeletal, cardiovascular, respiratory, and nervous systems and a few of related pathological analysis.

PTHY 5055 Gross Anatomy Course director Fall 2004
Description: After teaching anatomy in Fall 2003, I redesigned the course syllabus, course contents, and content delivery for this 5-credit hour course to make it a more rehabilitation (PT/OT) oriented course.

PTHY 5190/5290 International PT study Course director 2005
Description: Designed a 2-credit hour elective course to study traditional Chinese medicine (TCM) (1-credit hour) in Spring semester and then students traveled to China to have an immersive visit study (1 credit hour) in traditional Chinese medicine institutions and hospitals.

PTHY 6340 Res Design Co-Course director, Summer 2006
Description: Revised this 3-redit hour course by adding more contents (IRB procedure, CITI training, etc.) into the course.

Curricula Developed at University of North Texas Health Sci Ctr (2010-2023)

Descriptions: As one of the founding members for this new physical therapy program, I designed the syllabi for the following courses in 2010:

PTHT 7400 – Clinical Anatomy I – 4 credit hours

PTHT 7200 – Clinical Anatomy II (Neuroanatomy) - 2 credit hours

PTHT 7221 – Evidence-based Practice (EBP) I – 3 credit hours in1st fall semester - focused on statistics, research design, IRB procedure, CITI training.

PTHT 7333 – EBP II – 3 credit hours in 1st summer session – focused on research article analysis: case report/study, retrospective and prospective study, cross-sectional, randomized control trial, systematic review, and meta-analysis with a variety of simple case evaluation (including students' presentation)

PTHT 7244 – EBP III – 2 credit hours in 2nd fall semester– focused on preparation of capstone and case analysis based on the knowledge contents students have learned with act-out presentations. Also work with faculty members to work on the capstone project.

PTHT 7344 – EBP IV – 2 credit hours in last spring semester – focused on completing the capstone project with each faculty member and finalizing students' presentation.

PHTH 7301 – Clinical Medicine – 4 credit hours in 1st Spring semester – focused on pathology and pharmacology in physical therapy.

PTHT 7254 - Diagnostic Imaging – 2 credit hours in 2nd spring semester. I took over the course in 2019. Revised the course by revising the radiography and MRI contents and adding diagnostic musculoskeletal sonography.

Developed at Texas Christian University (2017-2019)

As an adjunct professor to help TCU to start the new medical school, I was responsible as the course lead for developing system-based Anatomy course and Neuroanatomy courses: mainly worked course syllabi and how the course contents should be layout to align with other courses with the contents on the same system of the human body.

Curricula Developed at Allen College (Iowa) (2022-2023)

Courses revised since joining Allen College PT program

DPT 621- Pathology (4) Fall semester
Description: revised the course contents based on what I did previously to make them fit the 4-credit hours in a virtual teaching format.

DPT 621- Pharmacology (3) Fall semester
Description: revised the course contents based on what I did previously to make them fit the 3-credit hours in a virtual teaching format.

DPT 601 Anatomy (5) Spring semester
Description: revised the course contents based on what I did previously to make them fit the 5-credit hours course that was lectured in a virtual classroom. The immersion lab was conducted in-person with plastinated cadavers and plastinated body parts.

DPT 863 Geriatric PT (3) Spring semester
Description: re-designed the course based on the APTA CEEAA course I have taken with my teaching responsibilities on the aging process on different body systems and environmental adaptation for the elderly; and lab activities on assessments of strength, endurance, flexibility, balance, gait, and functionality.

DPT 878 PT for Special Population (3) Spring semester
Description: redesigned the course contents and lab activities with my responsibilities on teaching and lab instruction on oncology, pelvic health, and obesity.

Curricula Developed at LSUHSC (2023-now)

PHTH 7123 Pathophysiology (4) Spring 2024
Description: revised the course to make it the way I used to teach in previous PT programs.

PHTH 7300 Health Wellness & Promotion (2) Fall 2024

Description: Revised the course contents, reorganized the guest lectures, and added a lab demonstration of complementary therapies (cupping, graston, Tai Chi, acupuncture needling, dry needling, etc.).

Creation of Enduring Teaching Materials

NA

Formal Course Responsibilities

Course responsibilities in University of Central Arkansas (2003-2009)

1.	PTHY 5055 Gross Anatomy	Course director	96 hrs/yr for 7 years
2.	PTHY 6501 Neuroscience	Lab director	18 hrs/yr for 6 years
3.	PTHY 7390 Adv Anatomy	Course director	15 hrs/yr for 3 years
4.	PTHY 7330 App Histology	Course director	15 hrs/yr for 3 yrs
5.	PTHY 6340 Res Design	Co-course director	45 hrs/yr for 3 years
6.	PTHY 5190/5290 International PT study	Lecturer	30 hrs/yr for 3 years
7.	PTHY 7520 Cardiopulmonary	PT Lab instructor	24 hrs/yr for 1 year
8.	PTHY 7365 Differential Dx	Co-course director	15 hrs/yr for 2 years

Curricula Developed at University of North Texas Health Sci Ctr (2010-2023)

1.	DPHT 7305 App Anatomy(Kin)	Course director	45 hrs/yr for a year
2.	DPHT 7221 EBP I	Course director	45 hrs/yr for 3 years
3.	DPHT 7333 EBP II	Course director	45 hrs/yr for 12 years
4.	DPHT 7400 Clin Anatomy	Course director	96 (42 lecture+54 lab) hrs/yr for 14 yrs
5.	DPHT 7200 Neuroanatomy:	Course Director	36 (30 lecture+6 lab)/yr for 12 yrs
6.	DPHT 7301 Clin Med	Course director	60 hrs/yr for 2 years
7.	DPHT 7254 Diagnostic Imaging	Course director	20hrs/yr for 4

Curricula Developed at Allen College (Iowa) (2022-2023)

1.	DPT 621- Pathology (4)	Course director	60 hrs/yr for 2 cohorts
2.	DPT 621- Pharmacology (3)	Course director	45 hrs/yr for 2 cohorts
3.	DPT 601 Anatomy (5)	Course director	92 hrs (52 lectures+40 lab) for 1 cohort
4.	DPT 863 Geriatric PT (3)	Co-course director	12 hrs/yr for one cohort
5.	DPT 872 PT for Spec Popu (3)	Co-course director	12 hrs/yr for one cohort

Curricula Developed at LSUHSC (2023-now)

1.	PHTH 7123 Pathophysiology (4)	Course director	60 hrs/yr for one cohort
2.	PHTH 7300 Health Promotion (2)	Course director	30 hrs/yr for one cohort

Departmental/Interdisciplinary Teaching Conferences

At University of Central Arkansas

1. Research Forum (2007 – 2009): coordinated this on monthly basis,

Undergraduate, Medical, or Graduate Student Research Projects:

Research Mentor for DPT students at UNTHSC (2010-2023)

1. Research mentor for physical therapy student projects (not required) – 2010-2013
2. Jeff Guild in Class 2013 who received Dean's award for student's research excellence award for his pee-r-reviewed article in study on walking sticks.
3. Research mentor for physical therapy students group project (required) – Mirror therapy study in Class 2013 – 2012-2013.
4. Jeff Guild, Lauren Peterson, Jenny Peterson, Rachael Langford who received 1st place ward of Physical Therapy in 2013 RAD (Research Appreciation Day), UNTHSC 2013.
5. Alex Gustaf, Sam Taylor. Gait analysis walking on an incline with different ambulatory devices. Presented at the 2014 Conference of Texas Physical Therapy Association, Arlington, TX
6. Hesper Fang, Case report of extensor indices proprius – a cadaver study. Presented at UNTHSC 2014 Research Appreciation Day.
7. Ceci U. Analysis of exercise programs in assisted living communities. Presented at the 2013 Conference of Texas Physical Therapy Association, San Antonio, TX.
8. Rebecca Pares. Functional analysis of people with DeGorge syndrome. Presented at the 2014 US DeGorge Syndrome conference, Las Vegas, NV. July 2014.
9. Fang H, Mabutas K, Coppock A, Bolinger E (Class 2015). The effects of animal-assisted therapy on older adults with dementia: a systematic review.
10. Chad Pittmon (Class 2016) - Effects of music therapy on functional mobility patients with stroke.
11. Juarez C, Wolf G, Bello A (Class 2017). Effects Of Aquatic Therapy On Neuromuscular Disease: A Review Of The Literature.
12. Pennucci M, Dillard D, Baker S (Class 2018), Comparison of Trunk and Leg Sway During Single Leg Stance.
13. Jay N, Downing A, Cook R. (Class 2017). Effects of Aerobic Exercise for Children with Down Syndrome: A Systematic Review of Literature.
14. Guzman JL, McEwen M, Cooper R, (Class 2018). The effect of Music on Gait patterns for Patients with Parkinson's Disease.
15. Garcia S, Kelley C, Rose K (Class 2019). A Systematic Review of Physical Therapy Interventions for Parkinson's Disease Introduction.
16. Coleman A, Beasley S, (Class 2020). Nichols C. Coordinated movement of diaphragm and pelvic floor muscle in relation to respiratory function.
17. Tran K, Henry Z, Salem Y, Liu H. Virtual Reality Intervention for Parkinson's Disease: A Systematic Review.
18. Logsdon L, Kolenovic M, Traina A, (Class 2021). Tai Chi with Chronic Obstructive Pulmonary Disease.
19. Traina A, Logsdon L, Kolenovic M Class 2021). Tai Chi and Cardiovascular Conditions.

20. Gary Pina, Bieu Cung, (Class 2023). Effects of Tai Chi on Depression and Anxiety in th Elderly People.
21. Prince Thomas. (Class 2023) Comparison of Gait Parameters when walking with a Rolling walker and a Cane on an Inclined Surface in Older Adults.

Research Mentor for DPT Students at LSUHSC-NO (2023- now)

- Berggren B, Fluellen E, Kieff J. Bilateral Appearance of The Abductor Digiti Minimi Accessorius Originating from the Palmaris Longus Muscles: A Case Report (Class 2027).

Mentorship for DO Students at Univ North Texas Health Sci Center:

1. Cindy Shi (Class 2012 – 2016). Analysis of posture influence on gait among those who use rolling walkers for daily activity.
2. Talon Miner (Class 2011 – 2015). Effect of osteopathic manipulation on bottom of foot to improve lower extremity circulation.
3. Justin Koenemann and Javier Piraino (Class 2013 – 2017). Anatomical analysis of anterior interosseous syndrome.
4. Blake Richard (Class 2014-2018) – Assessment of gait when using a rolling walker to make a turn
5. Joshua Baker (Class 2024) – Effect of Tai Chi exercise for people with insomnia.

Formal Mentoring and Advisor:

At University of Central Arkansas

- PhD Advisor for Ms. Myles Quiben (Graduated in 2009)

At University of North Texas Health Science Center

- PhD Advisor for Vuvi Nguyen, 2012 –2017
- Lab mentor: Libby Bradley (she did lab rotation in my lab in Summer and fall 2019) – Revisit of long thoracic nerve – Surface projection assessment

Thesis, Clinical Doctoral Projects, and/or Dissertation Committees:

At University of Central Arkansas

- PhD Committee member for Mr. James Fletcher (graduated in 2006)
- PhD Committee member for Ms. Margaret McGee (graduated in 2007)
- PhD Committee member for Mr. Chad Glasmore (Graduated in 2009)

At University of North Texas Health Science Center

- PhD Committee member for Ms. Victoria Kowalewski (2014-2018)
- Lab mentor: Libby Bradley (she did lab rotation in my lab in Summer and fall 2019) – Revisit of long thoracic nerve – Surface projection assessment
- Committee member for Mr. Taylor Craig – Revisit the sciatic nerve with an approach of clinical application (2021-2022)
- Lab mentor for Ms. Vaughna Galvin (Summer 2019)

At the University of Maryland at Baltimore

- PhD Qualification Oral and Written Exam Committee: Baghi, Raziyeh (a PhD student at Physical Therapy Department of University of Maryland at Baltimore) (2020-2021)

Post-Doctoral or Post-Residency Fellows Trained:

At University of North Texas Health Science Center

Post-doctor training

Dr. Xiao Bao. MD, PhD. 2016-2017 on research of ultrasound guided interventions for patients with musculoskeletal pain; effect of intermittent hypoxia training for patients with mild dementia.

Mentor for Visiting Scholars at UNTHSC (2012-2020):

1. Qiu, Qixiang (Shawn). MD, MS. 2012 – 2013. Baduanjin exercise for older adults in senior living communities.
2. Rui (Ray) Ma, MD, PhD. 2013 – 2014. Identification of anatomical variation of musculoskeletal system in upper extremity in gross lab.
3. Ping Miao, MD, MS. 2014 – May 2015. EMG study on vastus medialis during squatting.
4. Bao Yi, MS, PT. 2014 – 2015. Comparison of physical therapy studies between US and China.
5. Shao, Yingjin, MD, MS, PT. 2015-2016. Dry needling studies.
6. Liu, Hao, MD, PhD. 2016-2017. Analysis of Exercise programs provided in senior living communities in metropolitan area.
7. Guo Yuanyuan, MD, MS. 2017-2018. Postural analysis when using rolling walkers for ambulation in older adults.
8. Li, Yingzhi, MD, PhD. 2017-2018. Hands-on manipulation for sacroiliac joints.
9. Wang, Kangling. MD, PhD. 2018-2019. Psychological analysis of pain in geriatric patients; and in those who use wheelchairs for mobility
10. Zhou Jingjie, PT, MS.2019-2020. Additive effect of E-stim on stroke patients who are receiving therapeutic exercise.

Mentorship for MD Students:

1. Blake Richard (Class 2014-2018 at College of Osteopathic Medicine, UNTHSC) – Assessment of gait when using a rolling walker to make a turn.
2. Cindy Shi (Class 2012 – 2016, at College of Osteopathic Medicine, UNTHSC). Analysis of posture influence on gait among those who use rolling walkers for daily activity.
3. Talon Miner (Class 2011 – 2015, at College of Osteopathic Medicine, UNTHSC). Effect of osteopathic manipulation on bottom of foot to improve lower extremity circulation.
4. Justin Koenemann and Javier Piraino (Class 2013 – 2017, at College of Osteopathic Medicine, UNTHSC). Anatomical analysis of anterior interosseous syndrome.
5. Joshua Baker (Class 2020-2024 at College of Osteopathic Medicine, UNTHSC) – Effect of Tai Chi exercise for people with insomnia.
6. Gunda Saket (Class 2023-2027, School of Medicine, LSUHSC-New Orleans) – Effect of Tai Chi exercise on Patients with Metabolic Syndrome

RESEARCH AND SCHOLARSHIP

Funded Grants & Contracts

1. Morphology of Basilar Pontine Nuclei.
   Grant No.: NS 12644 (1992-1998)
   Grant Source: National Institute of Health
   Role: Co-investigator. (Principle investigator: Dr. Greg Mihailoff)
   Status: Funded and Completed.

2. Effect of An Exercise Program on Functional Mobility in Older Individuals: A Pilot Study.
   Applied Funding: $1,000.00
   Grant Source: Faculty Enhancement Grant (2005-2006)
   Role: Principle Investigator
   Status: Completed

3. Effects of an Exercise Program on Risk of Falling in Elderly Individuals: Outcome Measured with Falls Efficacy Scales and Berg Balance Scale.
   Applied Funding: $2,102.00
   Grant No.: URC 212-220
   Grant Source: University Research Council (URC) grant (2004-2005)
   Role: Principle Investigator
   Status: Completed

4. Depression and Fear of Falling Among the Elderly People Using Assistive Ambulatory Devices.
   Approved Funding: $1,377.00
   Grant Number: URC 132217
   Grant Source: University Research Council (URC) grant (2006-2007)
   Role: Principle Investigator

Status: Completed

5. Effect of Assistive Ambulatory Devices on Balance and Posture in Older Individuals.
   Applied Funding: $4,550.00
   Grant Number: URC 216116
   Grant Source: University Research Council (URC) grant (2007-2008)
   Role: Principal Investigator
   Status: Completed.

6. Influence of Combined L-dopa and Passive Exercise on Restoration of the Frequency Dependent Depression of the H-Reflex in Rats with Spinal Cord Injury.
   Approved Funding: $16,724.00
   Grant No.: NIH Award #: 5 P20 RR016460; ORSP/ARIA #: 0701
   Grant Source: Arkansas Biomedical Research Infrastructure Network (BRIN) (Year 2005)
   Role: Principle Investigator
   Status: Funded. Study completed.

7. Tailored Home Exercise-Partner Intervention for Post-Hospitalized Frail Elders.
   Approved Funding: $15,000.00
   Grant Source: Department of Health and Human Services, University of Arkansas for Medical Sciences (Year 2007)
   Role: Co-Investigator
   Status: Funded and study completed.

8. Functional Assessment for Patients with DiGeorge Syndrome.
   Applied funding: $1,500.00
   Grant source: Texas Physical Therapy Association Research Fund - 2013
   Role: Co-PI
   Status: Funded

9. Creating the Flipped Classroom for Human Gross Anatomy.
   Applied funding: $10,000.00 (03/01/2014 – 08/31/2015)
   Grant source: UNTHSC Teaching fund
   Role: Co-PI
   Status: Funded

10. Use of Yoga for Young Children with Down Syndrome.
    Applied funding: $12,200.00 (04/01/2014 – 08/31/2015)
    Grant source: UNTHSC Research Grant
    Role: Co-PI
    Status: Funded

11. SmartWalker – A New Design of Rolling Walker to Reduce Falls and Walker-use Related Side Effects
    Applied funding: $100,000.00 (06/01/14 – 05/31/17)
    Grant Source: Texas Medical Research Collaborative Fund
    Role: PI

Status: Completed

12. Analysis of Gait When Walking with a Rolling Walker with Leaning Forward Posture
    Funding: $1000.00 (2/2015 – 2/2016)
    Grant Source: TCOM Research Fund of UNTHSC
    Roe: PI
    Status: Completed

13. Vibration Therapy for Patients with Subacute Stroke
    Funding: $4,500.00 (2016-2019)
    Grant Source: Texas Physical Therapy Association Foundation
    Role: Co-PI
    Status: Completed

14. Gait Assessment When walking with a Rolling Walker to Make a Turn
    Funding: $1000.00 (2/2016 – 2/2017)
    Grant Source: TCOM Research Fund of UNTHSC
    Role: Research Mentor
    Status: Completed

15. Balance assessment in the elderly after a 12-week Computerized game-based intervention
    Funding: $10,250.00 (6/2016 – 6/2018)
    Grant Source: Alexandave Industries. Inc.
    Roe: PI
    Status: Completed

16. Effect of Combined Vibration Therapy with Regular Exercise for Patients with Multiple Sclerosis in Community
    Funding: $20,000.00 (09/01/2017 – 12/31/2020)
    Grant Source: Institute of Aging and Alzheimer Disease, UNTHSC
    Role: PI
    Status: Completed

17. Education and Research Pathway Training Program for DEI Awareness in Healthcare Workforce
    Funding: $10,000.00
    Funding Resource: 2021 UNTHSC DEI Awareness Grant (2021-2022)
    Role: Co-PI
    Status: Approved.

18. Intermittent Hypoxia Training: Novel Rehabilitative Therapy for Ischemic Stroke.
    Funding: $30,000.00
    Funding Resource: UNTHSC Applied Research Grant (5/1/19-2/28/21)
    Role: Co-investigator (PI: Dr. Shi, Xiangrong)
    Status: funded

19. Dyadic Tele-Tai Chi Qigong Program for People with Parkinson Disease and Their Caregivers Living in Community.
Funding: $3,000.00
Funding source: Parking Foundation (2023-2024),
Role: PI
Status: Funded.

20. Virtual Tai Chi Program for People with Mild to Moderate Parkinson Disease and Their Caregivers in Community with Diversity.
Funding: $5,000.00
Funding source: Parking Foundation (2024-2025),
Role: PI
Status: Funded.

Pending funding

1. Incentivizing Physical Therapy Workforce Development: Supporting Students in Underserved Areas of Louisiana
Funding request: $276,139.00 (2025 – 2027)
Funding source: Health Care Employment Reinvestment Opportunity (HERO) Fund
Role: PI (Hoang H, Co-PI)
Status: Under Review

2. Hearing Aid Effects on Gait and Posture.
Funding: $165,307.00 (2025-2028)
Funding source: LSU Board of Regent Support Fund
Role: Co-PI (Rishiq D., PI)
Status: Under review

Recent non-funded applications

1. Deep Diaphragmatic Breathing Based Progressive Tai Chi Exercise for Patients with Parkinson Disease – An Exploratory Study
Funding: $30,000.00
Funding source: Association of Schools Advancing Health Professions
Role: PI
Status: not funded

Major Area of Research Interest:

My research primarily focuses on geriatric physical therapy in both clinical settings and community environments, as well as musculoskeletal research in the Gross Anatomy lab. In clinical geriatrics, I investigate the effects of alternative therapies, such as Tai Chi-based deep diaphragmatic breathing, on older adults with neurodegenerative disorders like Parkinson's disease. Additionally, I examine how walking aids (e.g., canes or rolling walkers) influence the body mechanics of older adults living with chronic geriatric

conditions in community settings. In the anatomy lab, I conduct research on cadaveric specimens to map surface projections and identify potential impingement sites of peripheral nerves, comparing these findings to individuals who experience peripheral pain disorders.

Journal Publications:

1. **Liu, H.**, and Mihailoff, G. Hypothalamopontine projections in the rat: anterograde axonal transport studies employing light and electron microscopy. *Anatomical Record*. 1999; 255(4): 428-451.

2. Hardy SG, Spaulding T, **Liu H**., Nick TG, Pearson RH, Hayes AV, Stokic DS. The effect of transcutaneous electrical stimulation on spinal motor neuron excitability in people without known neuromuscular diseases: the roles of stimulus intensity and location. *Physical Therapy*. 2002; 82(4):354-363.

3. Zhang F, Richards L, Angel MF, Zhang J, **Liu H**, et al. Accelerating flap maturation by vascular endothelium growth factor in a rat tube flap model. *British Journal of Plastic Surgery*. 2002; 55(1):59-63.

4. Zhang F, **Liu H**, Stile F, Lei MP, Pang Y, Beck J, Dorsett-Martin W, Lineaweaver WC. Effect of Vascular Endothelial Growth Factor on Rat Achilles Tendon Healing. *Plastic and Reconstructive Surgery*. 2003; 112:1613-1619.

5. **Liu H**, Wellons M. Effect of excessive potassium on muscle strength: A case report. *Physical & Occupational Therapy in Geriatrics*. 2005; 23:55-66.

6. Prati V, **Liu H**. Perceptions of college students regarding the current physical therapy profession and professional education process. *The Internet Journal of Allied Health Sciences & Practice*. 2006; 4 (4):1-6.

7. Chen J, **Liu H**, Li ZB, Quiben M. Multivariant analysis of stroke rehabilitation outcomes: a pilot study in Chinese population. *Physical & Occupational Therapy in Geriatrics*. 2006; 24:1-14.

8. **Liu H**, Fletcher J. Analysis of physicians' referrals: is further diagnosis needed? *Northern American Journal of Sports Physical Therapy*. 2006; 1:6-12.

9. Zabel RJ, Quiben M, **Liu H**, Charton M. Re-examination of "Normal" values for thoracic curvature in older females based on the index of kyphosis. Journal of Geriatric Physical Therapy. 2007; 30(3):144-145.

10. Chen J, **Liu H**, Liu BZ, Quiben M, Uytingco E. Time between Stroke Onset and Rehabilitation: A Predictor of Mobility Recovery for Patients with Stroke in a Chinese Population. Philippine Journal of Allied Health Sciences. 2007; 2(1):18-25.

11. **Liu H,** Rainey J, Zabel R, Quiben M, Kehavyov A, Boswell J. Comparison of two exercise programs using the falls efficacy scale, Berg balance scale and ankle dorsiflexor strength in older adults. *Physical & Occupational Therapy in Geriatrics. 2007; 27(2):43-52.*

12. **Liu H,** Zabel R, Prati V. Assessment of dependence on assistive ambulatory devices among older adults: A new tool. *International Journal of Therapy and rehabilitation*. 2007; 14(9): 419-423.

13. **Liu H**, Hu XL, Treadwell A. Variation of Extensor Carpi Radialis Muscles: An Anatomical Case Report. *Chinese Journal of Clinical Anatomy*. 2007; 25(3): 352-354.

14. **Liu H**, McGee M, Prati V, Garrison K, & Fu Q. Comparison of Standing Balance Parameters Between True and Potential Rolling Walker Users. *Physical & Occupational Therapy in Geriatrics*. 2008; 27:298-309.

15. **Liu H,** McGee M, Wang W, Persson M. Comparison of Gait Characteristics between Older Rolling Walker Users and Older potential Walker Users. *Archives of Gerontology & Geriatrics*. 2009; 48, 376-380.

16. **Liu H,** Grando V, Zabel R, Nolen J. Pilot study evaluating fear of falling and falls among older rolling walker users. *International Journal of Therapy and Rehabilitation*. 2009; 16(12): 671-676.

17. **Liu H,** Fletcher J, Dailey M, Persson M. Surface projections of Radial Tunnel under the Supinator Muscle**:** A cadaver study. *Advances in Physiotherapy*. 2009; 11(4): 234-241.

18. **Liu H**. Assessment of Rolling Walkers Used by Older Adults in Senior Living Communities. *Geriatrics & Gerontology International*. 2009; 9 (2): 124-130.

19. Nolen J, **Liu H,** Liu H, McGee M, Grando V. Comparison of Gait characteristics with a single-tip cane, tripod cane, and quad cane. *Physical and Occupational Therapy in Geriatrics*. 2010; 28(4):387-395.

20. **Liu H**, Skinner R, Arfaj A, Yates C, Reese N, Williams K, Garcia-Rill E. L-Dopa effect on frequency-dependent depression of the H-reflex in adult rats with complete spinal cord transection. *Brain Research Bulletin*. 2010; 83(5):262-265.

21. **Liu H**, Frank A. Tai Chi as a Balance Improvement Protocol for Older Adults: A Systematic Review. *Journal of Geriatric Physical Therapy. 2010; 33(3):103-109.*

22. **Liu H**, Fletcher J, Garrison K, Holmes C. Bilateral Absence of the Semimembranosus and Quadratus Femoris Muscles: A Case Report. *International Journal of Anatomical Variation*. 2011; 4:40-42.

23. **Liu H**, Eaves J, Wang W, Womack J, Bullock P. Assessment of canes used by older adults in senior living communities. *Archives of Gerontology & Geriatrics. 2011; 52(3): 299-303*.

24. Guild J, **Liu H**, Connors M, Holmes C. Comparison of gait while ambulating with three different types of canes with normal subjects: a pilot study. International Journal of Therapies and Rehabilitation Research. 2012, 1 (3):1-9.

25. **Liu H**, Holmes V, Nordon-Craft A, Reeves R. Variation of sternalis muscle: a case report. International Journal of Anatomical Variations. 2012; 5: 59–61.

26. **Liu H,** Connors M, Grando V, Liu H. Tai Chi intervention for older adults using assistive devices in a senior living community: a pilot study. *International Journal of Therapy and Rehabilitation.* 2012; 19(3): 136-142.

27. Huang M, **Liu H**, Gu JW, et al. The Effect of Transcutaneous Electrical Nerve Stimulation at Acupuncture Points on Spinal Motor Neuron Excitability in People without Known Neuromuscular Diseases**.** Journal of the Mississippi Academy Sciences, 2014; 59 (Supple): 267-271.

28. Qiu QX, Wang XM, **Liu H**. Analysis of Effect of falls by assistive ambulatory devices used by older adults in US. Chinese Journal of Rehabilitation Theory and Practice. 2014; 20(1):85-87.

29. Miao P, Pan CH, Liu H, Wang CH. Vastus medialis oblique and vastus lateralis activity during a double-leg semisquat with or without hip adduction in patients w with patellofemoral pain syndrome. BMC Musculoskeletal Disorder. 2015; 16:289.

30. Miao P, **Liu H**, Pan CH. Evaluation and accreditation of physical therapy education in United States. Chin J Rehabil Theory Pract, 2015, 21(2): 245-248.

31. Miao P, **Liu H**, Pan CH, Yu R. Clinical-oriented Curriculum of Physical Therapy Education in United States. Northwest Med Edu, 2015, 23(1): 1-3.

32. Holmes V, Liu H, Kirchhoff C, Rosales A. A variant of Extensor Medii Proprius – A case Report. International Journal of Anatomical Variation. 2015; 8:32-33.

33. Xu DQ, Wang H, Chen D, Ross A, **Liu H**, Yurvati A, Raven PB, Shi XR. Aerobic Exercise Training Improves Orthostatic Tolerance in Aging Humans. Medicine & Science in Sports & Exercise. 2016. DOI: 10.1249/MSS.0000000000001153.

34. Arguello E, Stoddard C, **Liu H**, Richardson M, Hartis A. Surface Projection of Interosseous Foramen of the Leg: Cadaver Study. Anatomical Research International. 2016. ID 6312027. http://dx.doi.org/10.1155/2016/6312027

35. **Liu H**, Du Q. Periodic Assessment of Walking Devices in Senior Living Communities. Journal of Aging Science. 2016; 4:155. doi: 10.4172/2329-8847.1000155.

36. Zhang H, **Liu H,** Lin Q, Zhang GH, Mason D. Effects of intermittent pressure imitating rolling manipulation on calcium ion homeostasis in human skeletal cells. BMC Complementary & Alternative Medicine. 2016; 16(1): 314.

37. Nguyen VH, **Liu H**, Rosales A, Reeves R. A cadaveric investigation of the dorsal scapular nerve. Anatomical Research International. 2016. Article ID 4106981.

38. Zhao YW, Salem Y, Master H, Holmes C, Liu H. Comparison of surface landmarks in measuring the rolling walker height in older rolling walker users. Physical & Occupational Therapy in Geriatrics. 2016; 33(2):128-138.

39. Nguyen VH, **Liu H**, Rosales A, Reeves R. A Cadaveric Study on the Surface Projection of the Dorsal Scapular Nerve. International Journal of Physical Therapy & Rehabilitation. 2017, 3:131. https://doi.org/10.15344/2455-7498/2017/131.

40. Du Q, Salem Y, **Liu H**, Zhou X, Chen N, Yuan XY, Liang JP, Sun K. A home-based exercise program for children with congenital heart disease following interventional cardiac catheterization: study protocol for a randomized controlled trial. Trial. 2017; 18:38. DOI 10.1186/s13063-016-1773-7.

41. **Liu H**, Quiben M, Holmes C, Connors M, Salem Y. Differences in the Limits of Stability Between Older Rolling Walker Users and Older Single-Tip-Cane Users - A Preliminary Study. Rehabilitation Nursing. 2017; 42(2): 109-116.

42. Li X, Zhou X, **Liu H**, Chen N, Liang JP, et al. Effects of elastic therapeutic taping on knee osteoarthritis: A systematic review and meta-analysis. Aging & Disease. 2018; 9(2):296-308. DOI: 10.14336/AD.2017.0309

43. Bao X, Tan JW, Flyzik, M, Ma, XC, Liu HY, **Liu H**. Effect of therapeutic exercise on knee osteoarthritis after intra-articular injection of botulinum toxin type A, hyaluronate or saline: A randomized controlled trial. Journal of Rehabilitation Medicine. 2018. 50(6):534-541.

44. Salem Y, **Liu H**, Elokda A, Quiben M, Holmes C. Aquatic therapeutic exercises for individuals with neurological disorders: Evidence-based approach. Journal of Aquatic Physical Therapy. 2018; 26(2):11-14.

45. Guo YY, **Liu H**, Huang DF, Yang N. Enlightenment and Thinking of Homogenous Physical Therapy Education in United States. Study and Practice in Medical Education. 2018, 1:5-8.

46. Dong XY, Papa E, **Liu H**, Feng Z. Huang HH, Liao CC. Vagus nerve stimulation causes wake-promotion by activating orexins pathway in traumatic brain injury induced comatose rats. International Journal of Experimental and Clinical Medicine. 2018; 11:4742-4751.

47. Bao X, Tan JW, Long Y, **Liu H**. Effect of intermittent hypoxia training for dizziness: a randomized controlled trial. Journal of Sports Rehabilitation. 2019. 28:540-543.

48. Bao X, Qiu QX, Shao YJ, **Liu H**. Effect of Sitting Ba-Duan-Jin Exercise on Balance and Quality of Life among Older Adults: A preliminary Study. Rehabilitation Nursing. 2020. 45(5): 271-278. doi:10.1097/rnj.0000000000000219.

49. Guo YY, Zhao YW, Salem Y, Miller K, **Liu H**. Effects of Posture on Gait in Older rolling walker users. Geriatric Nursing. 2020. 41(6):916-920. https://doi.org/10.1016/j.gerinurse.2020.06.017

50. Wang CH, LI X, Lo WLM, Lu SW, **Liu H**, Lin KY, Lai JY, Li L. Trunk muscle activities during pressure feedback monitoring among Individuals with and without chronic low back pain. BMC Musculoskeletal Disorders. 2020. 21: 569. https://doi.org/10.1186/s12891-020-03565-y.

51. **Liu H**, Salem Y, Zhou JJ, Holmes C, Quiben M. Comparison of trunk and leg sway during single leg standing. International Journal of Physiotherapy and Research. 2020. 8(5): 3602-3608.

52. Bao X, **Liu H,** Liu HY, Long Y, Tan JW, Zhu ZM. The effect of intermittent hypoxia training on migraine: A randomized controlled trial. American Journal of Translational Research.. 2020. 12(7): 4059-4065.

53. Nichols C, Liu ES, **Liu H**. Complete Adipose Replacement of Bilateral Medial Gastrocnemius Muscle - A Cadaveric Case Report. Academia Anatomica International. 2020; 6(1):62-64.

54. Li X, **Liu H**, Lin KY, Miao P, Zhang BF, Lu SW, Li L, and Wang CH. Effects of different sling settings on electromyographic activities of selected trunk muscles: A preliminary research. BioMed Research International. Volume 2020, Article ID 2945952. http://doi.org/10.1155/2020/2945952.

55. Guan HZ, Zhao LJ, **Liu H**, Xie DY, Liu YJ, et al. Effects of intermittent pressure imitating rolling manipulation in traditional Chinese medicine on ultrastructure and metabolism in injured human skeletal muscle cells. American Journal of Translational Research. 2020. 12(1): 248-260.

56. Bao X, Luo JN, Shao YC, Tang ZQ, Liu HY, **Liu H**, Tan JW. Effect of functional electrical stimulation plus body weight-supported treadmill training for gait rehabilitation in patients with poststroke-a retrospective case-matched study. European Journal of Physical and Rehabilitation Medicine. 2020; 56(1):34-40. doi: 10.23736/S1973-9087.19.05879-9.

57. Chen RJ, Liu GY, **Liu H**, Wu QW. Effects of elastic band exercise on the frailty states in pre-frail elderly people. Physiotherapy Theory & Practice. 2020. 36(9): 1000-1008. DOI: 10.1080/09593985.2018.1548673

58. Wang KL. Chen YF, Huang SM, **Liu H**, Wu W. Attention bias to pain works comes early and cognitive load matters: Evidence from ERP study on experimental pain. Neural Plasticity. 2021:9940889. https://doi.org/10.1155/2021/9940889

59. Li YZ, **Liu** H, Nichols C, Mason D. Manipulative therapy for genital pain – a clinical case report. Journal of Manual and Manipulative Therapy. 2021. 30(2):124-131. https://doi.org/10.1080/10669817.2021.1985693

60. Bao X, **Liu H**, Long Y, Tan JW. Therapeutic effect of Fu's subcutaneous needling for shoulder pain-A Randomized Controlled Trial. Anatomical Record. 2021; 304:2552-2558. https://doi.org/10.1002/ar.24710

61. Bao X, Li L, **Liu H**, Shi HF, Xu S, Wang MH, Xie JY. Effect of acupuncture combined with rehabilitation exercise for cognitive and motor dysfunction on patient's post-stroke. Anatomical Record. 2021; 304:2531-2537. https://doi.org/10.1002/ar.24700 (as the Top Cited Article Between January 1, 2021 to December 15, 2022 in Anatomical Record published by the Wiley).

62. Shen YL, **Liu H**, Duan ZY, Zai Q, Li JH, Chen WH, Yu B. Comparison of teaching anatomy in physical therapy between China and US. Chinese Journal of Physical Medicine & Rehabilitation. 2021; 43(10):933-935. http://doi:10.3760/cma.j.issn.0254-1424.

63. Li H, **Liu H**. Exercise Selections for People with Dementia for Prevention and Interventions. Chinese Journal of Alzheimer's Disease and Related Disorders. 2021; 4:156-161. http://doi:10.3969/j.issn.2096-5516.2021.02.014

64. Ge YJ, **Liu H**, Wu QW, Chen AJ, Gao ZP, Xing FM, Liu GT. Effects of a Short Eight Tai Chi-Forms for the Pre-frail Elderly People in Senior Living Communities. Journal of Physiotherapy Theory & Practice. June 2021; https://doi.org/10.1080/09593985.2021.1926023

65. Li X, **Liu H**, Ge L, Yan YF, Lo WLA, Li L, Wang CH. Cortical representation of transverse abdominis and multifidus muscles were discrete in patients with chronic low back pain. Evidence elicited by TMS. Neural Plasticity. 2021: 6666024. https://doi.org/10.1155/2021/6666024

66. **Liu H**, Salem Y, Aggarwal S. Effects of Tai Chi on Biomarkers and Its Implication to neurorehabilitation – A systematic review. European Journal of Integrative Medicine. 2022. 50:101391. https://doi.org/10.1016/j.eujim.2021.101391

67. Wang YC, Hu M, Li L, Xu DS, **Liu H**, Wang XQ, Li KL. Physical exercise for age-related neuromusculoskeletal disorders (Editorial). Frontiers in Aging Neuroscience. 2022; 14:1099417. | https://doi.org/10.3389/fnagi.2022.1099417

68. Salem Y, Ciani G, Elokda A, Hegazy F, Aboelnasr EA, **Liu H**. Immediate Effects of Task-Oriented Training on Walking and Balance in Patients with Stroke: A Preliminary Study. Ageing Sci Ment Health Stud. 2022; 6(6): 1-5. https://researchopenworld.com/category/ageing-science-mental-health-studies/

69. Wu W, Jia J, Li FX, Peng WW, **Liu H**, Chen H, Shi Y. Pain-related Neural Networks and Regulation Mechanisms (Editorial). Frontiers in Molecular Neurosciences. 2022. https://doi.org/10.3389/fnmol.2022.1051335

70. Li X, Zhang HJ, Ambrose WL, Lo L, Ge L, Miao P, **Liu H**, Li L, Wang CH. Sling exercise can drive cortical representation of transversus abdominis and multifidus muscles in patients with chronic low back pain. Frontier in Neurology. 2022; 13:904002. https://doi.org/10.3389/fneur.2022.904002

71. **Liu H**. Miller K, Arguello E. Effects of Ba-Duan-Jin based deep diaphragmatic breathing on multimorbidity – A case report. International

Journal of Physiotherapy and Research. 2022; 10(4):4295-4303. https://dx.doi.org/10.16965/ijpr.2022.129

72. **Liu H**, Yasser S, Aggarwal S, Nichols C, Holmes C. Effects of Tai Chi practice on brain as assessed with neuroimaging techniques – a scoping review. Ageing Science & Mental Health Studies. 2022; 6(5): 1-12. DOI: 10.31038/ASMHS.2022651; https://researchopenworld.com/effects-of-tai-chi-practice-on-brain-as-assessed-with-neuroimaging-techniques-a-scoping-review/

73. **Liu H**, Salem Y, Arguello A. Liu H. Brain response and Neurobehavior Changes after Tai Chi practice in the elderly– A literature review. Traditional & Integrative Medicine. 2023. 8(1):86-96. https://jtim.tums.ac.ir/index.php/jtim/article/view/651

74. Zhu PA, Xie JY, **Liu H**, Wen YL, Shao YJ, Bao X. Efficacy of high-frequency repetitive transcranial magnetic stimulation at 10Hz in fibromyalgia: a systematic review and meta-analysis. Archives of Physical Medicine & Rehabilitation. 2023; 104(1): 151-159. https://doi.org/10.1016/j.apmr.2022.05.006

75. **Liu H**, Nichols C, Zhang H. Understanding Yin-Yang Philosophic Concept behind Tai Chi Practice. Holistic Nursing Practice. 2023; 37(5):E75-E82. http://doi: 10.1097/HNP.0000000000000598.

76. **Liu H**, Thomas P, Salem Y, Miller K, McGee M. Comparison of gait parameters between walking up and down an incline with a walking device in the elderly people. Geriatric Nursing. 2023; 53:141-145. https://doi.org/10.1016/j.gerinurse.2023.07.014

77. Li L, Li S, **Liu H**, Niu WX, Wang CH. Editorial: Neural Responses for Rehabilitation of the Elderly with Evidence from the Micro, Meso- to Macro- Scale. Frontiers in Aging Neuroscience. 2023; 15:1208578. DOI: 10.3389/fnagi.2023.1208578

78. Zhu PA, **Liu H**, Bao X. Efficacy of Tai Chi on lower limb functions of Patients with Parkinson disease: a systematic review and meta-analysis. Frontiers in Aging Neurosciences. 2023; 15:1096417. https://doi.org/10.3389/fnagi.2023.1096417

79. Quan LJ, Zhao Y, Ouyang CF, Ying DX, Xiong ZC, Li XX, Luo ZQ, Luo J, **Liu H**. The mechanism of chemokine receptor ACKR2 in cognitive impairment in young rats with traumatic brain injury. American Journal of Translational Research. 2023;15(3):1654-1666 www.ajtr.org /ISSN:1943-8141/AJTR0145156

80. Zhang YH, Adamo D, **Liu H**, Wang QX, Wu W, Zheng YL, Wang XQ. Inflammatory pain: Mechanisms, assessment, and intervention. Frontiers in Molecular Neuroscience. 16:1286215. https://doi.org/10.3389/fnmol.2023.1286215.

81. **Liu H**. Wiedman C, Lovelace-Chandler V, Gong SZ, Salem Y. Deep diaphragmatic breathing – anatomical and biomechanical consideration. Journal of Holistic Nursing. J Holist Nurs. 2024; 42(1):90-103. https://doi.org/10.1177/08980101221149866

82. Zhao MM, Chen WH, Mo XY, Yang JR, **Liu H**, Shi LL, Ma HW, Jiang ZR, Zhang PW. Functional network alterations in adult obstructive sleep apnea: A resting-state fNIRS study. Journal of Sleep Research. 2024; 33(2):e14033. https://doi.org/10.1111/jsr.14033

83. Liu WN, Piccardi L, **Liu H**, Zhang L, Liu CY, Xia J. Editorial: Physical Exercise and Brain Health: Functional Mediators and Therapeutic Targets Focusing on Neuroendocrinology. Front. Neurosci. 18:1415752. doi: 10.3389/fnins.2024.1415752

84. Zhu PA, Li ZL, Lu QQ, Nie YY, **Liu H**, Kiernan E, Yuan J, Zhang LJ, Bao X. Can cerebellar Theta-Burst Stimulation improve balance function and gait in stroke patients? - A randomized controlled trial. European Journal of Physical and Rehabilitation Medicine. 2024 60(30):391-399..

Accepted

1. Lu QQ, Zhu PA, Li ZL, Clayton H, Zhong Y, **Liu H**, Bao X, Xie JY. Efficacy of repetitive Transcranial Magnetic Stimulation over the Supplementary Motor Area on Motor Function in Parkinson's Disease: A Meta-Analysis. American Journal of Physical and Rehabilitation Medicine. Accepted. June 2024. DOI: 10.1097/PHM.0000000000002593

Submitted:

1. **Liu H**, Salem Y, Akotaobi N, Murphy C, Arguello E. Analysis of exercise programs in assisted living facilities – A cross-sectional study. Geriatric Nursing. Under review.

2. Zhu PA, **Liu H**, Clayton H, Bao X. Are Mind-Body Exercise Beneficial for fibromyalgia Symptoms? A systematic review and meta-analysis. European Journal of Integrative Medicine. Under review.

3. Bao X, **Liu H**, Kiernan E, Liu HY, Luo LN, Zhu ZM. Effects of action observation therapy plus repetitive transcranial magnetic stimulation on lower limb function for poststroke patients - a randomized controlled study. Brazilian Journal of Physical Therapy and Rehabilitation. Under review.

Revised: January 2021
Revised: August 2024

4. Bao X, **Liu H**, Tan JW, Shao YJ. Comparison of Effects between Injection of Botulinum toxin type A at the Shoulder and Injection of Combined Lidocaine and Triamcinolone at the Stellate Ganglion on Patients with Refractory Shoulder Pain Post-Stroke. Brazilian Journal of Physical Therapy and Rehabilitation. Under review.

Non-refereed

5. **Liu H.** Medical Consultation (Intervention) in Rolling Walker Selection and Education. Arkansas geriatric education collaborative Bulletin. 2007. May Issue.
6. **Liu H**. Assistive ambulatory devices in aging population: Types, selection, and proper use. International Rehabilitation Engineering and Devices. 2012; 3:57-61.
7. **Liu H**. Selection and Us of Assistive Ambulatory Devices. Acta of Gannan Medical University. 2013; 34:5-9.
8. **Liu H**. Geriatric rehabilitation: Definitions, Common Contents, and Interventions. International Rehabilitation Engineering and Devices. 2014; 5(2): 64-69.
9. Salem Y, **Liu H**. Physical Therapy Guide to Slipped Capital Femoral Epiphysis. APTA Clinical Practice Guidelines Pediatric Series. 2021.

H-Index/indices

- H-index: 12 (Based on publications since 2018) – Google Scholar
- I10-index: 18 (based on publications since 2018) – Google Scholar
- h-index; 15 (based on publications since 2003) – Research Gate

Books / Book Chapters:

1. **Liu H**, Li H. Guidance of Health for Older Adults in USA. Sichuan University Press. Chengdu, China. January 2015.

2. **Liu H**, Salem Y. Chapter 32: Variation of Pelvic Diaphragm and External Anal Sphincter. In: Tubbs S, Shoja MM, Loukas M. Comprehensive Encyclopedia of Human Anatomic Variation. Wiley Publisher. 2016.

3. Potter JF, **Liu H**. Chapter 31. Gait Impairment Questions Writer. In: Durso SC, Sullivan GM. Geriatric Review Syllabus: A Core Curriculum in Geriatric Medicine, 9th Ed. 2016.

4. **Liu H**, Luo J. Musculoskeletal Anatomy for Rehabilitation Professionals. Jiangxi Science & Technology Publisher. Nanchang, China. 2016.

5. Wang SB, Wang HF, He CQ, **Liu H**. Rehabilitation Therapy in Sports Injury (2nd ed). Electric Industry Press. Shanghai, China. 2019.

6. **Liu H**, Guo YY. Physical Modalities. (In: Rehabilitation Medicine, 1st ed). Electric Industry Press. Shanghai, China. 2019.

7. **Liu H**. Tai Chi for Neurological disorders. In: Neurological Rehabilitation. Editor-in-chief: Darcy Umphreld, 7th ed.). Elsevier. 2019.

8. **Liu H,** Wu QW. Translation into Chinese of Geriatric Physical Therapy – A case study approach. Written Staples WH. McGraw Hill Education. People's Health Press. Beijing, China. Oct 2020.

9. **Liu H**. Essential English for Rehabilitation and Therapy Professionals. World Book Press of Shanghai. Shanghai, China. Jan 2020.

10. **Liu H**. Therapeutic Exercise for Patients with Dementia. (Book chapter in book: Wang J. Treatments for Patients with Dementia at Home). People's Health Press, Beijing, China. Currently under review. 2021.

11. Salem Y, **Liu H.** Chapter 8. Rheumatic Disorders. (In: Pediatrics for Physical Therapy Assistant. 2e. O'Shea R.). Elsevier. 2022.

12. Liao LR, Wang YL, Li YQ, Zhu Y, **Liu H**. Translator (also the main auditor) of Chinese version of the textbook "A Comprehensive Guide to Geriatric Rehabilitation (Kauffman TL, Scott R, Barr JO, Moran ML) (3rd ed). McGraw Hill Education; Publishing House of Electronics Industry. Beijing, China. March 2023.

13. **Liu H**, Zeng Z. Chapter 16. Gastrointestinal Diseases. In Goodman & Fuller: Pathology – Implications for Physical Therapists. 4th ed. Saunders & Elsevier. (due time: July 2024; ; Currently under review by the editor).

14. Levenhagen K, **Liu H**. Chapter 8. Infectious Diseases. In Goodman & Fuller: Pathology – Implications for Physical Therapists. 4th ed. Saunders & Elsevier. (due time: July 2024; Currently under review by the editor)

Scientific Presentations/Published Abstracts/Oral Sessions and Posters:

1. Liu, H. And G.A. Mihailoff. Projections from the hypothalamus to the basilar pontine nuclei in the rat. Mississippi Academy Sciences. 1996.
2. Liu, H. and G.A. Mihailoff. Descending hypothalamic projections to the basilar pontine nuclei studied with light and electron microscopy in the rat. Neuroscience Abstracts, vol. 22:1630. 1996.
3. Liu, H. and G.A. Mihailoff. Direct connections between hypothalamopontine pathways arising in the lateral and posterior hypothalamic areas and pontocerebellar projections reaching the ventral paraflocculus: light and electron microscopic studies in the rat. Neuroscience Abstracts, vol. 24:669. 1998.
4. Liu, H. Fletcher J. Analysis of Physicians' Referrals: Is Further Diagnosis Needed? Presented at the 2004 APTA Combined Section Meeting in Nashville, TN. Feb 2004.

5. Liu H, Taylor D. Excessive Potassium in Muscle Strength: A Case Report. Presented at the 2005 APTA Combined Section Meeting in New Orleans, LA. Feb 2005.
6. Chen J, Liu H, Li, ZB, Quiben, M. Multivariant Analysis of Stroke Rehabilitation Outcomes: A Pilot Study in the Chinese Population. Presented at the 2005 APTA annual conference in Boston, MA. June 2005.
7. Prati V, Liu H, Fletcher J. Perception of College Students to the Current Physical Therapy Profession and Professional Education. Presented at the 2005 APTA annual conference in Boston, MA. June 2005.
8. Liu H, Quiben M, Chen J, Li ZB. A Retrograde Study of Multivariant Effect on the Stroke Rehabilitation Outcomes. Presented at the 2005 Conference of the Neurodevelopment Treatment Association. Houston, TX. Oct 2005.
9. Liu H, McGee M, Quiben M, Treadwell A, Loftin K. Observation of Variation of Extensor Carpi Radialis Muscles: A Case Report. Presented at 2006 APTA combined section meeting in New Orleans, LA. Feb 2006.
10. **Liu H**, Quiben M, Zabel R, Rainey J, Boswell J, Kehayov, A. Effect of An Exercise Program on Functional Mobility in Older Individuals: A Pilot study. Presented at the 2006 APTA annual conference in Orlando, FL. June 2006.
11. Jefferson J, **Liu H**. Analysis of Physician's Referrals to Pediatric Physical Therapy: Do Physical Therapist's Practice Autonomy? Presented at the 2006 APTA annual conference in Orlando, FL. June 2006.
12. **Liu H**, Chen J, Rainey J, Li ZB, Liu J. Length of Post-onset Time: A Predictor of Rehabilitation Outcome for Patients with Stroke in Shanghai, China. Presented at the 27th Annual Meeting of Southern Gerontology Society, Lexington, KY. April 2006.
13. **Liu H**, Skinner R, Arfaj A, Yates C, Reese N, Garcia-Rill E. Influence of Combined L-Dopa and Passive Exercise on H-reflex in Rats with Spinal Cord Transaction. Presented at the 2007 APTA Combined Section Meeting in Boston, MA. February 2007.
14. Bailey M, **Liu H**, Treadwell A, Hoskinds J. Surface Anatomy of the Radial Tunnel: A Cadaver Study. Presented at the 2007 APTA Combined Section Meeting in Boston, MA. February 2007.
15. Liu H, Garrison K. Bilateral Abductor Digital Minimi Accessorius Originating from the Palmaris Longus Muscles: A Case Report. Presented at the 2007 APTA Combined Section Meeting in Boston, MA. February 2007.
16. Huang M, Liu H, Hardy P, Hayes A, Nick T, Curbow-Wilcox K, Greenwald N, Stokic D. The Effect of Transcutaneous Electrical Nerve Stimulation at Acupuncture Points on Spinal Motor Neuron Excitability in People without Known Neuromuscular Diseases. Presented at the 2007 APTA Combined Section Meeting in Boston, MA. February 2007.
17. Liu H, Allen SA, Prati V. Test and Retest Reliability of Ambulatory Device Dependence Efficacy Scale for Ambulation (ADDESA) for Institutionalized Older Adults. Presented at 2007 APTA annual conference in Denver, CO. June 2007.
18. Prati V, Liu H. Determining the Effect of Therapeutic Exercise Interventions on Fracture Risks for Women Older than 65 Years Old with Low Bone Mass. Presented at the 2007 APTA annual conference in Denver, CO. June 2007.
19. Liu H, Zabel R, Quiben M. Falls as a Side Effect of Using Assistive Ambulatory Devices: A Preliminary Pilot Study. Presented at the 4th International Confederation of Physical Therapy in Vancouver, Canada, June 2007. Abstract published by Physiotherapy. 2007; 93 (S1):S623.
20. Liu H, McGee M, Prati V, Garrison K, Fu QY. Comparison of Standing Balance Parameters between Older Assistive Ambulatory Device Users and Non-users.

Accepted for presentation at the 56th Conference of Gerontology Society of America in San Francisco, CA, November 2007.

21. Zabel R, Quiben M, Charton M, Liu H. Reliability of Tragus to Wall as a Measure of Upper Thoracic Curvature in a Sample of Older Women. Presented at the 56th Conference of Gerontology Society of America in San Francisco, CA, November 2007.
22. Zabel R, Quiben Q, Liu H, Charton, M. Re-examination of Normal Values for Thoracic Curvature in Older Females Based on the Index of Kyphosis. Presented at the 2008 APTA Combined Section Meeting in Nashville, TN, Feb 2008.
23. Liu H, McGee M. Effect of Forward-Leaning Posture on Gait Parameters during Ambulation with a Rolling Walker. Presented at the 29th annual meeting of the Southern Gerontological Society in Atlanta, GA, April 2008.
24. Liu H, Cheng LH, Fletcher J. Comparison of Acupuncture and Electroacupuncture Interventions in Older Patients with Stroke. Presented at the 29th annual meeting of Southern Gerontological Society in Atlanta, GA, April 2008.
25. Liu H, Fletcher J, Courtney R, Walter C, Wilkson C, Marshall C, Schultz M, Wang W. Surface Anatomy of Inter-compartmental Forman on Legs: A Cadaver Study. Presented at the 2008 APTA annual conference in Little Rock, AR, April 2008.
26. Liu H, Frank A. Strigler A, Stanley G, Persson M, Eaves J. Tai Chi as a Balance Improvement Protocol for Older Adults: A Review. Presented at the 2008 APTA annual conference in San Antonio, TX, June 2008.
27. Liu H, McGee, M, Prati V, Huang M. Gait Characteristics in Older Rolling Walker Users: A Pilot Study. Presented at the 2008 APTA annual conference in San Antonio, TX, June 2008.
28. Wang W, Liu H, Lewis S, Persson M. Teaching the Complexity of Patient Compliance Management by Interactive Student-Centered Learning: A Six-Week Pilot Exercise Program for First Year PT Students. Presented at the 2008 APTA annual conference in San Antonio, TX, June 2008.
29. Liu H, Jordan K.. Assessment of Canes Used by Older People in Senior Living Communities. Presented at the 2009 conference of National Association of Clinical Nurse Specialists, St Louis, MO, March 2009.
30. Huang M, Feng YZ, Liu H, Barnes L, Adah F, Greenwald N. Low Level Laser Therapy Improves Learning and Memory Functions in Neonatal Rats Following Hypoxic Ischemic Brain Injury. Presented at the 2009 Combined Section Meeting of American Physical Therapy Association in Las Vegas, NV, Feb 2009.
31. Quiben M, Zabel R, **Liu H**, Rainey J. Biomechanics of Sit-to-stand and Sit-to-walk in Older Males. Presented at the 2009 Combined Section Meeting of American Physical Therapy Association in Las Vegas, NV, Feb 2009.
32. Quiben M, Zabel R, **Liu H**, Rainey J. Biomechanics of Sit-to-stand and Sit-to-walk in Young Males. Presented at the 2009 Combined Section Meeting of American Physical Therapy Association in Las Vegas, NV, Feb 2009.
33. Liu H, Persson M, Stanley G, Eaves J. Assessment of Rolling Walkers Used by Older People in Senior Living Communities. Presented at the 2009 Combined Section Meeting of American Physical Therapy Association in Las Vegas, NV, Feb 2009.
34. Liu H, Quiben M, Huang M. Effect of Ambulatory Devices on the Limits of Stability Measured by Multi-directional Reach Tests. Presented at the 2009 Combined Section Meeting of American Physical Therapy Association in Las Vegas, NV, Feb 2009.

35. Quiben M, Zabel R, Liu H, Rainey J. Biomechanical Analysis of Sit-to-Stand and Sit-to-Walk in Young and Older Males. Presented at the 2009 APTA Annual Conference in Baltimore, MD, June 2009.
36. Liu H, Grando V, Zabel R, Nolen J. Fear of falling among Older Walker Users: A Cross-Sectional Study. Presented at The Gerontological Society of America's 62nd Annual Scientific Meeting, Atlanta, GA, November 2009.
37. Lancaster K, McGee M, Forbush S, **Liu H**. A Task-Oriented Approach in the Management of Erb-Duchenne Palsy in a Typically Developing Pediatric Male: A Case Report. Presented at the 2010 Annual Conference of the American Physical Therapy Association in Boston, MD. June 2010.
38. **Liu H**, Wang W. Evaluation of Canes Used by Older People in Senior Communities. Presented at the 2010 Combined Section Meeting of American Physical Therapy Association in San Diego, CA. Feb 2010.
39. **Liu H**, Forbush S, Surface Anatomy and Nerve Innervation of the Sinus Tarsi: Cadaver Study. Presented at the 2010 Combined Section Meeting of American Physical Therapy Association in San Diego, CA. Feb 2010.
40. Garrison K, **Liu H**, Forbush S. Variation of Extensor Medii Proprius: A Case Report. Presented at the 2010 Combined Section Meeting of American Physical Therapy Association in San Diego, CA. Feb 2010.
41. **Liu H**, Fisher C, Holmes C. A Hands-on Review of Clinical Anatomy. A continuing education course for 2010 annual conference of Texas Physical Therapy Association (TPTA). Arlington, TX. October 23rd, 2010.
42. **Liu H**, Nolen J, Wang, W, Hart S. A short form Tai Chi intervention for older adults – A preliminary longitudinal study. Presented at the 2010 Annual Conference of the American Physical Therapy Association in Boston, MD. June 2010.
43. Nolen J, **Liu H**, McGee M. Comparison of Gait Characteristics with a Single-Tip Cane, Tripod Cane, and Quad Cane. Presented at the 2010 Annual Conference of the American Physical Therapy Association in Boston, MD. June 2010.
44. **Liu H**, Tipton P. Effect of a Selected 6-Form Tai Chi on Improvement in Balance and Quality of Life among Older Adults. Presented at the Combined Section Meeting of the American Physical Therapy Association in New Orleans, LA. Feb 2011.
45. **Liu H**, Guild J, Connors M, Holmes C. Comparison of Gait While Ambulating With Three Different Types of Canes with Normal Subjects: A Pilot Study. Presented at the 2011 annual conference of the Texas Physical Therapy Association in Woodland, TX, October 2011.
46. Tao CB, **Liu H**. Effects of A Short Form Tai Chi intervention Compared to A Stretching Exercise and Walking Program in Older Adults – A Randomized Control Trial. Presented at the 2011 Annual Conference of the American Physical Therapy Association in National Harbor, MD. June 2011.
47. **Liu H,** McGee M, Wang W, Womack J. Effects of a forward-leaning posture on gait parameters in individuals using rolling walkers for ambulation assistance. Presented at the 2011 Annual Conference of the American Physical Therapy Association in National Harbor, MD. June 2011.
48. **Liu H**. Jiao Y. A six-form Tai Chi intervention for older adults – A Pilot study. Presented at the Southern Gerontological Society 25th Annual Scientific Meeting, Raleigh, NC, April 2011.
49. Kunder K, Bowler K, **Liu H**, Lovelace-Chandler V. A Model for Providing Comprehensive Pediatric Rehabilitation Services in Malawi. Will be presented at the Combined Section Meeting of the American Physical Therapy Association in Chicago, IL. Feb 2012.

50. Tao CB, Gu FH, **Liu H**, Guild J, Walden M. Comparison of Surface Landmarks for Measuring the Individualized Height of An Assistive Ambulatory Device. Will be presented at the 2012 Annual Conference of the American Physical Therapy Association in Tampa FL in June 2012.
51. Quiben M, **Liu H,** Zabel R. Comparison of thoracic kyphosis measurements: the flexicurve and tragus to wall. 2012 Annual Conference of Texas Physical Therapy Association, San Antonio, TX . Oct 2012.
52. U LS, Hall J, Guild J, Dallman R, **Liu H**. Analysis of Patients Referred to Physical Therapy in Long Term Care Facilities. 2012 Annual Conference of Texas Physical Therapy Association, San Antonio, TX. Oct 2012.
53. Salem Y, **Liu H.** Physical therapy for children with autism: evidence and treatment. 4th Annual Adventures in Autism Intervention and Research Conference. July 28, 2012. Denton, Texas.
54. Guild J, **Liu H**, Connors M, Holmes C. Comparison of Gait while ambulating with three different types of canes with normal subjects: A pilot Study. 2012 South Central Regional American Society of Biomechanics Meeting. Dallas, TX. April 2012.
55. Quiben M, **Liu H**, Zabel R. Comparison of the flexicurve and tragus to wall measurements of thoracic kyphosis. The 2013 Combined Section Meeting of the American Physical Therapy Association, San Diego, CA January 2013.
56. **Liu H**, Salem Y, Qiu Q, Weeks N. Analysis of Exercise Programs in Assisted Living Facilities – A Cross-sectional Study. 2013 APTA annual conference, Salt Lake City, UT. June 2013.
57. Liu H, Hall H. Backward Walking (BW) Used as an Intervention for Increases in Gait Speed and Balance: A Systematic Review. 2013 Annual Conference of Texas Physical Therapy Association, Arlington, TX. Oct. 24-27, 2013.
58. Liu H. Analysis of Tai Chi as an Exercise Program for Balance Improvement in Older Adults. 7th World Congress of the International Society of Physical and Rehabilitation Medicine. Beijing, China. June 2013.
59. Liu H, Qiu Q, Zhao YW, Schwarz B. Effect of a Qi-Gong on Balance and Quality of Life among Older Adults – A Pilot Study. 2013 APTA annual conference, Salt Lake City, UT. June 2013
60. Salem Y, Liu H, Corbin A. Physical therapy for children with autism: evidence and treatment. The 5th Annual Adventures in Autism Intervention and Research Conference. Denton, Texas. July 27, 2013.
61. Arguello E, Richardson M, **Liu H**. Surface Projection of Interosseous Foramen of Leg – Cadaver Study. Presented at the 2014 annual conference of Texas Physical Therapy Association. Galveston, TX. October 2014.
62. Bao Y, **Liu H.** Holmes C. Comparison of Elastic Bandage and Ankle-Foot Orthoses on Strephenopodia in Patients with Stroke. Presented at the 2014 annual conference of Texas Physical Therapy Association. Galveston, TX. October 2014.
63. Yarbrough K, Fugler J, Martel R, Wheeler A, **Liu H**, Salem Y. Use of Yoga in Children with Autism: A Systematic Review of Literature. Presented at the 2014 annual conference of Texas Physical Therapy Association. Galveston, TX. October 2014.
64. Salem Y, Altume D, **Liu H**, et al. Physical Function in Individuals with 22q11.2 Deletion Syndrome. 21st International Scientific Meeting of Velo-Cardio-Facial Syndrome. Las Vegas, NV. July 10-13, 2014.
65. **Liu H,** Qiu QX, Holmes C. Effect of Ba-Duang-Jin on Balance and Quality of Life. 2014 Annual Conference of Southern Gerontological Society, Little Rock, AR. April 3-6, 2014.

66. Salem Y, **Liu H**, Podgore J, Holmes C, Do S, Ghahremani S, Henson C. International Clinical Education For Physical Therapy Students. The Combined Sections Meeting of the American Physical Therapy Association. Las Vegas, Nevada. February 3-6, 2014.
67. **Liu H**, Salem Y, Huang M. Comparison of gait parameters between walking up and down an incline with and without using a walking device. Presented at the 2014 CSM meeting in Las Vegas, NV. February 3-6, 2014.
68. Salem Y, Bakry W, **Liu H**. Aquatic Exercises for Individuals with Multiple Sclerosis. The Combined Sections Meeting of the American Physical Therapy Association. Las Vegas, Nevada. February 3-6, 2014.
69. Salem Y, **Liu H**. Physical function in individuals with DiGeorge syndrome or Velocardiofacial syndrome. Presented at the 2015 TPTA annual conference. Arlington, TX. Oct 22, 2015.
70. Salem Y, **Liu H**. The effect of aquatic therapy on neuromuscular disease: A review of the literature. Presented at the 2015 TPTA annual conference. Arlington, TX. Oct 22, 2015.
71. Salem Y, Liu H, Podgore J, Shartz B. Benefits and barriers of physical therapy student participation in resource-poor international clinical education. 2015 World Congress of Physiotherapy Conference. Singapore, May 1-4, 2015.
72. Shi C, Truong T, **Liu H**. Effects of Leaning-forward Posture on Gait Parameters During Rolling Walker Use: A Preliminary Study. Presented at the 2015 TPTA annual conference. Arlington, TX. Oct 22, 2015.
73. Pittmon W, Salem Y, **Liu H**. Effects of music therapy on functional mobility patients with stroke. Presented at the 2015 TPTA annual conference. Arlington, TX. Oct 22, 2015.
74. Salem Y, **Liu H**. Effectiveness of aquatic therapy interventions in the management of children with cerebral palsy: A systematic review. Presented at the 2015 TPTA annual conference. Arlington, TX. Oct 22, 2015.
75. Salem Y, **Liu H**. Yoga exercise for young children with Down syndrome. Presented at the 2015 TPTA annual conference. Arlington, TX. Oct 22, 2015.
76. Master H, Salem Y, Holmes C, **Liu H**. Mirror Therapy for Patients with Hemiparesis – A Systematic Review. Presented at the 2015 Combined Section Meeting of American Physical Therapy Association (APTA), Indianapolis, IN, Feb 2015.
77. Miao P, Wang CH, **Liu H**, Pan CH. Characteristics of Surface Electric Signals of Vastus Lateralis and Vastus Medialis Oblique in Patients with Patellofemoral Pain Syndrome. Presented at the 2015 Combined Section Meeting of American Physical Therapy Association (APTA), Indianapolis, IN, Feb 2015.
78. Schwarz B, Salem Y, **Liu H**, Holmes C, Podgore, J. Perceived Benefits and Barriers of Participation of Physical Therapy Students In Resource-Poor International Clinical Education. Presented at the 2015 Combined Section Meeting of American Physical Therapy Association (APTA), Indianapolis, IN, Feb 2015.
79. Zhang H, Wang YL, Zhang GH, Zhang GY, Mou X, Huang L, **Liu H**. The Isokinetic Test and Surface EMG Examination of Core Muscle Groups in Professional Baseball and Softball Players with Waist Sport Injuries. 2016 Annual Conference of American Congress of Rehabilitation Medicine (ACRM). Chicago, IL. Oct-Nov. 2016.
80. Zhang H, **Liu H**, Lin Q, Zhang GH, Mason D. Effects of Intermittent Pressure Imitating Rolling manipulation on Calcium ion Mediation in Human Skeletal Muscle Cells. 2016 Annual Conference of American Congress of Rehabilitation Medicine (ACRM). Chicago, IL. Oct-Nov. 2016.

81. Nguyen V, **Liu H**, Rosales A, Reeves R. A cadaveric investigation of the surface projection of the dorsal scapular nerve. 2016 Annual Conference of Texas Physical Therapy Association. Oct 2016. Fort Worth, TX.
82. Fang H, Coppock A, Mabutas K, Bolinger E, Salem Y, **Liu H**. The effects of animal-assisted therapy on older adults with dementia: A systematic review. 2016 Annual Conference of Texas Physical Therapy Association. Oct 2016. Fort Worth, TX.
83. Patel TM, **Liu H**, Lin CF, Salem Y. Effect of Physical Therapy for patients with Temporomandibular Joint Syndrome. Presented at the 2016 the combined section meeting of APTA. Los Angles, CA. February 2016.
84. Bao X, Long Y, Tan JW, Salem Y, Quiben M, **Liu H**. Effect of ultrasound-guided injection of botulinum toxin type A for shoulder pain on post-stroke patients. 2017 American Congress of Rehabilitation Medicine (ACRM) Annual Conference, Atlanta, GA. Oct 2017.
85. Bao X, Long Y, Tan JW, Salem Y, Quiben M, **Liu H**. The effect and mechanism of botulinum toxin type A for knee osteoarthritis through ultrasound guidance. 2017 American Congress of Rehabilitation Medicine (ACRM) Annual Conference, Atlanta, GA. Oct 2017.
86. Valle M, Vo A, Liu H. Salem Y. Effectiveness of aquatic therapy interventions in the management of children with cerebral palsy: A systematic review. 2017 Annual Conference of American Academy of Cerebral Palsy and Developmental Medicine. Sep 2017.
87. Pennucci M, **Liu H**, Dillard D, Baker S, Comparison of Trunk and Leg Sway During Single Leg Stance. 2017 Annual Conference of International Society of Rehabilitation and Physical Medicine, Buenos Aires, Argentina. May 2017.
88. Liu H, Huang HY, Nana A, Truong T, Salas N, Master H, Salem Y, Pena J. From a Regular to a Smart Walker with Installation of Variety of Sensors. 2017 Annual Conference of International Society of Rehabilitation and Physical Medicine, Buenos Aires, Argentina. May 2017.
89. Salem Y, & Holmes C, **Liu H.** Exercise program for a patient with Sjogren's Disease: A complex patient case study. 2017 Combined Section Meeting of American Physical Therapy Association; San Antonio, TX. Feb 15-17, 2017.
90. Wu QW, Wang XW, **Liu H**, Salem Y. The effect of bilateral limbs rehabilitation training on post-stroke patients. 2017 Combined Section Meeting of American Physical Therapy Association; San Antonio, TX. Feb 15-17, 2017.
91. Becnel M, Vo A, *Salem Y*, **Liu H**. Effectiveness of Aquatic Therapy. Interventions In the Management Of Children With Cerebral Palsy: A Systematic Review. 2017 Combined Section Meeting of American Physical Therapy Association; San Antonio, TX. Feb 15-17, 2017.
92. Qiao HF, **Liu H**, Salem Y, Zhang QJ. Effectiveness of surface electromyographic biofeedback therapy on stroke patients with dysphagia. 2018 American Congress of Rehabilitation Medicine. Dallas, TX. Oct. 2018.
93. Qiao HF, **Liu H**, Salem Y, Zhang QJ. *The Effects of Treadmill Training on Gait Function in Individuals with Idiopathic Parkinson's Disease: A Systematic Review.* 2018 American Congress of Rehabilitation Medicine. Dallas, TX. Oct. 2018.
94. Salem Y, Liu H. A Systematic Review Study on the Effects of Strength Training on Bone Mineral in Adult Women. 2018 Texas Physical Therapy Association. San Antonio, TX. Oct 2018.
95. Rose K, Garcia S, Kelley K, **Liu H**. A Systematic Review of Physical Therapy Interventions for Parkinson's Disease. 2018 Texas Physical Therapy Association. San Antonio, TX. Oct 2018.

96. Khan MA, Khan TA, Khan MI, Kanwar K, **Liu H**, Lovely RS. Surface Projection of Cubital Tunnel: Cadaver Study. Experimental Biology 2018. San Diego, CA. April 2018.
97. Guzman JL, McEwen M, Cooper R, **Liu H**. The effect of Music on Gait patterns for Patients with Parkinson's Disease. 2018 APTA Combined Section Meeting. New Orleans, LA. 2018.
98. Salem Y, **Liu H**. Qualitative Analysis of Aquatic Literatures for Quality and Trends. 2018 APTA Combined Section Meeting. New Orleans, LA. 2018.
99. Salem Y, **Liu H**, Young A, Tolbert M, Elokda A, Holmes C. Use of Yoga Exercises for Young Children with Down Syndrome. 2018 APTA Combined Section Meeting. New Orleans, LA. 2018.
100. Salem Y, Jay N, Downing A, Cook R, **Liu H**. Effects of Aerobic Exercise for Children with Down Syndrome: A Systematic Review of Literature. 2018 APTA Combined Section Meeting. New Orleans, LA. 2018.
101. Quan LJ, Miller H, **Liu H**. Treatment of hyperbaric oxygen combine with cannabidiol promote recovery of brain damage in newborn rats with hypoxia-ischemia. 2019 Annual Conference of Texas Physical Therapy Association. The Woodlands, TX. Oct 2019.
102. Salem Y, **Liu H**, Paslay E, Fahmy M, Yavuz M, Smith V, Richardson M, Warren S. Effectiveness of the Whole-Body Vibration Therapy and Modality Function in Older Adults with Balance Deficits. 2019 Texas Physical Therapy Association Annual Conference. October 12-13, 2019. Houston, Texas. Poster Presentation.
103. Tran K, Henry A, Salem Y, **Liu H.** The Effectiveness of Virtual Reality as an Intervention for Parkinson's disease: A systematic review. 2019 Texas Physical Therapy Association Annual Conference. October 12-13, 2019. Houston, Texas. Poster Presentation.
104. Lu C. Coleman A, Beasley S, **Liu H**, Nichols C. Coordinated movement of diaphragm and pelvic floor muscle in relation to respiratory function. 2019 Annual Conference of Texas Physical Therapy Association. The Woodlands, TX. Oct 2019.
105. Rokayak, N., Paez G., Salem, Y, **Liu, H**. A Systematic Review Study on The Effects of Strength Training on Bone Mineral in Adult Women. World Congress of Physical Therapy, 2019. Poster Presentation.
106. Salem Y, Quiben M, **Liu H**. Effectiveness of aquatic exercise for children with cerebral palsy: A systematic review. World Congress of Physical Therapy. Geneva, Switzerland. May 2019.
107. Becnel K, Nguyen P, Salem Y, **Liu H**. Effectiveness of Exercise for the Pediatric Oncology Population: A Systematic Review. Washington DC. Jan. 23-26, 2019.
108. Salem Y, **Liu H**, Quiben M, Elokda A, Yavuz M, Holmes C. Aquatic exercise for children with cerebral palsy: A systematic review. Washington DC. Jan. 23-26, 2019.
109. Tran K, Henry Z, Salem Y, **Liu H**. Virtual Reality Intervention for Parkinson's Disease: A Systematic Review. APTA Combined Section Meeting. Denver, CO; Feb 2020.
110. Salem Y, Aggarwal S, **Liu H**, Quiben M, Holmes C. Effectiveness of Aquatic Exercises for Individuals with Parkinson's Disease. APTA Combined Section Meeting. Denver, CO; Feb 2020.
111. Logsdon L, Kolenovic M, Traina A, Salem Y, **Liu H**. Tai Chi with Chronic Obstructive Pulmonary Disease. 2021 APTA Combined Section Meeting. Feb 2021. – received the 2021 Student Research Award of CSM Cardiovascular & Pulmonary Section.

112. Aggarwal S, Chen RJ, Wu QW, Salem Y, **Liu H**. Effect of elastic band exercise in pre-frailty elderly people. 2021 World Physiotherapy Congress. April 2021. Virtual presentation.
113. Salem Y, **Liu H**, Paslay E, Richardson M, Quiben M. Vibration therapy for frail older adults in senior-living community. 2021 World Physiotherapy Congress. April 2021. Virtual presentation.
114. Aggarwal S, Salem Y, **Liu H**, Ge YJ, Wu QW. Effects of a Short Tai Chi for Pre-Frail Elderly People in Senior Living Communities. 2021 APTA Combined Section Meeting. Feb 2021.
115. Hollingshead K, Bustos A, Salem Y, **Liu H**. Effects of Animal assisted interventions for individuals with dementia. 2021 APTA Combined Section Meeting. Feb 2021.
116. Aggarwal S, Salem Y, **Liu H**, Mendez A, Quiben MC. Effectiveness of Proprioceptive Neuromuscular Facilitation in the Stroke Population: A Meta-Analysis and Systematic Review. 2021 APTA Combined Section Meeting. Feb 2021.
117. Li YZ, **Liu H**, Nichols C, Mason D. Manual therapy for idiopathic genital pain – a clinical case report. 2021 APTA Combined Section Meeting. Feb 2021.
118. **Liu H,** Salem Y. Effects of Tai Chi on Inflammatory Biomarkers and Their Implication for neurorehabilitation – A Systematic Review. Poster presentation. Accepted. 2021 Annual Conference of Gerontological Society of America (GSA). Phoenix, AZ. November 10-14, 2021.
119. Salem Y, Aggarwal S, **Liu H**, Elokda A. Aquatic Exercises for Children with Muscular Dystrophy and Spinal Muscular Atrophy: A Systematic Review. 75th Annual Meeting of the American Academy of Cerebral Palsy and Developmental Medicine. October 6-9, 2021. Virtual.
120. Salem Y, **Liu H**. Complementary and Alternative Therapies in Neurorehabilitation: Principles, Basic Mechanisms, Clinical Selection, and Evidence. Symposium presentation. Accepted. 2021 Annual Conference of American Congress of Rehabilitation Medicine (ACRM). September 26-29, 2021. Dallas, TX
121. **Liu H,** Nichols C, Mao H. Impingement of Small Peripheral Nerves in Upper Extremity: Precision anatomy and Clinical Application. Symposium presentation. Accepted. 2021 Annual Conference of American Congress of Rehabilitation Medicine (ACRM). September 26-29, 2021. Dallas, TX
122. **Liu H,** Salem Y, Aggarwal S, Arguello E, Zhan C. Effects of Tai Chi Practice on Inflammatory Biomarkers – A Systematic Review. Poster presentation. Accepted. 2021 Annual Conference of American Congress of Rehabilitation Medicine (ACRM). September 26-29, 2021. Dallas, TX
123. Baker J**, Liu H,** Salem Y. Effects of Tai Chi on people with sleep dysfunctions – A Systematic Review. Poster presentation. Accepted. 2021 Annual Conference of American Congress of Rehabilitation Medicine (ACRM). September 26-29, 2021. Dallas, TX.
124. Hollingshead K, Bustos A, Liu H, Salem Y. Effects of animal assisted intervention for individuals with dementia. 2021 World Physiotherapy Congress. April 2021. Virtual presentation.
125. Aggarwal S, Salem Y, **Liu H**, Mendez A, Quiben M. A meta-analysis and systematic review of the effectiveness of proprioceptive neuromuscular facilitation in the stroke population. 2021 World Physiotherapy Congress. April 2021. Virtual presentation.

126. Walls P, Diu P, **Liu H**, Salem Y. Effectiveness of exoskeleton gait speed in patients with spinal cord injury. 2021 World Physiotherapy Congress. April 2021. Virtual presentation.
127. Salem Y, **Liu H**, Holmes CF, Elokda AS. Effectiveness of aquatic exercise for individuals with lower back pain: A systematic review of literature. Presented for 2022 APTA CSM meeting. Feb 2022. St Antonio, TX.
128. Durham SO, Heisterkamp K, Salem Y, **Liu H**. Aquatic exercise for adults with multiple sclerosis: A systematic review. Presented for 2022 APTA CSM meeting. Feb 2022. St Antonio, TX.
129. Shaw ER, Bolstad C, Salem Y, Liu H. Effectiveness of Yoga for individuals with cerebral palsy. Presented for 2022 APTA CSM meeting. Feb 2022. St Antonio, TX.
130. Thayn L, Robichaux S**, Liu H**, Salem Y. Effectiveness of Task-Oriented Gait Training for Children with Cerebral Palsy. Presented for 2022 APTA CSM meeting. Feb 2022. St Antonio, TX.
131. **Liu H**, Salem Y. Arguello E, Aggarwal S. Tai Chi Effects on Brain as Assessed By Neuroimaging Techniques - a Systematic Review. Accepted for 2022 APTA CSM meeting. Feb 2022. St Antonio, TX.
132. Bao X, Nichols C, **Liu H**, Salem Y. Therapeutic effect of Fu's subcutaneous needling for shoulder pain-A Randomized Controlled Trial. Accepted for 2022 APTA CSM meeting. Feb 2022. St Antonio, TX.
133. Salem Y, Liu H. Use of Yoga for individuals with Down Syndrome. World Physiotherapy Congress 2023. presented. In Dubai. June 2-4, 2023.
134. Salem Y, **Liu H**, Ahmed Samie ABC, Holmes C, Pottorf O, Ciani GJ. Aquatic Exercise for People with Spinal Cord Injury: A Systematic Review. Presented. 2023 Combined Sections Meeting (CSM) in San Diego, CA from February 23-25, 2023.
135. Bao X, **Liu H**, Yoder A, Stroddard C. The effect of intermittent hypoxia training on migraine: a randomized controlled trial. Presented. 2023 Combined Sections Meeting (CSM) in San Diego, CA from February 23-25, 2023
136. Nichols C, Holmes C, Bao X, **Liu H**. Effect of Electro-Acupuncture for Coma Patients after Traumatic Brain Injury. Presented. 2023 Combined Sections Meeting (CSM) in San Diego, CA from February 23-25, 2023
137. Thomas P, Salem Y, **Liu H**. Effects of Assistive Walking Devices Used to Walking Along an Inclined Surface. Presented. 2023 Combined Sections Meeting (CSM) in San Diego, CA from February 23-25, 2023
138. Pina G, Cung B, **Liu H**. Effects of Tai Chi on Depression and Anxiety in Older Adults – a Systematic Review. Presented. 2023 Combined Sections Meeting (CSM) in San Diego, CA from February 23-25, 2023
139. **Liu H**, Salem Y, Wellons R, Zhao MM. Abnormal prefrontal functional network in adult obstructive sleep apnea - A resting-state fNIRS study. 2024 Conference of American Congress of Rehabilitation Medicine (ACRM) in Dallas, TX. 10/31/24-11/3/2024.
140. Zhu PA, Bao X, **Liu H**, Holmes C. Effects of mind-body exercise on fibromyalgia symptoms – a systematic review and meta-analysis. 2024 Combined Sections Meeting (CSM) in Boston, MA from February 15-17, 2024.
141. Arguello E, Stoddard CA, **Liu H**. Effects of Tai Chi on Oxidative Stress – A Systematic Review. 2024 Combined Sections Meeting (CSM) in Boston, MA from February 15-17, 2024.

142. Salem Y, Ahmed Samie ABC, **Liu H**, Torres-Panchame RE, Pottorf O. Aquatic exercises for individuals with rheumatoid arthritis: a systematic review of literature. 2024 Combined Sections Meeting (CSM) in Boston, MA from February 15-17, 2024.
143. Liu J, Cai XG, Atiyeh K, **Liu H**. Reliability and Validity of TUG Components Scale in Patients with Stroke. 2025 Combined Sections Meeting (CSM) in Houston, TX from February 12-15, 2025.
144. Lu QQ, Zhu PA, Salem Y, Holmes C, Bao X, **Liu H**. Repetitive Transcranial Magnetic Stimulation over the Supplementary Motor Area in Parkinson's Disease: A Meta-Analysis. 2025 Combined Sections Meeting (CSM) in Houston, TX from February 12-15, 2025.
145. Salem Y**. Liu H**. et al. Effectiveness of Aquatic Exercise for Individuals with Fibromyalgia: A Systematic Review. 2025 Combined Sections Meeting (CSM) in Houston, TX from February 12-15, 2025.
146. Lu QQ, Zhu PA, Salem Y, Holmes H, Bao X, **Liu H**. Efficacy of Repetitive Transcranial Magnetic Stimulation over the Supplementary Motor Area on Motor Function in Parkinson's Disease: A Meta Analysis. World Physiotherapy Congress 2025 in Tokyo, 29-31 May 2025.
147. **Liu H,** Salem, Y, Clayton H. Brain Response in the Elderly after Tai Chi Practice Assessed with Neuroimaging Techniques - A Systematic Literature Review. World Physiotherapy Congress 2025 in Tokyo, 29-31 May 2025.
148. Baker A, Berggren B, Fluellen E, Kieff J, **Liu H**. Bilateral Appearance of The Abductor Digiti Minimi Accessorius Originating from the Palmaris Longus Muscles: A Case Report. Present at Portland, Oregon on 2025 American Association for Anatomists (AAA).

On campus Research Presentations (Students' research Projects)

1. Corbin AM, Liu H. A SYSTEMATIC REVIEW OF RANDOMIZED CONTROLLED TRIALS TO SHOW EVIDENCE-BASED PHYSICAL THERAPY INTERVENTIONS FOR PATIENTS SUFFERING FROM POST-STROKE COMPLICATIONS. Research Appreciation Day, University of North Texas Health Science Center, Fort Worth, TX. April 2012.
2. Walden M, Guild J, **Liu H**. COMPARISION OF GAIT WHILE AMBULATING WITH THREE DIFFERENT TYPES OF CANES WITH NORMAL SUBJECTS: A PILOT STUDY. Research Appreciation Day, University of North Texas Health Science Center, Fort Worth, TX. April 2012.
3. Gu FH, Tao CB, Guild J, Walden M, **Liu H**. Comparison of Surface Landmarks for Measuring the Individualized Height of an Assistive Ambulatory Device. Research Appreciation Day, University of North Texas Health Science Center, Fort Worth, TX. April 2012.
4. Lowry D, Langner C, Krug K, Smith H, Saverine A, **Liu H**. Bilateral appearance of adipose medial gastrocnemius muscle: a case report. Research Appreciation Day, University of North Texas Health Science Center, Fort Worth, TX. April 12, 2013.
5. Vice L, Vaghasia M, **Liu H**, Guttmann G. Anatomical variation of the Sternocleidomastioid muscle: a case report. Research Appreciation Day, University of North Texas Health Science Center, Fort Worth, TX. April 12, 2013.
6. Nguyen V, Hidrogo J, Hodge, C, Jiwani A, Tsen A, Varghese L, Vinnakota RD, Rosales A, **Liu H**, Reeves R. Extensor Indicis Brevis: a rare anatomical variant of the

upper limb. Research Appreciation Day, University of North Texas Health Science Center, Fort Worth, TX. April 12, 2013

7. Guild JR, Peterson LC, Peterson J, Langford R, **Liu H**. Mirror therapy's efficacy and mechanism in the promotion of motor recovery in hemiparetic post stroke populations. Research Appreciation Day, University of North Texas Health Science Center, Fort Worth, TX. April 12, 2013.
8. Liras G, Kirchhoff CA, Duong K, McMullen M, Stone C, Wier R, **Liu H**. Anatomical variation of the Latissimus Dorsi—Axillary Arch. Research Appreciation Day, University of North Texas Health Science Center, Fort Worth, TX. April 12, 2013.
9. Fang H, Crocker K, Balcar B, Liu H. Observation of Variation of Extensor Carpi Radialis Muscles: A Case Report. 2013 UNTHSC Research Appreciation Day. March 2014.
10. Brown J, **Liu H**. Multifactorial Effect of Testing Single Leg Stance**.** Presented on Research Appreciation Day. March 2016, UNTHSC.
11. Guzman J, McEwen M, Cooper R, **Liu H.** The Effect of Music on Gait Pattern for Patients with Parkinson's Disease. UNTHSC Research Appreciation Day. April 2017.
12. Arguello E, Truong T, Holmes C, **Liu H**. Variation of the Origins of the Phrenic and Long Thoracic Nerves – A Case Report. UNTHSC Research Appreciation Day. April 2017.
13. Caldwell-Webster T, Cramer C, Cramer C, Holmes C, Salem Y, **Liu H**. Whole Body Vibration Therapy for Patients with Multiple Sclerosis – A Review. UNTHSC Research Appreciation Day. April 2017.
14. Bao X, Baker S, Salem Y, Quiben M, Liu H. The Effect and Mechanism of Botulinum Toxin Type A For Knee Osteoarthritis Through Ultrasound Guidance. Presented on Research Appreciation Day. March 2017, UNTHSC.
15. Downing A, Jay N, Cook N, **Liu H**, and Salem Y Effects of Aerobic Exercise for Children with Down Syndrome: A Systematic Review of Literature. UNTHSC Research Appreciation Day. April 2017.
16. Becnel K, Van Nguyen P, Salem Y, Liu H. A Literature Review of Exercise in the Pediatric Oncology Population. Presented on Research Appreciation Day. March 2018.
17. Li Y, Smith V, **Liu H**, Mason D. Osteopathic Manipulation for Genital Pain - A Case Report. Presented on Research Appreciation Day. March 2019, UNTHSC.
18. Paez G, Rokayak N, Salem Y, **Liu H**. Effects of Strength Training on Bone Mineral Density in Adult Women: A Systematic Review. Presented on Research Appreciation Day. March 2019.
19. Traina A, Kolenovic M, Logsdon L **Liu H**. Tai Chi and Cardiovascular Conditions**.** Research Appreciation Day. March 27, 2020. UNTHSC.
20. Kolenovic M, Trainna A, Logsdon L, **Liu H**. Tai Chi and Diabetic Peripheral Neuropathies. Research Appreciation Day. March 27, 2020. UNTHSC.
21. Bradly L. **Liu H**, Reese R, Quiben M. Surface Projection of Long Thoracic Nerve in Cadaveric Study. Research Appreciation Day. March 27, 2020. UNTHSC.
22. Penfield M, Bell R, **Liu H**. Anatomical Mapping of The Posterior Interosseous Nerve and Artery. Research Appreciation Day. March 27, 2020. UNTHSC.
23. Salem Y, **Liu H**. A Systematic Review of the Effectiveness Aquatic Exercises has for Individuals with Parkinson's Disease. Research Appreciation Day. March 27, 2020. UNTHSC.

24. Hollingshead K, Bustos A, **Liu H**, Salem Y. Effects of animal assisted intervention for individuals with dementia. Presented on Research Appreciation Day. March 26, 2021. UNTHSC.
25. Aggarwal S, Salem Y, **Liu H**, Mendez A, Quiben M. A meta-analysis and systematic review of the effectiveness of proprioceptive neuromuscular facilitation in the stroke population. Presented on Research Appreciation Day. March 26, 2021. UNTHSC.
26. Walls P, Diu P, **Liu H**, Salem Y. Effectiveness of exoskeleton gait speed in patients with spinal cord injury. Presented on Research Appreciation Day. March 26, 2021. UNTHSC.
27. Durham SO, Heisterkamp K, Salem Y, **Liu H**. Aquatic exercise for adults with multiple sclerosis: A systematic review. Presented on Research Appreciation Day. March 26, 2021. UNTHSC.
28. Shaw ER, Bolstad C, Salem Y, Liu H. Effectiveness of Yoga for individuals with cerebral palsy. Presented on Research Appreciation Day. March 26, 2021. UNTHSC.
29. Thayn L, Robichaux S**, Liu H**, Salem Y. Effectiveness of Task-Oriented Gait Training for Children with Cerebral Palsy. Presented on Research Appreciation Day. March 26, 2021. UNTHSC.
30. Baker J**, Liu H,** Salem Y. Effects of Tai Chi on people with sleep dysfunctions – A Systematic Review. Poster presentation. Presented on Research Appreciation Day. March 26, 2021. UNTHSC.
31. Valencia K, Rodriguez Y, Vasquez M, Galvan-Godines V, **Liu H**. Evaluation of physical therapy telerehabilitation on Covid-19 patients. Presented on Research Appreciation Day. March 25, 2022. UNTHSC.
32. Thomas P, Liu H. Diaphragmatic breathing impacts on biophysiological systems. Presented on Research Appreciation Day. March 25, 2022. UNTHSC.
33. Berggren B, Fluellen E, Kieff J, **Liu H**. Bilateral Appearance of The Abductor Digiti Minimi Accessorius Originating from the Palmaris Longus Muscles: A Case Report. Present on 2024 Graduate Research Day on LSUHSC New Orleans Campus.

Invited Presentations

Liu, H. The Sacroiliac joint dysfunction: Anatomy, diagnosis, and treatment. Continuing education course to Bibb Medical Center physicians and nurses. Bibb Medical Center, Centreville, AL. August 8th, 2002.

Liu H. Some Basic Principles of Patient Rehab Care. At the Department of Rehabilitation Medicine, YueYang Hospital, Shanghai, China, May 20, 2007.

Liu H. Fall Prevention in the Elderly ---Rehabilitation Perspective. At 2nd Affiliated Hospital of Soochow University, SuZhou, China, Dec 27th, 2007.

Liu H. Clinical Anatomy: A Hands-on Review for the Physical Therapist and Physical Therapist Assistant. Continuing education course to physical therapy alumni of University of Central Arkansas (UCA). Conway, AR. October 11, 2008.

Liu H, Fisher C, Holmes C. A Hands-on Review of Clinical Anatomy. A continuing education course for 2010 annual conference of Texas Physical Therapy Association (TPTA). Arlington, TX. October 23rd, 2010.

Liu H. Selection and Effects of Assistive Ambulatory Devices among Older Adults. Rehabilitation Department of Zhong-Shan Medical College of Sun Yat-Sen University, Guangzhou, China. May 6th, 2011.

Liu H. Anatomical Application of Clinical Rehabilitation – Upper Extremity. At the Gannan Medical University, Gan Zhou, China. May 8th, 2011.

Liu H. Effects of Stroke and Aging on Skeletal Muscles and Relevant Rehab Consideration for Older Patients with Stroke. The General Hospital of PLA, Beijing, China. May 12, 2011

Liu H. Manual Muscle Testing for Rehabilitation Professionals. College of Rehabilitation Science, GanNan Medical University. June, 2013. Ganzhou, Jiangxi. China.

Liu H. Rehabilitation for Common Geriatric Problems. FoShan Hospital of Traditional Chinese Medicine, June, 2013. Foshan, Guangdong, China.

Liu H. Mirror Therapy for Patients with Stroke. Second Affiliated hospital of Guangzhou Medical University, Guangzhou, China. Dec 13, 2014.

Liu H. Common injury of peripheral nerve in upper extremity. To Physical Therapists in Huaxi Hospital, Chengdu, Sichuan, China. Dec 19, 2014.

Liu, H. Writing a clinically based article – what to be included? Department of Rehabilitation Medicine of 2nd Affiliated Hospital at Nanchang University, June 30, 2014; Nanchang, China.

Liu H. DPT Education in US – A Clinic Oriented System. A Keynote speaker at the closing ceremony at the 15th Conference of Section of Rehabilitation and Physical Medicine of Chinese Medical Association (CMA), June 22, 2014; Nanchang, China.

Liu H. Evaluation and Intervention of Fall prevention among Older Adults – What I am working on. Session of Geriatric Rehabilitation at the 15th Conference of Section of Rehabilitation and Physical Medicine of Chinese Medical Association (CMA), June 21, 2014; Nanchang, China.

Liu H. Fall Preventions in the Elderly. Second Affiliated Hospital of Nanchang University. Nanchang, Jiangxi Province. China. July 3, 2015.

Liu H. Clinically Oriented Physical Therapy Education in US. The 2015 Annual Conference of Chinese Association of Physical Medicine and Rehabilitation. Wuxi, Jiangsu Province, China. Dec 21, 2015.

Liu H. Peripheral Nerve Impingement of upper and Lower Extremities: Identification and Interventions. People's Hospital of Ganzhou. Ganzhou, Jiangxi, China. July 19-20, 2016.

Liu H. Kinesio Taping for Therapists. Qinzhou, Guangxi Province. June 3, 2016.

Liu H, Quiben M. Tai Chi for patients with Neurological disorders. 2019 Annual Conference of Texas Physical Therapy Association. The Woodlands, TX. Oct, 2019.

Liu H. Physical therapy education in US – Curriculum assessment. 2024 Annual Conference of Chinese Physical Therapy Association. Shanghai, China. June 2024.

Liu H. Tai Chi Movement Based Deep Diaphragmatic Breathing – Anatomical & Biomechanical Consideration. IMTQA (International Medical Tai Qi Association) 2024 conference, D'Youville University, NY**.** Oct 4-6, 2024.

Videos, Electronic Media, and Multimedia:
NA

Grant Reviewer:

2019. University of North Texas Health Science Center Seed Grant application - reviewer

Inventions and Patents:
NA

Editorial Posts and Activities:

1. Physical and Occupational Therapy in Geriatrics –
   Editorial board member since May 2008

2. Translational Research in Anatomy
   Editorial board member since Jan 2015

3. Frontiers in Rehabilitation Sciences
   Section associate editor since 2020

4. Frontier in Aging Neuroscience
   Guest associate editor between Oct 2021- March 2023

5. Frontier in Molecular Neuroscience
   Guest associate editor between May 2021- May 2022

6. Brain Network and Modulation
   Editorial board member since 2021

7. Frontiers in Neurology.
   Guest associate editor between March 2022 – June 2023

Reviewer

1. Frontiers in Aging Neurosciences – between 2020-2022
2. Frontiers in Molecular Neurosciences – in 2021
3. Frontiers in Rehabilitation Sciences – since 2020
4. Physical Therapy – in 2016
5. Physical Medicine & Rehabilitation – in 2018
6. Archives of Physical Medicine and Rehabilitation – in 2018 and 2019
7. Journal of Neuro Engineering & Rehabilitation – in 2017
8. Journal of Neurological Physical Therapy – in 2018
9. Clinical Rehabilitation – in 2016
10. Journal of Biomechanics – in 2017
11. Clinical Anatomy – in 2016-2018
12. Bone – in 2026
13. Journal of Rehabilitation Medicine – between 2019-2022
14. Journal of Sport Rehabilitation – between 2018-2020
15. Journal of Geriatric Physical Therapy – in 2016-2018
16. Ageing and Diseases – in 2016
17. Rehabilitation Nursing – since 2017
18. Geriatric Nursing – since 2017
19. Assistive Technology – in 2020
20. American Journal of Translational Research – since 2015
21. Neural Repair and Neurorehabilitation – in 2019
22. Journal of Aquatic Physical Therapy – since 2016
23. Research in Sports Medicine – in 2017-2019
24. Sports Medicine and Injury Care Journal – in 2019

SERVICE AND ADMINISTRATION

University/Institutional Service:

LSUHSC (campus) committees: NA

School committees:

1. School Administrative Council 2023 – present
2. School Academic Affairs Committee 2024 - present
3. School P & T Committee (Chair elected) 2024 – present
4. School Strategic Planning Committee 2024 - present

Departmental committees

1. Department Head 2023- present
2. Dept Admin Committee 2023 – present
3. Dept Admission Committee 2024 – present
4. Dept Research Committee 2024- present

State/Regional Service: NA

National Service:

1.	APTA Annual Conference Abstract Review Committee	2006-2012	Member
2.	APTA McMillan Scholarship Committee	2007-2013	Member
3.	APTA Research Section Award Committee	2013-2016	Member & Chair
4.	ACRM Geriatric section program planning	2016-17	Member
5.	APTA Award Committee	2016-2019	Member
6.	GSA Health Section Awards Review Panel	2020-2021	Member
7.	ACRM Comple & Integra Reha Med Section,	2021 – 2023	Newsletter editor
8.	R13 mentorship program – ACRM	2021 – 2023	Mentor
9.	GSA Annual Meeting iSessions Workgroup	2022 – 2024	Member
10.	APTA magazine Advisory Committee	2023 – present	Member

International Service: *NA*

Clinical Service:

As a physical therapist and the department head, my role in the clinical enterprise of the LSUHSC Department of Physical Therapy is multifaceted and impactful. With extensive experience as a per diem therapist since 2003, I focus primarily on the geriatric population with multiple chronic conditions, providing holistic care that considers physical, emotional, and social aspects of health. While my administrative, teaching, and research responsibilities limit my time in direct patient care, I am committed to staying engaged with clinical practice. I plan to begin seeing patients later this year, once faculty and staff positions are settled, dedicating one afternoon per month to maintaining my clinical skills. This balance between leadership and practice reflects my dedication to advancing the academic mission of the department, delivering compassionate care, and ensuring that the clinical aspects of the program continue to evolve with high standards of evidence-based, patient-centered approaches.

In-patient service activities: NA

Clinic coverage: My credentialing was approved in January 2025 that allows me to work in our PT clinic. However, due to the time limits, I have not been scheduled to see any patients yet. My plan is to start to see patient late this year (2025) when the faculty and staff positions are filled and settled in the department.

Call: **NA**

Membership in Professional Organizations:

1.	Society for Neurosciences (SFN)	1994 – 2000
2.	International Brain Research Organization (IBRO)	1995 – 2000
3.	Society for Experimental Biology & Medicine (SEBM)	1996 – 1998
4.	American Anatomist Association (AAA)	1997 – 2001
5.	American Physical Therapy Association (APTA)	1999 – Present
6.	Sections on Geriatrics and Research of APTA	2003 – Present
7.	Arkansas Chapter of APTA	2003-2009
8.	International Society for Aging and Physical Activity	2004 – 2006
9.	Gerontological society of America (GSA)	2005 – Present
10.	Southern Gerontological Society	2006-2015
11.	Texas Chapter of APTA	2010 – 2024
12.	American Congress of Rehabilitation Medicine (ACRM)	2016 – Present
13.	Int Society of PD and Movement Disorders	2018 – 2022

Regulatory Agency/Accrediting Body Service:
NA

Other Professional Service:

External Reviewer for P & T Package

1. Reviewed for Dr. Youcheng Liu, requested by School of Public Health, UNTHSC - 2014.
2. Reviewed for Dr. Sonja Bareiss, requested by Physical Therapy department of Eastern Carolina University – 2015
3. Reviewed for Dr. Angela Patterson, requested by Occupational Therapy department at Creighton University – 2021
4. Reviewed for Dr. Crystal Howell, requested by Pharmacotherapy department, College of Pharmacy, UNTHSC. - 2021

Consultative and Advisory Positions Held:

1. Review two chapters for Lippincott Williams & Wilkins on the Moore, Clinically Oriented Anatomy (5th ed) in 2006.

2. Rater of McMaster Online Rating of Evidence (MORE) - Canada **https://plus.mcmaster.ca/more/,** rated 12 articles in average annually since Jan, 2007.

3. Abstract and Symposium reviewer for the annual conference of the Gerontological Society of America; 2009 – present

4. The Translator for translation of Webpage Contents of Parkinson Foundation of America into Chinese – 2017-2020

5. Advisor of developing a PT program, Rochester Institute of Technology 2020-2023

6. Advisory Board Member of Forbes Health 2021 – present
https://www.forbes.com/health/medical-advisory-board/howe-liu/

7. Advisory Board of MedTech–2023 Conference on Medical Technology & Devices
(medtech.endeavorresearchgroup.com) 2022-2023

8. Co-chair. Advisory Committee of PT program, Hofstra University 02/22 - now

Administrative Responsibilities:

Since December 2023, I have served as the Head of the Physical Therapy Department at LSU Health Sciences Center New Orleans, providing leadership and direction for all departmental functions. In this role, I oversee the strategic planning, development, and implementation of programs designed to deliver high-quality education, research, and clinical care. I am responsible for managing department budgets, ensuring compliance with accreditation standards, and fostering a collaborative environment among faculty, staff, and students. Additionally, I play a key role in faculty recruitment, development, and performance evaluations, while supporting ongoing professional growth and maintaining a focus on advancing the field of physical therapy. I also represent the department in institutional governance, working closely with other departments and administrative bodies to enhance departmental goals and contribute to the mission of LSUHSC New Orleans.

LSUHSC: NA

School (Allied Health Professions): NA

Departmental (of Physical Therapy):

1. **Department head 12/2023 – now**

Hospital: NA

Interdisciplinary/other program (center or program): NA

Community Service Activities:

- Pro bono physical therapy services and consultation to community and UCA faculty, staff, and students (in University of Central Arkansas). 2003 to 2009.

- Provide presentations of stroke prevention and fall prevention to older individuals living in the local communities: 1-2 times each year (spring and fall) in each of 8 senior communities in central Arkansas area. 2006 - 2009.

- Pro bono physical therapy services and consultation to community and UNTHSC faculty, staff, and students (University of North Texas Health Science Center) 2010 - 2023

- Provide presentations of fall prevention and healthcare well education to older individuals living in local communities: in each of 7 senior communities in Dallas/Fort Worth metropolitan area. 2010 - 2023.

- With experience of Tai Chi practice over 30 years, I have been providing TC to local senior communities in Fort Worth metropolitan area. 2011-2023

- Provide presentations of fall prevention and healthcare well education to older individuals living in local communities in St Anthony's Garden Senior Living Community (Covington, LA) and Parkinson Support Group (in Lamb of God Luthereran Church; Slidell, LA. In 2024

Research Interests Narrative

My research aims to enhance rehabilitation therapies for individuals with neurological conditions, musculoskeletal disorders, and age-related decline. I focus on integrating traditional rehabilitation methods with innovative interventions to improve motor, cognitive, and emotional health in diverse populations, including the elderly and individuals recovering from stroke, Parkinson's disease, and multiple sclerosis. My work revolves around three primary research lines: Tai Chi studies, assistive walking devices, and the travel course of peripheral nerves in cadavers.

A core area of my research investigates the impact of Tai Chi on neuroplasticity and functional recovery. I explore its therapeutic potential in aging populations and those with neurological impairments, particularly Parkinson's disease. Using neuroimaging and systematic reviews, I have demonstrated the benefits of Tai Chi in motor control, lower limb function, and mental well-being, guided by the holistic principles of the Yin-Yang philosophy of Tai Chi.

In addition to Tai Chi, I conduct studies on assistive walking devices to optimize mobility and walking efficiency, particularly for elderly individuals and those with neurological conditions. My gait assessment studies focus on improving the design and functionality of assistive devices, such as rolling walkers, and understanding how posture and gait patterns influence mobility and rehabilitation outcomes.

Another important research line focuses on investigating the surface projections of peripheral nerves in cadavers. By mapping these projections, researchers aim to gain a deeper understanding of the anatomical pathways and the relationships between various nerves in the human body. This research can provide valuable insights into nerve impingement, helping to identify potential areas where nerve compression or damage might occur, ultimately contributing to improved diagnosis and treatment strategies.

Additionally, I am exploring the integration of digital technologies in rehabilitation, such as virtual Tai Chi programs to enhance balance and mobility in individuals with Parkinson's disease and their caregivers, funded by the Parkinson Foundation. These projects aim to make rehabilitation more accessible, particularly in underserved and diverse communities.

Ongoing projects include combining deep diaphragmatic breathing with Tai Chi for chronic conditions like Parkinson's disease, and exploring the effects of hearing aids on gait and posture in older adults. Through my work, I aim to improve rehabilitation outcomes for individuals with neurological and musculoskeletal conditions, while contributing to the education of the next generation of healthcare providers.