

**Curriculum Vitae**  
**Karthik Vishwanath Hariharan., MS, PT, BPT**  
University of Pittsburgh  
School of Health and Rehabilitation Science

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**BIOGRAPHICAL**

Name: Karthik V. Hariharan

Email: kvh4@pitt.edu

Business Address: 3420 Forbes Avenue

Murdoch Building, Room 237  
Pittsburgh, PA 15213

Business Phone: (412)383-6645

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**EDUCATION and TRAINING**

**UNDERGRADUATE**

2003 to 2008	Kasturba Medical College, Manipal University, Manipal, India	Bachelors in Physical Therapy, 2008.	Physical Therapy
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**GRADUATE**

2009-2010	University of Pittsburgh, Pittsburgh	MS in Health and Rehabilitation Sciences, 2009	Physical Therapy
2010-2011	University of Pittsburgh, Pittsburgh	MS in Health and Rehabilitation Sciences, 2010	Sports Medicine
2020 to present	University of Pittsburgh, Pittsburgh, PA.	Doctor of Education, Expected Date of Completion, Aug 2024.	Social and Comparative Analysis of Education; Educational Foundations, Organization, and Policy

**POSTGRADUATE**

2010-2013	Center for Rehab Services, UPMC Sports Medicine	Curricular Practicum Trainee, PT	Physical Therapy
2011-2013	UPMC Sports Medicine, Concussion Clinic	Research Associate	Clinical Trials, Concussion Injuries

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## APPOINTMENTS and POSITIONS

### ACADEMIC

2010-2011	University of Pittsburgh, School of Health and Rehabilitation Sciences, Department of Physical Therapy, Pittsburgh, PA	Adjunct Lab Instructor
2013-2020	University of Pittsburgh, School of Health and Rehabilitation Sciences, Department of Physical Therapy, Pittsburgh, PA	Instructor
2013-2016	University of Pittsburgh, School of Health and Rehabilitation Sciences, Department of Occupational Therapy, Pittsburgh, PA	Adjunct Instructor
2017- Present	University of Pittsburgh, School of Health and Rehabilitation Sciences, Pittsburgh PA	Director of Human Anatomy
2020- 2022	University of Pittsburgh, School of Health and Rehabilitation Sciences, Department of Physician Assistant Studies, Pittsburgh, PA	Instructor
2022- Present	University of Pittsburgh, School of Health and Rehabilitation Sciences, Department of Physician Assistant Studies, Pittsburgh, PA	Assistant Professor, Director of Mentorship

### NON-ACADEMIC

2007-2008	Ossicare, Sports Injury Clinic, Bangalore, India	Physical Therapist
2011-2013	UPMC Sports Medicine, Concussion Clinic	Research Co-Ordinator

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## MEMBERSHIP in PROFESSIONAL and SCIENTIFIC SOCIETIES

Pennsylvania Society of Physician Assistants	Member; 2019 to present
Physician Assistant Education Association	Member; 2020 to present
Human Anatomy and Physiology Society	Member; 2019 to present

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### HONORS

Inductee - Pi Alpha National Honor Society for Physician Assistants	2019
Innovation in Education Award, Provost's Advisory Council on Instructional Excellence	2019

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### PUBLICATIONS

#### Original Peer Reviewed Publications

1. Alrwaily M, Timko M, Schneider M, Stevans J, Bise C, **Hariharan K**, Delitto A; Treatment-Based Classification System for Low Back Pain: Revision and Update. *Phys Ther*. 2016 Jul;96(7):1057-66. doi: 10.2522/ptj.20150345. Epub 2015 Dec 4
2. Alrwaily M, Timko MG, Schneider MJ, Kawchuk G, Bise CG, **Hariharan KV**, Stevans JM, Delitto A; Treatment-based Classification System for Patients With Low Back Pain: The Movement Control Approach, *Physical Therapy*, Volume 97, Issue 12, 1 December 2017, Pages 1147–1157, <https://doi.org/10.1093/ptj/pzx087>
3. Tisherman R, Hartman R, **Hariharan K**, Vaudreuil N, Sowa G, Schneider M, Timko M, Bell K. Biomechanical contribution of the alar ligaments to upper cervical stability. *J Biomech*. 2020 Jan 23;99:109508. doi: 10.1016/j.jbiomech.2019.109508. Epub 2019 Nov 23. PMID: 31813563.
4. **Hariharan, K.V.**, Terhorst, L., Maxwell, M.D. et al. Inter-examiner reliability of radiographic measurements from Open-mouth lateral bending cervical radiographs. *Chiropr Man Therap* 28, 32 (2020). <https://doi.org/10.1186/s12998-020-00317-6>
5. Joshi SA, Patel VD, Eapen C, **Hariharan K**, Proportion and distribution of upper extremity musculoskeletal disorders and its association with disability in type 2 diabetes mellitus. *Journal of Hand Therapy*, 2021. <https://doi.org/10.1016/j.jht.2021.04.013>
6. **Hariharan, K.V.**, Timko, M.G., Bise, C.G. et al. Inter-examiner reliability study of physical examination procedures to assess the cervical spine. *Chiropr Man Therap* 29, 20 (2021). <https://doi.org/10.1186/s12998-021-00377-2>
7. Aranha L, Eapen C, Patel VD, Prabhakar AJ, Hariharan K. Muscle fatigue response of rotator cuff muscles in different postures. *Arch Orthop Trauma Surg*. 2022. <https://doi.org/10.1007/s00402-022-04650-8>

#### Published Peer Reviewed Abstracts and Poster Presentations

1. Abstract for Platform Presentation: Co-presenter in platform presentation of “Robotic simulation of Clinical Exams: Describing the Mechanical Effect of Alar ligament Injury” at North American Spine Society, annual meeting in October 2015 at Chicago.
2. Poster: Hartman RA, Tisherman RE, Hariharan K, Schneider MJ, Sowa GA, Kang JD, Timko MG; Robotic simulation of clinical exams: Describing the mechanical effect of alar ligament injury. (Presented at DC 2017, ACC-RAC 2017, Washington D.C, March 2017)
3. Poster: The impact of surface anatomy instruction and assessment on physician assistant student learning and confidence. Hariharan K, Beck D, Allias M, Murphy E, Chuang WN, Young S (University of Pittsburgh, School of Medicine, Med-Ed Day 2018)
4. Poster: Inter-Examiner Reliability Study of Physical Examination Procedures to Assess the Cervical Spine. Hariharan KV, Bise CG, Timko MG, Schneider MJ (World Federation of Chiropractors Annual Conference, Berlin 2019)

## **Published Peer Reviewed Abstracts and Poster Presentations contd.**

5. Poster: Inter-Examiner Reliability Of Radiographic Measurements From Open-Mouth Lateral Bending Cervical Radiographs. Hariharan K, Maxwell M, Schneider MJ, Bise CG, Timko MG (World Federation of Chiropractors Annual Conference, Berlin 2019)
6. Poster: A hybrid approach to Human Anatomy using 3D Applications, Videos, Cadavers and Social Media Engagement. Hariharan K. (University of Pittsburgh Assessment and Teaching Conference 2020)
7. Muga D, Hariharan K, Beck D. Regenerative medicine: 3D bioprinting of human organs. Poster presented at Pennsylvania Society of Physician Assistants Annual Conference (Virtual); October 20-24, 2020; Greensburg, PA.
8. Meenakshi Sundaram, Karthik V. Hariharan, Michael G. Timko, Christopher G. Bise, and Michael J. Schneider. Cervical Spine Physical Examination Procedures: An Inter-Examiner Reliability Study. Poster Presented at: APTA Combined Sections Meeting; Feb 2-5 2022; San Antonio, TX.
9. Pragyashree Sharma Basyal, Karthik Hariharan, Kathryn Reed. Home-based Primary Care for Older Adults. Poster Presented at PSPA Annual CME Conference; Oct 27-30; Kalahari Resorts, PA.
10. Vina Tran, Tara McSwigan, Karthik Hariharan. Diversity in the Physician Assistant profession. Poster Presented at PSPA Annual CME Conference; Oct 2022; Pittsburgh, PA.
11. Description of an Innovative PA Studies Hybrid Education Program; Christine Rodgers MPAS, PA-C, MPH, David Beck EdD, MPAS, PA-C, DFAAPA, Christina Davis MPAS, PA-C, MBA, Deborah Farkas PhD, Karthik Hariharan PT, MS, Ashley Firm PharmD, Tara McSwigan MPAS, PA-C, Daniel Tolomeo MS, PA-C, Lauren Taylor MPAS, PA-C, Kathryn Reed MS, PA-C, EMT-P, RYT, Hayden Mulligan MS, PA-C, Carlos Gutierrez EdD, MMS, PA-C, Susan Graff MS, PA-C, Tyler Sajdak; Presented at MedEd Day 2022, University of Pittsburgh, PA
12. 1. Ryan Brink, Karthik Hariharan. Lack of LGBT+ Inclusivity in American Healthcare Education; Poster Presented at PSPA Annual CME Conference; Nov-Dec 2023; Pittsburgh, PA.

### **Teaching**

### **PROFESSIONAL ACTIVITIES**

2014 to present	REHSCI 1200 / 1201: Human Anatomy with Lab, ~125 Undergraduate SHRS students and non-SHRS Healthcare Majors. Fall semester.
2015 to present	REHSCI 1295: Undergraduate Field Experience, ~5 Undergraduate students per semester, offered all semesters.
2017 to present	REHSCI 1299: Undergraduate Independent Study, ~2 students per year.
2014 - 2017	HRS 2022: Human Anatomy with Lab, ~50 Graduate Occupational Therapy Students. Summer semester.
2014 to present	PAS 2012: Human Anatomy with Lab, ~60 Graduate PA Studies students. Spring semester.
2022 to Present	PAS 2402: Human Anatomy with Lab, ~100 Graduate PA Studies Students (Hybrid). Spring Semester
2018 to 2022	HRS 2869: Anatomical Basis of Sports Medicine, ~15 graduate students in Sports Medicine. Fall Semester.
2022 to Present	SPMED 2000: Anatomical Basis of Sports Medicine, Fall Semester
2018 to 2022	PT 2030: Human Anatomy with Lab, ~60 Graduate DPT students. Summer Semester.
2013 to 2019	PT 2031: Musculoskeletal 1, ~60 Graduate DPT students
2013 to 2019	PT 2032: Musculoskeletal 2, ~60 Graduate DPT students
2013 to 2019	PT 2033: Musculoskeletal 3, ~60 Graduate DPT students
2015 to 2018	PT 2050: Advanced Manual Therapies; ~30 DPT students
2013 to 2020	HRS 2381: Upper Quarter Examination and Treatment; ~20 graduate PT students.
2015 to Present	CSD 1903/1906: SHRS in Ireland. US and Ireland History and Healthcare; ~30 Undergraduate SHRS students. 1903 - Spring; 1904 - Summer Study Abroad.

## **Mentoring:**

2018-2019	Co-Chair and Mentor, Masters Thesis Committee, Audrey Bentley, MS Sports Medicine, Topic: The Relationship Between Previous Concussion and Cervical Spine Characteristics in Competitive Athletes, successfully defended
2021 to 2022	Member, Masters Thesis Committee, Dynasty LaPrade, MS Sports Medicine student. Topic: 'Injury prevention education in the ROTC population'
2021 to 2022	B. Phil Thesis Committee Member for Mara Harotoyo. (Defense Completed – April 2022); Topic: The Association of Hip Muscle Strength, Hip Mobility, and Asymmetry to Dysfunction and Pain in Patients with Chronic Low Back Pain
2014 to present	Faculty Advisor for students in undergraduate BSRS program. Ongoing. ~15 students each year
2014 to present	Faculty Advisor for Rehabilitation Science Student Association
2014 to present	Faculty Advisor for Hybrid PAS Students
2014 to present	Faculty Advisor for PAEA Future Educator Fellowship (Yiting Huang)

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## **RESEARCH**

### **Prior Grant Support:**

Grant Number: N/A	Pitt / UPMC Rehab Institute Pilot Grant	Co-Investigator 12 months	June 2013 to May 2015	\$27,000  (direct)
Grant Number: N/A	ACIE Innovation in Education, Pitt	Primary Investigator 12 months	May 2022 to June 2023	\$20,000 (direct)
Grant Number: N/A	Pitt SEED	Co- Investigator	June 2023 to May 2026	\$500,000 (direct)

### **Non-Funded Research:**

- The Relationship Between Previous Concussion and Cervical Spine Characteristics in Competitive Athletes (IRB # PRO18010446)
- The impact of 3D Visualizations and Vertical Integration of Human Anatomy curriculum. (IRB # PRO18090171)
- PAAD: Physician Assistant Advancing Diversity
- The Efficacy of integration of Human Anatomy in Clinical Courses in the Physician Assistant Studies Curriculum

### **LIST of CURRENT RESEARCH INTERESTS**

- Quality and Process Improvement in Healthcare Education specific to Human anatomy.
- Improve access to quality healthcare education.
- Processes to improve diversity in the student body within healthcare education.
- Pathways to reduce costs associated with spine related disorders
- Post-Concussion cervical spine pathologies.

## **INVITED SEMINARS AND LECTURESHIPS**

October 2016	Treatment Based Classification; Module 1: The Lumbar and Thoracic Spine; Wilson Mello Institute, Campinas, Brazil
May 2017	Management of Cervical Spine Injuries associated with concussions in the young athletic population. St. James Hospital, Dublin, Ireland.
August 2018	Treatment Based Classification; Module 2: The Cervical and upper Thoracic Spine; Wilson Mello Institute, Campinas, Brazil.
March 2020	Human Anatomy: A hybrid 3-D Clinical Approach to Teaching; Keynote Speaker, Human Anatomy and Physiology Society, Annual Regional Meeting, University of Pittsburgh, Pittsburgh, PA.

## **SERVICE:**

### **University and School**

2013 to 2019	Member, DPT Student Admissions Committee
2016 to Present	Member, Committee for Oversight of Anatomical Specimen, University of Pittsburgh
2017 to Present	Director of Human Anatomy, School of Health and Rehabilitation Sciences
2016 to 2018	Member, SHRS Study Abroad Application Review Committee
2019 to 2021	Elected Member, SHRS Nominating Committee
2021 to 2022	Chair, SHRS Nominating Committee
2019 to Present	Member, Hybrid PAS Program Faculty Search Committee
2018 to Present	Member, Department of PA Studies, Faculty Search Committee
2021 to Present	Member, Department of PA Studies, Admissions Committee
2020 to Present	Member, Department of PA Studies, On-Campus Program Student Advising and Assessment Committee
2021 to Present	Co-Chair, Department of PA Studies, Hybrid Program Student Advising and Assessment Committee
2021 to Present	Member, Department of Sports Medicine and Nutrition, AT Faculty Search Committee
2022 to Present	Member, DEI Institutional Marketing Initiatives Sub-Committee, Dept. of PA Studies
2022 to Present	Member, Inclusion in curriculum sub-committee, Dept of PA Studies
2022 to 2023	Dietitian Nutrition Program Director Search Committee
2022 to 2023	AT program Faculty Search Committee.
2022 to Present	Peer-Reviewer, SHRS Educational Excellence Advisory Council
2021 to Present	Member, SHRS Interprofessional (PT/OT/PA) Education Working Group
2022 to Present	Doctor of Chiropractic Program, Curriculum Consensus Committee
2023 to Present	Doctor of Chiropractic Program, Faculty Search Committee
2023 to Present	Member, Human Cadaveric Material University Policy Committee
2023 to Present	Member, University Research and Clinical Training with Human Cadavers Interim Policy Charter

### **Local and Community Service**

2009 to 2014	Member, Big Brothers Big Sisters of Greater Pittsburgh
2023 to Present	Manuscript Reviewer, Spine Journal
2023 to Present	Manuscript Reviewer, Springer Scientific