

Citlali López-Ortiz, PhD, MA

May 2, 2019.

Citizenship: USA

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OBJECTIVE:

An academic career to develop my research, teaching, and service interests in dance, biomechanics, motor control, motor coordination, and motor learning, in health, and physical rehabilitation.

CURRENT EMPLOYMENT:

Assistant Professor – Tenure Track. Department of Kinesiology and Community Health. University of Illinois, Urbana-Champaign. 2014 – present.

CURRENT AFFILIATIONS:

Faculty Affiliate, Beckman Institute for Advance Science and Technology, University of Illinois, Urbana-Champaign.

Faculty Affiliate, Neuroscience Program, University of Illinois Urbana-Champaign

Faculty, Illinois Informatics Institute, University of Illinois Urbana-Champaign

Adjunct Faculty, Joffrey Ballet Academy, The Official School of the Joffrey Ballet, Chicago, Illinois.

Director, First Position Dance and Movement Technology LLC Champaign, Illinois.

EDUCATION:

Ph.D. Kinesiology. University of Wisconsin-Madison, 2001. Emphasis in biomechanics. G.P.A. 3.74/4.0. Dissertation: *Emergent linearity of the foot force paths in kinematically constrained motion of the lower limb*. Advisor Professor Kreg G. Gruben, Ph.D. Awarded the Virginia Horne Henry Wisconsin Distinguished Graduate Fellowship, the Vilas Professional Development Award and two consecutive the Marie L. Carns Fellowships.

M.A. Dance. State University of New York at Brockport, 1995. Emphasis in biomechanics. G.P.A. 3.92/4.00. Thesis: *Kinematic trend of pirouette performances as a function of skill level*. Recipient of the Pylyshenko-Strasser Graduate Dance Award. Advisor Professor Nat Goodhart, Ph.D.

B.S. Honors (Licentiate) Physics. National Autonomous University of Mexico, 1991. Grade average: 9.88/10.00; ranked 2nd in the Class of 1991. Thesis: *Computer program for the automatic design of achromatic doublets*. Advisor Professor Rufino Díaz-Urbe, Ph.D.

TRAINING:

Post-doctoral Fellow. National Institutes of Health-National Research Service Award Individual Fellowship F-32, Northwestern University, Rehabilitation Institute of Chicago-Sensory Motor Performance Program 2007-2008.

Post-doctoral Fellow. National Institutes of Health-National Research Service Award Institutional Fellowship T-32, Northwestern University, Rehabilitation Institute of Chicago-Sensory Motor Performance Program 2005-2007.

LICENSURE/CERTIFICATION:

Bolshoi Teacher's Certification Level B. Bolshoi Ballet Academy, New York NY, 2016.

Dance for Parkinson's Mark Morris Dance Group Teacher certification. 2011.

Classical Ballet Teacher Certification Cuban Methodology. Ballet Academy of Coyoacán, in association with Ballet Nacional de Cuba. Mexico, 1990 Mentor: Ana del Castillo, ATC, Royal Academy of Dancing, under the supervision of Fernando Alonso National Ballet of Cuba.

ACADEMIC APPOINTMENTS:

Adjunct faculty/Teaching artist, 2014-present. Joffrey Ballet Academy, The Official School of the Joffrey Ballet, Chicago, Illinois.

Dance for Movement Rehabilitation Instructor for children with cerebral palsy and adults with Parkinson's disease, 2009-present. First Position Dance and Movement Technology LLC, Evanston/Champaign, Illinois.

Faculty, 2012-2014 Joffrey Ballet Academy, The Official School of the Joffrey Ballet, Chicago, Illinois.

Adjunct Assistant Professor 2014-2016. Department of Physical Medicine and Rehabilitation, Feinberg School of Medicine, Northwestern University. Chicago, Illinois.

Research Assistant Professor, 2013- 2014 Department of Physical Medicine and Rehabilitation, Feinberg School of Medicine, Northwestern University, Chicago, Illinois.

Research Scientist. 2010 – 2013. Sensory Motor Performance Program. Rehabilitation Institute of Chicago. Chicago, Illinois.

Visiting Artist, Rubin Award Department of Dance Movement Therapy 2010. Columbia College. Chicago, Illinois.

Dance for Rehabilitation Instructor 2009-2011 Instructor for children with cerebral palsy and adults with Parkinson's disease. Rehabilitation Institute of Chicago/ Northwestern University Parkinson's Disease and Movement Disorders Center, Chicago Illinois.

Classical Ballet for Movement Rehabilitation Instructor 2009. Instructor for children with cerebral palsy. Pathways Center for Children, Glencoe Illinois.

Clinical Assistant Professor 2008-2009 Department of Physical Therapy. College of health and Human Services, Governors State University, Illinois

Post-Doctoral Fellow -National Research Service Award T32-F32, National Institutes of Health. 2005-2008. Northwestern University/Rehabilitation Institute of Chicago, Illinois.

Research Assistant/ Research Fellow 1997-2001. Biomechanics Laboratory, Department of Kinesiology, University of Wisconsin-Madison, Madison, Wisconsin.

Teaching Assistant 1996-1997. Biomechanics, Department of Kinesiology, University of Wisconsin-Madison, Madison, Wisconsin.

Lecturer, Classical Ballet 1995-1996. National Technical Institute for the Deaf, at the Rochester Institute of Technology, Rochester, New York.

Classical Ballet Coach 1994-1995. Gymnastics Training Center, Rochester, New York.

Instructor, Introduction to Dance, 1993. Fieldwork. Department of Dance, State University of New York College at Brockport.

Instructional Support Assistant 1992. Department of Foreign Languages and Literatures, State University of New York College at Brockport.

Research and Teaching Assistant Optoelectronics. 1989-1991. Institute of Astronomy, Center for Instrumentation, and Faculty of Sciences, at the National Autonomous University of Mexico. D.F., Mexico.

Real and Vector Calculus Workshop Instructor 1988-1990. School of Engineering, Panamerican University, D.F., Mexico.

Classical Ballet Dancer 1985. Swan Lake, National Company of Dance, D.F., Mexico.

Classical Ballet Teacher, Curriculum and Faculty Supervisor 1981-1991. Ballet Academy of Coyoacán, founded and directed by Ana Castillo, México.. Instrumental in the coaching of pre-professional ballet students to win international ballet competitions.

GRANT AWARDS:

Arnold and Mabel Beckman Foundation

Lopez-Ortiz (PI) 11/01/2018-10/31/2019

Brain connectivity underlying learning in mind-body ballet: a pilot clinical trial in multiple sclerosis.

This project is a pilot investigation to provide brain imaging evidence of the changes in brain connectivity that correlate with improvements in ataxia and balance after participation in a targeted ballet class for adults with MS. Award \$10,000.00

Jump Applied Research for Community Health through Engineering and Simulation Research Grant Lopez-Ortiz(PI) 05/16/2017-05/15/2018

Movement impairment characterization and rehabilitation for dystonic cerebral palsy using robotic haptic feedback in virtual reality

This project characterizes dystonia in cerebral palsy quantitatively and serves as a teaching tool for medical students. Award \$90,079.

Center for Health, Aging and Disability-UIUC

Lopez-Ortiz(PI) 09/01/2015-03/30/2018

Movement rehabilitation for dystonic cerebral palsy using classical ballet and

robotic haptic feedback in virtual reality.

This project is a pilot investigation on training selective motor control of the upper limbs in children with dystonic cerebral palsy using robotics assistance and low dimensional feedback in virtual reality. Award \$20,000

Campus Research Board-UIUC Lopez-Ortiz(PI) 08/30/2015-02/28/2017

Training isometric force matching tasks in classical ballet postures in children with dystonic cerebral palsy

This project is a pilot investigation on training selective motor control of the lower limbs in children with dystonic cerebral palsy. Award \$24,902.

National Multiple Sclerosis Society (NMSS)

Lopez-Ortiz (PI) 04/01/2015-03/31/2017

Targeted dance program for improved mobility in multiple sclerosis

This project is a pilot investigation on the feasibility, safety, and efficacy of a targeted ballet based dance class for adults with MS who have problems with mobility and coordination as compared to the NMSS exercise guidelines. Award \$42,849.40

Lavin Pediatric Research Fund Gaebler-Spira (PI) 06/21/2010-12/14/2013

Dance Rehabilitation Research in Cerebral Palsy

The goal of this project is to conduct experiments in dance for physical rehabilitation for children with cerebral palsy. Endowment \$1,000,000. Award: \$140,000

Physician Engagement Community Grants Initiative, Northwestern Memorial Hospital, Rehabilitation Institute of Chicago

Lopez-Ortiz (Co-PI) 08/15/2012-08/14/2013

A structured dance program for children with disabilities in a Chicago Public School

The goal of this project is to provide an innovative physical activity, as a structured dance program in a community school setting for children with disability to improve all aspects of the International Classification of Function of the World Health Organization. Award: \$7,261

Cerebral Palsy International Research Foundation Pilot Research Grant

Lopez-Ortiz (PI) 12/01/2010-11/30/2012

Dance for motor learning in children with cerebral palsy

The goal of this study is to investigate improvements of range of motion and upper limb coordination in children with CP. Award: \$100,000

Coleman Foundation Research Grant

O'Shea (PI) 09/01/2008-08/31/2009

The effect of rhythmic stimulation on movement in cerebral palsy

The goal of this project was to assess the effect of moving to external auditory rhythmic stimulation in children with cerebral palsy. Award \$48,000

NIH-1F32HD055013-01A1 Lopez-Ortiz (PI) 04/25/2007-04/24/2008
Unintended muscle activity influences on post-stroke locomotion

The goal of this project was to characterize the unintended muscle activity in the inactive paretic limb of post-stroke individuals during locomotor activity. Award: \$52,000

NIH-T32HD07418 Rymer (PI) 04/24/2005-04/24/2007
Pathophysiology and Rehabilitation of Neural Dysfunction

The goal of this project was to characterize the unintended muscle activity in the inactive paretic limb of post-stroke individuals during locomotor activity. Award: \$82,000

PUBLICATIONS:

Peer Reviewed Articles

1. **López-Ortiz, C.**, Lencioni, D, Alberto, N, Gaebler-Spira, D.J., Levin M. A targeted ballet class for spastic cerebral palsy reduces the spastic stretch reflex threshold. (Writing in progress.)
2. Chembrammel P., Speidel N., McNish, R., McKeeman, S. N., **López-Ortiz, C.** Patterns of muscle activation in whole body isometric force efforts. (Writing in progress.)
3. McNish, R., Chembrammel ,P., McKeeman, S. N., **López-Ortiz, C.** Cooperative muscle activation patterns in upper limb quasi-static force efforts. (Writing in progress.)
4. Lakes, J., Sharp, K., Neville, R., Grant-Beuttler, M., Sunico, S., Ho, D., Schneider, M., Sawitz, S., Paulsen, J., Caputo, K., Haddad F., Lu, K., Aminian, A., **Lopez-Ortiz, C.**, Radom-Aizik, S. Therapeutic ballet for children with cerebral palsy: a mixed-methods study of effects on social-emotional and executive functioning. *Frontiers in Public Health* (Accepted.)
5. Camacho, P., Carbonari, R., Shen S., Zadikoff, C., Kramer A. F., **López-Ortiz C.** Protocol for pilot clinical trial on the training of voluntary saccades in older adults and PD. *Frontiers in Aging Neuroscience*, 2019 Vol. 11 Issue 77.
6. Tisha, L. A., Armstrong A. A., Wagner-Johnson A., **López-Ortiz, C.** (2019) Adaptations and passive mechanical stiffness of muscles in spastic cerebral palsy: A review and conceptual model (2019). Accepted June 2018. *Journal of Applied Biomechanics*, 35 (1):68-79 DOI: 10.1123/jab.2018-0049.
7. McNish RN, Chembrammel P, Speidel NC, Lin JJ, **López-Ortiz C.** Rehabilitation for Children With Dystonic Cerebral Palsy Using Haptic Feedback in Virtual Reality: Protocol for a Randomized Controlled Trial (2019) *JMIR Res Protoc* 2019;8(1):e11470 DOI: [10.2196/11470](https://doi.org/10.2196/11470).
8. **López-Ortiz, C.**, Jahansen, R. B., Green, D. Enabling participation: innovations and advancements. Book chapter in “Enabling Participation in Childhood Onset Neuro-Disability: Optimising Outcomes” Edited by Dido Green and Christine Imms. Mac Keith Press, London, UK. Submitted 2018. Accepted.
9. **López-Ortiz C.**, Gaebler-Spira D. J. , McKeeman S. N. , McNish R, N., Green, D. Dance and Rehabilitation: A systematized Review of the Evidence for Cerebral Palsy.

- (2019) First published 23 October 2018. Developmental Medicine & Child Neurology, 61: 393–398.
10. Scheidler A. M., Kinnett-Hopkins, D. L., Learmonth, Y. C, Motl, R., **López-Ortiz, C.** (2018). Targeted ballet program mitigates ataxia and improves balance in females with mild-to-moderate multiple sclerosis. PLOS ONE 2018-10 | journal-article DOI: 10.1371/journal.pone.0205382.
 11. **López-Ortiz, C.**, Eagan, T., Gaebler-Spira, D. (2016) Pilot study of a targeted dance class for physical rehabilitation in children with cerebral palsy. Sage Open Medicine, 4:1-5.
 12. **López-Ortiz, C.**, Gladden, K., Deon, L., Schmidt, J., Girolami, G. and Gaebler-Spira, D. (2012). Dance program for physical rehabilitation and participation in children with cerebral palsy, Arts & Health 4(1): 39-54. First published on: 13 June 2011 (iFirst).
 13. Alibigalou, L., **López-Ortiz, C.**, Brown D. A., (2009). Phase dependence of lower limb muscle activity in locomotion after stroke Journal of Neurophysiology Nov; 102(5): 2856-65. Epub 2009 Sep 9.
 14. Gruben K. G., **López-Ortiz, C.**, and Schmidt, M. W. (2003). The control of foot force during pushing efforts against a moving pedal. Experimental Brain Research, 148:50-61.
 15. Gruben, K.G., **López-Ortiz, C.**, and C. Giachetti, R. S. (2003). Muscular and postural components of lower limb forces during quasi-static extension efforts. Journal of Applied Biomechanics, 19:239-245
 16. Schmidt, M.W., **López-Ortiz, C.**, Barrett, P. S., Rogers. L. M., Gruben, K. G. (2003). Foot force direction in an isometric moving task. Experimental Brain Research, 150:245-254.
 17. Gruben, K. and **López-Ortiz, C.** (2000) Characteristics of the force applied to a pedal during human pushing efforts. Journal of Motor Behavior, 32:151-162.

Bulletins, Reports, Conference Proceedings and Conference Papers

1. Scheidler, A. M., Tisha, A. L., Kinnett-Hopkins, D. L., Learmonth, Y. C. , Motl, R., **López-Ortiz, C.** (2017) Targeted Dance Program for Improved Mobility in Multiple Sclerosis. Converging Clinical and Engineering Research on Neurorehabilitation II, Biosystems and Robotics 15: 1073-1078. Springer-Verlag.
2. **López-Ortiz, C.**, Simkowski J., Gomez, W, Stoykov, N., Gaebler-Spira, D. (2013) Motor Learning in Children with Cerebral Palsy with Feedback of Principal Component Space of Reduced Dimension. Converging Clinical and Engineering Research on Neurorehabilitation, Biosystems and Robotics I: 311-315. Springer-Verlag.
3. **López-Ortiz, C.** (2013) Sound and Rehabilitation Robotics for Pediatric Cerebral Palsy. Converging Clinical and Engineering Research on Neurorehabilitation, Biosystems and Robotics 2:31-315. Springer-Verlag.
4. **López-Ortiz C.**, Warnick, J, Gomez W, Doshi K, Simkowsky J, Reese M, Gaebler-Spira D. (2012) A pilot study using virtual reality and statistics of dance postures to enhance balance and dissociation of movements in children with cerebral palsy. Developmental Medicine and Child Neurology: 54 S6: 41-42.

Peer Reviewed Abstracts:

1. Camacho, P., Carbonari R., Shen S., Zadikoff C., Kramer A. F., **López-Ortiz, C.** Voluntary saccade training in healthy adults. Society for Neuroscience Program 48th Annual Meeting, 2018.
2. Speidel N., Chembrammel P., McNish R. N., McKeeman S. N., Camacho, P., **López-Ortiz, C.** Dimensionality reduction in the control of quasi-static force production tasks in humans. Society for Neuroscience Program 48th Annual Meeting, 2018.
3. **López-Ortiz C.**, McKeeman S. N., McNish R, N, Gaebler-Spira D. Scoping review of Dance Utilized in Rehabilitation for people with cerebral palsy. American Academy for Cerebral Palsy and Developmental Medicine, 72nd Annual Meeting, 2018.
4. **López-Ortiz C.** Targeted Ballet Programs for improved Range of Motion and Reduced Spasticity in Cerebral Palsy and Multiple Sclerosis; Symposium on the Mechanisms of Dance in the Rehabilitation of Movement Disorders with Barnstaple R, Hackney M, DeSouza J. First International Symposium for Dance and Well-Being. 2018.
5. **López-Ortiz, C.** Targeted dance class ameliorates ataxia in multiple sclerosis. Mechanisms of Dance Rehabilitation Symposium in Movement and Cognition-Harvard Medical School, 2018.
6. Speidel N., Chembrammel P., McNish, R., McKeeman, S. N., **López-Ortiz, C.** Synergistic tendencies inhuman motor control characterized for quasi-static production tasks. Movement and Cognition-Harvard- Medical School, 2018.
7. Speidel N., Chembrammel P., McNish, R., McKeeman, S. N., **López-Ortiz, C.** Whole body muscle activity in quasi-static force efforts. Society for Neuroscience Program 45th Annual Meeting, 2017.
8. **López-Ortiz C**, Kaspi E, Gaebler-Spira D. Training an isometric force-matching task of classical ballet postures in children with cerebral palsy. Movement and Cognition 2017, Oxford, United Kingdom, 2017.
9. Scheidler, A., Kinnett-Hopkins, D. L., Learmonth, Y. C. , Motl, R., **López-Ortiz, C.** Ataxia rehabilitation in multiple sclerosis through a targeted dance class. Society for Neuroscience Program 46th Annual Meeting, 2016.
10. **López-Ortiz, C.**, Eagan, T., Gaebler-Spira, D. Balance control is improved in children with cerebral palsy through classical ballet based instruction. Society for Neuroscience Program 45th Annual Meeting, 2015.
11. **López-Ortiz C**, Kaspi E, Gaebler-Spira D. Pilot study: Training an isometric torque-matching task in classical ballet postures in children with cerebral palsy. XII Summer School in Motor Control, 2015.
12. **López-Ortiz C**, Simkowski JM, Doshi K, Gomez W, Gaebler-Spira DJ Virtual reality remapping for motor learning in cerebral palsy. Chittenden Symposium University of Illinois at Urbana-Champaign, 2015.
13. **López-Ortiz C** Simkowski J, Gomez W, Doshi K, Stoykov S, Warnick J, Gaebler-Spira D. Motor learning via low dimension remapping as a marker for spasticity and dystonia in cerebral palsy. Society for Neuroscience Program 43rd Annual Meeting, 2013.

14. Albert MV, Gomez W, Miskovic A, **López-Ortiz C** Mobility in Parkinson's disease is improved through classical ballet based instruction. Society for Neuroscience Program 43rd Annual Meeting, 2013.
15. **López-Ortiz C**, Gomez W, Miskovic A, Toledo S, Albert MV. Targeted classical ballet instruction improves mobility in Parkinson's disease. John and Gwen Smart Conference-Buehler Center of Aging, Health, and Society, Northwestern University 2013.
16. **López-Ortiz C**, Simkowski JM, Doshi K, Gomez W, Warnick, J, Gaebler-Spira DJ Motor learning in virtual reality as a marker for spasticity and dystonia. American Academy for Cerebral Palsy and Developmental Medicine, 67th Annual Meeting 2013.
17. **López-Ortiz C**, Egan T, Gaebler-Spira, DJ Structured Dance Class for Cerebral Palsy After School. American Academy for Cerebral Palsy and Developmental Medicine, 67th Annual Meeting 2013.
18. **López-Ortiz C**, Doshi K, Simkowski JMS, Gaebler-Spira, DJ Motor learning of classical ballet with feedback of reduced dimension in children with cerebral palsy. Progress in Motor Control IX, 2013.
19. **López-Ortiz C**, Simkowski J, Gomez W, Doshi K, Stoykov S, Warnick J, Gaebler-Spira D. Motor learning with low dimensional remapping in virtual reality for children with cerebral palsy. Society for Neuroscience Program 42th Annual Meeting, 2012.
20. Doshi KR, **López-Ortiz C**, Gomez W, Stoykov, NS, Simkowski J, Warnick J, Roth EJ, Gaebler-Spira DJ. Characterization of the principal component space in normally developing children performing canonical ballet sequences to train selective motor control in cerebral palsy. Association of Academic Physiatrists Annual Meeting 2012.
21. **López-Ortiz, C**. Dance for physical rehabilitation and participation in children with cerebral palsy and adults with Parkinson's disease. (2011) Dance Kinesiology Teachers' Group Mini-Conference Sharing teaching tools and practices in Dance Science and Somatics. National Dance Education Organization. State University of New York College at Brockport, Brockport, NY. June, 2011
22. **López-Ortiz C**, Wong, L. Gaebler-Spira D. Music in classical ballet for pediatric cerebral palsy. American Academy for Cerebral Palsy and Developmental Medicine, 65th Annual Meeting 2011.
23. **Lopez-Ortiz C**. Dance for motor learning in children with cerebral palsy using principal component analysis. European Academy of Childhood Disability, 23rd Annual Meeting 2011.
24. **López-Ortiz C**, Gaebler-Spira D, Deon L, Suresh M, Kasmer M, Troy M. Dance for motor learning in children with cerebral palsy. Society for Neuroscience Program 40th Annual Meeting, 2010.
25. **López-Ortiz C**, Gladden K, Deon L, Gaebler-Spira D. Dance for Children with cerebral palsy. American Academy for Cerebral Palsy and Developmental Medicine, 64th Annual Meeting 2010.
26. **López-Ortiz C**. Dance and movement trajectory formation in children with cerebral palsy. Claiming Creativity Conference Proceedings. Art Education in Cultural Transition. Chicago, IL, 2010.

27. **López-Ortiz C**, O'Shea, R, Mussa-Ivaldi, F., Gaebler-Spira D. Music and movement trajectory formation in children with cerebral palsy. Society for Neuroscience Program 39th Annual Meeting, 2009.
28. **López-Ortiz C**, Gladden K, Kasmer M, Schmidt J, Girolami G, Campbell S, Gaebler-Spira D. Dance for Children with cerebral palsy: an adjunct to therapy. American Academy for Cerebral Palsy and Developmental Medicine, 63rd Annual Meeting 2009.
29. **López-Ortiz, C**. Unintended muscle activity influences interlimb coordination in locomotion after stroke. Motor Control, 11:S244, 2007
30. Gruben, K. and **López-Ortiz, C**. Foot force path linearity in the frontal plane during pushes on stationary and moving pedals. Proceedings of the 24th Annual Meeting of the American Society of Biomechanics, 2000.
31. Gruben, K., **López-Ortiz, C**. Foot force direction during static extension efforts: muscular component. Advances in Motor Rehabilitation Symposium Proceedings, Isle, Illinois, 1998.
32. **López-Ortiz, C**. Kinematic Analysis of *Pirouette* Performances by Skilled and Non-skilled Dancers. International Association for Dance Medicine and Science. Fourth Annual Meeting Proceedings. San Francisco, California, 1995.
33. **López-Ortiz, C**. Symmetry in Dance. Scholars' Day State University of New York-Brockport, 1994. Brockport, NY 1994.

Non-Peer Reviewed Abstracts:

34. Tisha AL, Chembrammel P, Kesavadas T, Sankaran,NK, **López-Ortiz C**, Movement rehabilitation for dystonic cerebral palsy using classical ballet and robotic haptic feedback in virtual reality. Chittenden Symposium University of Illinois at Urbana-Champaign, 2016.
35. Alibiglou L, **López-Ortiz C**, Walter C. B., Brown D A. Bilateral limb phase relationship and its potential to alter muscle activity timing during locomotion post-stroke. Society for Neuroscience Program 38th Annual Meeting, 2008.
36. **López-Ortiz, C.**, Schmidt M.W., Rogers, L. M., Batchu P. K., Rymer W. Z., Brown D. A. Muscle foot force magnitude affects inter-limb coordination in post-stroke locomotion. Society for Neuroscience Program 36th Annual Meeting, 2006.
37. **López-Ortiz, C.**, Schmidt M. W., Gruben, K. G., Brown D.A., and Rymer, W. Z. Muscle groups and muscle contribution to foot force during lower limb pushing efforts. Medical Rehabilitation Research Training Workshop Abstracts. National Institute of Child and Human Development. NIH. December 5-6, 2005. Rockville, Maryland.
38. **López-Ortiz, C.**, Schmidt M. W., and Gruben, K. G. Foot force and EMG in kinematically constrained motion of the lower limb. Society for Neuroscience Program 32nd Annual Meeting, 2002.
39. **López-Ortiz, C.**, Schmidt M. W., and Gruben, K. G. Emergent linearity of the foot force paths during kinematically constrained motion of the lower limb: quasi-static case. Society for Neuroscience Program 31st Annual Meeting, 2001.

40. Gruben, K.G. and **López-Ortiz, C.** Limb force control in infants: motor primitives. Society for Neuroscience Program 30th Annual Meeting, 2000.

Chapters in Books:

Peer reviewed

41. **López-Ortiz, C.**, Jahansen, R. B., Green, D. *Participatory interventions: interventions situated in meaningful contexts.* (2018) Chapter 19 in Enabling Participation in Children with Neurodisability, Imms, C. and Green, D. editors. Mac Keith Press, London, UK. Accepted.

Other

Invention disclosures:

42. **López-Ortiz, C.**, Kesavadas, T, Chembrammal, P. *Kinetic (haptic) and kinematic feedback in virtual reality spaces of variable dimension to classify and train motor control using classical ballet postures.* Inventors 10 May 2016.
43. **López-Ortiz, C.**, Camacho, P. *Complex gait treadmill system.* Inventors 19 March 2019.

Data Sets

Peer reviewed

44. Scheidler, Andrew; Kinnett-Hopkins, Dominique; Learmonth, Yvonne; Motl, Robert; **Lopez-Ortiz, Citlali** (2017): Targeted ballet program mitigates ataxia and improves agility in moderate-to-advanced multiple sclerosis. University of Illinois at Urbana-Champaign. <https://doi.org/10.13012/B2IDB-6858418 V2>. Downloaded 3561 times as of 1 May 2019. Most downloaded dataset form the University of Illinois Data Bank

Selected Media References:

45. Inside Look Shirley Ryan Ability Lab “The future of Dance Therapy for CP” <https://www.sralab.org/inside-look/april-2019-future-dance-therapy-cp-dr-gaebler-spira-co-authors-study> April 24th, 2019.
46. KCH Assistant Professor Citlali Lopez-Ortiz Gets Appointment To Center For Advanced Study

<http://www.kch.illinois.edu/citali%20lopez%20ortiz%20gets%20appointment%20to%20center%20for%20advanced%20study>

February 5th, 2019.

47. In Class: Dance Doctor <https://illinoisalumni.org/2018/12/17/in-class-dance-doctor/>. Illini Alumni Magazine, December 17th, 2018.
48. Professor explores the impact of dance on disabilities <https://dailyillini.com/features/2018/10/04/professor-explores-impact-of-dance-on-disabilities/> The Daily Illini. The independent Newspaper at the University of Illinois By Sydney Madden. October 4th, 2018.
49. SfN: Ballet improves Ataxia in MS – Dance program improved movement in pilot study. <http://www.medpagetoday.com/mastery-of-medicine/neurology-mastery-in-ms/61506>, and <https://www.medpagetoday.com/video/mastery-of-medicine/neurology-mastery-in-ms/neuro-mastery-in-multiple-sclerosis/121/2067> 2016.
50. Cerebral Palsy and Ballet. National Center on Health, Physical Activity and Disability <http://www.nchpad.org/895/5018/Cerebral~Palsy~and~Ballet>, 2015.
51. Appearance in the film Enter the Faun, by Tamar Rogoff, Performance Projects, 2014.
52. Ballet Clásico como Terapia. <http://medholos.blogspot.com/2014/05/ballet-classico-como-terapia.html>. May 6, 2014.
53. EL BALLET COMO REHABILITACIÓN EN LA PARÁLISIS CEREBRAL: BALLET VALE+. <https://adaptohabitatblog.wordpress.com/2013/10/31/el-ballet-como-rehabilitacion-en-la-paralisis-cerebral-ballet-vale/> October 31, 2013
54. Fisioterapeutas y profesionales de la danza en el curso de ballet adaptado para la rehabilitación física en parálisis cerebral organizado por la CUE- Universidad Cardenal Herrera. <http://blog.uchceu.es/docu/index.php/2013/canal-9-fisioterapeutas-y-profesionales-de-la-danza-en-el-i-curso-de-ballet-adaptado-para-la-rehabilitacion-fisica-en-paralisis-cerebral-organizado-por-la-ceu-uch/> June 23, 2013.
55. El Ballet de la Generalitat clase con niños <http://www.youtube.com/watch?v=yN4MgmflFzg> June 19, 2013.
56. Ballet Vale+ <https://www.facebook.com/TeatresdeLaGeneralitat?filter=3> <https://www.facebook.com/media/set/?set=a.508254065910199.1073741846.240285436040398&type=1> June 2013.
57. El CEU organiza un curso de ballet para niños con parálisis cerebral/ ESPAÑA. <http://portalescenico.mx/node/8588> Portal de las Artes Escénicas México Fondo Nacional para la Cultura y las Artes. June 11, 2013.
58. Artist Disabilities. <http://columbiachronicle.com/artist-disabilities/> October 2012.
59. Dancer-turned-doctor starts classes for Parkinson's patients
60. http://abclocal.go.com/wls/story?section=news/disability_issues&id=8851944 October 18, 2012.
61. Taniec pomaga dzieciom z porażeniem mózgowym [GALERIA] http://wyborcza.pl/56,75402,11539862,Taniec_pomaga_dzieciom_z_porazeniem_mozgowym_GALERIA.html April 15, 2012.
62. Terapia ballet para crianças com deficiência movimento <http://cristina-mundialnoticias-cristina.blogspot.com/2012/03/terapia-ballet-para-criancas-com.html>. March 31, 2012

63. Therapy Ballet for Kids with Movement Disabilities
<http://photoblog.msnbc.msn.com/news/2012/03/31/10947289-therapy-ballet-for-kids-with-movement-disabilities>. March 31, 2012
64. Therapy Ballet for Kids with Movement Disabilities
<http://photoblog.nbcnews.com/news/2012/03/31/10947289-therapy-ballet-for-kids-with-movement-disabilities?lite> March 31, 2012
65. Forbes India, Multimedia Slide Show. <http://forbesindia.com/slideshow-big/slideshow/snapshots-of-the-fortnight-march-29-april-10-2012/32722/1>
66. Therapy Ballet <http://blogs.reuters.com/photographers-blog/2012/03/30/therapy-ballet/> March 30 2012
67. Little Girl with cerebral palsy gets shot at Joffrey 'Nutcracker' Chicago Sun-Times. <http://www.suntimes.com/photos/galleries/9465153-417/girl-with-cerebral-palsy-gets-shot-at-joffrey-nutcracker.html> Dec 15 2011
68. Orland girl with CP gets shot at Joffrey's 'Nutcracker' Southtownstar, a Chicago SunTimes Publication <http://southtownstar.suntimes.com/news/9188825-418/orland-girl-with-cp-gets-shot-at-joffreys-nutcracker.html> December 14, 2011.
69. A conversation about physically integrated dance. The Aud Blog, Auditorium Theatre of Roosevelt University. http://auditoriumtheatre.blogspot.com/2011/11/conversation-about-physically_18.html#.UV-LOxlAu-8 November 18, 2011.
70. The healing powers of dance. AARP The Magazine. <http://www.aarp.org/health/fitness/info-03-2011/dance-for-health.html> March 15 2011.
71. Dance class for adults with cerebral palsy featured in Medill News Chicago [Parkinson's disease patients dance their way to improved health](#) ↗ May 2010.
72. Dance class for children with cerebral palsy featured in Good Morning America [Overcoming Cerebral Palsy With Ballet - ABC News](#) ↗ [Against All Odds: Dancing With Cerebral Palsy - ABC News](#) ↗ January 2010.
73. New Media and Information Technologies and Dance Education. <http://www.art.net/~dtz/scott1.html> September 23, 1996.

INVITED LECTURES AND SEMINARS:

1. **Dance and Rehabilitation: A systematized Review of the Evidence for Cerebral Palsy.** Invited [Video and podcast for Developmental Medicine and Child Neurology](#) by Bernard Dan, MD, PhD, Editor of Developmental Medicine and Child Neurology, April 2019.
2. **Why Dance for Physical Rehabilitation?** [Grand Challenge Experience in Interdisciplinary Approaches to Life Science](#) GCL 125d: Experiential Anatomy, University of Illinois Urbana-Champaign. 17 April 2019.
3. **Movement impairment characterization and rehabilitation for dystonic cerebral palsy using robotic haptic feedback in virtual reality.** [Faculty of](#)

- Medicine. Universidad Autónoma de Yucatán Mérida, Yucatán, México, 19 October 2018.
4. **Characterization of Muscle Activity in Isometric Force Efforts Using a Haptic Robotic Interface.** 5th Health Care Engineering Systems Symposium and Interactive Medical Simulation Exposition, School of Engineering, University of Illinois At Urbana-Champaign, Urbana, Illinois, September 17th, 2018.
 5. **Movement Impairment Characterization and Rehabilitation for Dystonic Cerebral Palsy Using Robotic Haptic Feedback in Virtual Reality** Live demonstration.
 6. **Movement impairment characterization and rehabilitation for dystonic cerebral palsy using robotic haptic feedback in virtual reality.** Faculty of Engineering, Postgraduate and Research Unit, Universidad Autónoma de Yucatán Mérida, Yucatán, México. June 13th, 2018.
 7. **Movement impairment characterization and rehabilitation for dystonic cerebral palsy using robotic haptic feedback in virtual reality.** Center for Regional Research “Dr. Hideyo Noguchi”, Universidad Autónoma de Yucatán, Mérida, Yucatán, México. June 13th, 2018.
 8. **Ballet Clásico para la Rehabilitación Motriz de la Población Infantil con Parálisis Cerebral. Curso de Verano Intensivo.** Centro de Rehabilitación y Educación Especial, Mérida, Yucatán. National System for Family Integral Development, México. June 4th-8th, 2018.
 9. **Classification of movement disorders in cerebral palsy with robotic haptic feedback and virtual reality.** MATTER Incubator, Chicago, Illinois, October 12th 2017.
 10. **Dance and Movement for Health and Physical Rehabilitation.** Champaign County 4th Annual Active Aging Week sponsored by Clark-Lindsey, Champaign, Illinois. September 29th, 2017.
 11. **Movement impairment characterization and rehabilitation for dystonic cerebral palsy using robotic haptic feedback in virtual reality.** 4th Health Care Engineering Systems Symposium, School of Engineering, University of Illinois At Urbana-Champaign, Urbana, Illinois, September 11th, 2017.
 12. **Targeted Ballet Programs and Augmented Motor Learning for Physical Rehabilitation. Grand Rounds.** Department of Physical Therapy and Human Movement Sciences, Feinberg School of Medicine, Northwestern University. July 5th, 2017.
 13. **Why Dance for Physical Rehabilitation?** Grand Challenge Experience Course in Interdisciplinary Approaches to Life Science GCL 125d: Experiential Anatomy, University of Illinois Urbana-Champaign. April 5th, 2017.
 14. **Dance and Movement for Physical Rehabilitation.** Optimizing Brain Fitness: research to Practice, Carle Forum. Carle Hospital, Urbana, IL, 2016.
 15. **Training isometric force matching tasks in classical ballet postures in children with dystonic cerebral palsy.** 3rd Health Care Engineering Systems Symposium. Applied Research for Community Health through Engineering and Simulation (“Jump ARCHES”), September 9th, 2016.

16. **Why Dance for Physical Rehabilitation?** Grand Challenge Experience Course in Interdisciplinary Approaches to Life Science GCL 125d: Experiential Anatomy, University of Illinois Urbana-Champaign. April 18th, 2016.
17. **Evidence Based Adapted Ballet for Movement Rehabilitation.** Illinois Association for Health, Physical Education, Recreation and Dance Convention, Pheasant Run Resort in St. Charles, IL on November 21st, 2013
18. **Adapted Ballet for Physical Rehabilitation in Cerebral Palsy.** FIVAN Center for Neurorehabilitation, Valencia, Spain, June 25th, 2013.
19. **Classical Ballet and Physical Rehabilitation for Children with Cerebral Palsy - Ballet Vale +.** CEU Universidad Cardenal Herrera, Faculty of Health Sciences, Department of Physical Therapy, Valencia Foundation for Neurorehabilitation, CulturArts, Ayuntamiento de Valencia, Ballet Valet +. 40 hours. Valencia, Spain, June 16-21, 2013.
20. **Back To Basics-Stretching.** Co-Chaired with Sue Mukherjee and Deborah Gaebler-Spira. International Conference on Cerebral Palsy and developmental Medicine and 7th Annual Meeting of Indian Academy of Cerebral Palsy, Lucknow, India, March 9th, 2013.
21. **Melody and Rehabilitation Robotics for Children With Cerebral Palsy.** International Conference on Cerebral Palsy and developmental Medicine and 7th Annual Meeting of Indian Academy of Cerebral Palsy, Lucknow, India, March 9th, 2013.
22. **Use of Virtual Reality Home Based Therapy System for Children with Upper Limb Problems in Cerebral Palsy.** Co-Chaired with Sue Mukherjee and Deborah Gaebler-Spira. International Conference on Cerebral Palsy and developmental Medicine and 7th Annual Meeting of Indian Academy of Cerebral Palsy, Lucknow, India, March 9th, 2013.
23. **Dance Interventions in Parkinson's Disease and their Clinical Impact.** 1st Indian Federation of Neurorehabilitation Conference, Lucknow, India, March 8th, 2013.
24. **Integrating Robotics Into Clinical Care-Expanding Horizons And Breaking Down Barriers To Implementation.** Co-Chaired with Sue Mukherjee and Deborah Gaebler-Spira. International Conference on Cerebral Palsy and developmental Medicine and 7th Annual Meeting of Indian Academy of Cerebral Palsy, Lucknow, India, March 8th, 2013.
25. **Structured Dance Training for Physical Rehabilitation of Children with Cerebral Palsy.** International Conference on Cerebral Palsy and Developmental Medicine and 7th Annual Meeting of Indian Academy of Cerebral Palsy, Lucknow, India, March 8th, 2013.
26. **Rehabilitation Robotics for Pediatric Applications.** Hospital Niño Jesús, Madrid, Spain, November 13, 2012.
27. **Structured Dance Class for Physical Rehabilitation in Children with Cerebral Palsy.** Grand Rounds, Department of Pediatrics, Upstate Medical University, Syracuse, NY, June 13th, 2012.
28. **From Aspiration to Artist. A conversation about physically integrated dance in Chicago.** Roosevelt Auditorium Theater, Roosevelt University, Chicago, IL, November 9th, 2011.

29. **Music and Movement Segmentation in Children with Cerebral Palsy.** Bigler Auditorium, Children's Memorial Hospital Chicago, IL, November 11, 2011.
30. **Dance for Physical Rehabilitation in Movement Disorders.** Dance Program, Theater Department, School of Communication, Northwestern University, Evanston, IL, April 1st, 2011.
31. **Dance for Motor Learning and Physical Rehabilitation in Movement Disorders.** Herberger Institute for Design and the Arts. Fulton School of Engineering, School of the Arts, Media and Engineering Arizona State University, March 29th, 2011.
32. **Dance for Parkinson's!** Parkinson's Disease Annual Patient and Family Symposium. New Horizons in Parkinson's Disease Research and Care, Parkinson's Disease and Movement Disorders Center, Feinberg School of Medicine Northwestern University September 11th, 2010.
33. **Classical Ballet as an Adjunct to Therapy in Cerebral Palsy.** La Rabida Children's Hospital, University of Chicago, 2009.
34. **Dance for Children with Cerebral Palsy.** Department of Biomedical Engineering, College of Engineering, Marquette University, 2009.
35. **Rehabilitation Technology in Post-Stroke Locomotion: New Directions.** Society of Women Engineers Meeting, Northwestern University, January 27th, 2007.
36. **Principal component analysis of muscle activity and resultant contact forces during cycling after stroke.** Robotics Laboratory, Sensory Motor Performance Program, Rehabilitation Institute of Chicago, October 10th, 2006
37. **Foot force and EMG in kinematically constrained motion of the lower limb.** Sensory Motor Performance Program, Rehabilitation Institute of Chicago, March 21th, 2005.
38. **Historic Perspectives on "Ballet National Folklórico de Mexico."** Munson-Williams-Proctor Arts Institute, Utica, New York, 1995.

RELEVANT PROFESSIONAL EXPERIENCE:

Adjunct Assistant Professor, Feinberg School of Medicine, Northwestern University, Department of Physical Medicine and Rehabilitation. 2013-2016.

Research Scientist/Research Assistant Professor. 2008-2013. Directed the Dance Rehabilitation Research Program at the Rehabilitation Institute of Chicago/Northwestern University. Conducted basic science and clinical research in the neurosciences of motor control, motor coordination, and motor learning for children with cerebral palsy through dance, motion tracking technology and virtual reality environments in collaboration with Dr. Gaebler-Spira, the Robotics Laboratory, at the Rehabilitation Institute of Chicago (RIC). Established an evidence based dance rehabilitation program for adults with Parkinson's disease in collaboration with Dr. Santiago Toledo, Drs. Konrad Kording and Mark Albert from the Bayesian Behavior Laboratory, from RIC and Dr. Tanya Simuni from Northwestern University Center for Movement Disorders and Parkinson's Disease with seed funding by the National Parkinson's Foundation. Conducted pilot experiments on the classification of motor impairments in cerebral palsy in collaboration

with Dr. Nina Suresh and Dr. Zev Rymer from the Motor Unit Laboratory, RIC. Directed clinically oriented programs using elite dance training methodology and motor control research for the physical rehabilitation of children with cerebral palsy with philanthropic gifts from the Anixter Foundation. Developed partnerships with the Joffrey Ballet Academy for both classes. Mentored undergraduate, graduate and post-graduate students in research methodologies and human subjects experimentation.

Dance for Movement Rehabilitation Instructor 2009-2014 Developed techniques for movement rehabilitation of motor disorders such as cerebral palsy, developmental coordination disorder, and Parkinson's disease. Taught weekly classes to these populations.

Faculty/Teaching artist 2012-2019. Taught classical ballet, classical repertory, and body conditioning faculty at Joffrey Ballet Academy, The Official School of the Joffrey Ballet. Has taught students ages 3 to adult in the Children, Youth, Adult Bridge and Pre-Professional divisions. Coached professional and pre-professional ballet dancers in private instruction.

Visiting Artist, Rubin Award. Jan-Aug 2010. Mentored and trained Master's degree students of the Masters in Dance/Movement Therapy and Counseling Master's program in Columbia College, Chicago, IL in physical therapy applications of dance and gave seminars on dance for children for cerebral palsy and anatomy and kinesiology for dancers from a clinical point of view.

Clinical Assistant Professor. 2008-2009. Conducted research on music and movement in children with cerebral palsy. Developed a quantitative assessment tool for the kinematics of body motions in cerebral palsy using VICON motion capture technology. Governors State University. Supported by the Coleman Foundation, Chicago, IL and the Center for Independence through Conductive Education in Lagrange, IL.

Post-doctoral Fellow. NRSA/NIH Post-doctoral Fellow Individual Award F-32, 2007-2008. Northwestern University/Rehabilitation Institute of Chicago-Sensory Motor Performance Program (SMPP). Conducted research in the area of unintended muscle activity during locomotion after stroke under the mentorship of William Zev Rymer, MD, PhD. Initiated research on movement disorders on Cerebral Palsy in collaboration with Dr. Deborah Gaebler-Spira, RIC/NU using motion analysis systems such as VICON and Optitrack Shadowed physical therapists working with children with cerebral palsy. Involved in all aspects of research and grant writing. Attended weekly seminars by internationally renowned scientists in the topics of Neural Signal Processing, Robotics Rehabilitation, Body machine interfaces, Biomechanics, Bayesian Motor Control, and the Sensory Motor Performance Program Seminars. Mentored graduate students in Physical Therapy and Human Movement Sciences, Neuroscience Training Program and Biomedical Engineering graduate program. Attended teaching training seminars at Northwestern University's Searle Center for Teaching Excellence. Coordinated the bi-weekly Locomotion Laboratory Seminar.

Post-doctoral Fellow. NRSA Post-doctoral Fellow Institutional Award T-32, 2005-2007. Northwestern University/Rehabilitation Institute of Chicago (SMPP). Conducted research in the area of impaired locomotion after stroke. Other activities as above.

Maternity and family leave. 2002-2005. During this leave published three articles in peer-reviewed journals.

Research Fellow. Held the Virginia Horne Henry Fellowship 2000-2001 and the Marie L. Carns Fellowship, 1998-2000 at the department of Kinesiology, University of Wisconsin-Madison. Conducted research in the area of biomechanics and motor control of the lower limb in humans. Involved in all aspects of research: development of research questions, instrumentation design and machining, electromyography, motion analysis (Optotrak, PEAK5), force plate and force transducer measurements, software development for experiment control and data analysis (Basic, Visual Basic, Pascal, Matlab, AutoCAD, Minitab, Stats, SPSS, and Labview), publication of findings, and grant proposal writing. Mentored research practicum students in the Physical Therapy MS program.

Research Assistant. 1997-1998. Biomechanics Laboratory, Dept. of Kinesiology at the University of Wisconsin-Madison. Same as above.

Teaching Assistant. 1996-1997. Biomechanics Laboratory, Dept. of Kinesiology at the University of Wisconsin-Madison. Taught the laboratory section of the undergraduate biomechanics course. Responsible for all aspects of laboratory practices: designing experiments, installing and troubleshooting experimental set-up, teaching and grading. Also, graded lecture's homework, and assisted students during office hours.

Lecturer, Classical Ballet. 1995-1996. National Technical Institute for the Deaf, at the Rochester Institute of Technology. Taught the undergraduate classical ballet course for the hearing impaired, collaborated with Michael Thomas from Stuttgart Ballet.

Dance Instructor. MA fieldwork 1993. Dance Department, State University of New York at Brockport. Taught the undergraduate Introduction to Dance course for Physical Education and Theatre majors, under the supervision of Professor Irma Pylyshenko.

Classical Ballet Instructor/Curriculum/Faculty Supervisor. 1979-1991. Ballet Academy of Coyoacán, directed by Ana Castillo, Mexico. Involved in all aspects of conservatory style training for elite ballet students and teacher training/supervision as well as in the design and implementation of the first comprehensive Mexican System for Dance Instruction (ages 5-18) based in part on the Royal Academy of Dance Syllabus and the Cuban methodology for classical ballet instruction. In addition, was responsible for choreographing dances for the Annual Performances of the conservatory training section of the school. The Ballet Academy of Coyoacán was the First Ballet Academy in a country outside the British Commonwealth to be affiliated to The Royal Academy of Dance.

Research and Teaching Assistant. 1989-1991. Institute of Astronomy, Center for Instrumentation, and Faculty of Sciences, at the National Autonomous University of Mexico.

Assisted in implementing FORTRAN and Turbo-Pascal software for the calculation of radiative transfer in dust clouds of binary stars and optical design. Graded homework for the Optics and Optoelectronic courses.

Real and Vector Calculus Workshop Instructor. 1988-1990. School of Engineering, Panamerican University, Mexico. Assisted undergraduate engineering students with differential and integral calculus questions and exercises.

COURSES TAUGHT

University of Illinois at Urbana-Champaign

Fall 2014	KIN 257	Coordination, Control and Skill
Spring 2015	KIN 257	Coordination, Control and Skill
Fall 2015	KIN 257 KIN 385 KIN 590	Coordination, Control, and Skill Experiences in Kinesiology Research Independent Study
Spring 2016	KIN 257 KIN 385 KIN 473 KIN 590	Coordination, Control and Skill Experiences in Kinesiology Research Skill Acquisition Strategies Independent Study
Summer 2016	KIN 590	Independent Study
Fall 2016	KIN 257 KIN 385	Coordination, Control, and Skill Experiences in Kinesiology Research
Spring 2017	KIN 257 KIN 385 KIN 473 KIN 590	Coordination, Control and Skill Experiences in Kinesiology Research Skill Acquisition Strategies Independent Study
Fall 2017	KIN 257 KIN 385 KIN 599	Coordination, Control, and Skill Experiences in Kinesiology Research Thesis Research
Spring 2018	KIN 257 KIN 385 KIN 473 KIN 590 KIN 599 INFO597	Coordination, Control and Skill Experiences in Kinesiology Research Skill Acquisition Strategies Independent Study Thesis Research Independent Study

Summer 2018

NEUR590 Individual Topics in Neuroscience

Fall 2018

KIN 257 Coordination, Control and Skill
KIN 385 Experiences in Kinesiology Research
KIN 453 Motor Control and Learning
KIN 599 Thesis Research
NEUR590 Individual Topics in Neuroscience

Spring 2019

KIN 385 Experiences in Kinesiology Research
KIN 391 Special Projects-Problems
KIN 473 Skill Acquisition Strategies
KIN 599 Thesis Research
NEUR590 Individual Topics in Neuroscience

Joffrey Ballet Academy, Official School of the Joffrey Ballet

Classical Ballet, Classical Repertoire, and Ballet Conditioning Faculty for the prestigious Junior Summer Dance Intensive Levels 1 & 2 of the Joffrey Academy of Dance-Chicago, Official School of the Joffrey Ballet, July 13-July 24, 2014.

Classical Ballet Faculty for the Lemonis Bridge Program of the Community Engagement Summer Program of the Joffrey Academy of Dance-Chicago, Official School of the Joffrey Ballet, July 13-July 24, 2014.

Classical Ballet, Classical Repertoire, and Pointe Faculty for the prestigious International Junior Summer Dance Intensive Level 3 of the Joffrey Academy of Dance-Chicago, Official School of the Joffrey Ballet, June 27-July 15, 2015.

Classical Ballet, Classical Repertoire, and Ballet Conditioning Faculty for the prestigious Junior Summer Dance Intensive Level 1 of the Joffrey Academy of Dance-Chicago, Official School of the Joffrey Ballet, July 13-July 24, 2016.

Substitute Faculty 2014-1019.

HONORS, AWARDS, RECOGNITION:

Fellow, Center for Advanced Study, University of Illinois at Urbana-Champaign, 2019-2020.

During the Society for Neuroscience 2016 Annual Meeting my poster presentation received media attention: SfN: Ballet improves Ataxia in MS – Dance program improved movement in pilot study.

<https://www.medpagetoday.com/video/mastery-of-medicine/neurology-mastery-in-ms/neuro-mastery-in-multiple-sclerosis/121/2067>;

<http://www.medpagetoday.com/mastery-of-medicine/neurology-mastery-in-ms/61506>

My work was identified among 16,000 posters and 32,000 attendees including Noble Prize awardees. The second url is currently used for continuing medical education of health professionals.

Listed in the University of Illinois Official Notice, Research Memorandum #306 “**List of Teachers Ranked as Excellent by Their Students**”

Fall 2015

Spring 2016

Fall 2016

Spring 2017

Fall 2017

Spring 2018

Fall 2018

Travel Award - Cerebral Palsy International Research Foundation 2009 Award to attend the 63rd Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, September 2009.

Post-doctoral Fellowship. NIH/NRSA F-32, Individual Award. Northwestern University, Rehabilitation Institute of Chicago (SMPP), 2007-2008.

Post-doctoral Fellowship. NIH/NRSA T-32, Institutional Award. Northwestern University, Rehabilitation Institute of Chicago (SMPP), 2005-2007.

Virginia Horne Henry Wisconsin Distinguished Graduate Fellowship. 2000-2001. School of Education, University of Wisconsin-Madison. Highest graduate student award. Full tuition remission and full stipend award.

Vilas Professional Development Award, 2000. The Graduate School. University of Wisconsin-Madison.

Marie L. Carns Fellowship, 1999-2000 and 1998-1999. Department of Kinesiology, School of Education, University of Wisconsin-Madison. Out of state tuition remission and full stipend award.

Pylyshenko-Strasser Graduate Dance Award to the Most Distinguished Graduate Student, 1994. State University of New York, College at Brockport.

Graduate Fellowship for a doctoral degree in Optics in a Foreign Institution, 1991. National Autonomous University of Mexico.

Summer Workshop in Optics Scholarship with Professor Robert Hopkins 1990. Center for Research in Optics (CIO), Guanajuato Mexico.

Graduate Scholarship for an MS degree in Computer Sciences 1991, National Science and Technology Council, Mexico.

Graduation Thesis Scholarship 1990-1991. Center for Instrumentation, National Autonomous University of Mexico.

High Achievement Award for the second best overall grade average 9.88/10, class of 1991. Department of Physics, Faculty of Sciences, National Autonomous University of Mexico.

INSTITUTIONAL SERVICE:

1) Service to Disciplinary and Professional Societies or Associations

Analysis of a computer program of radiative transport in dust, 1988 Institute of Astronomy, National Autonomous University of Mexico.

Dance Club Instructor, 1992, Migrant Education Project, Research Foundation of New York.

Health Committee Chairperson 1995-1997. World Dance Alliance, the Americas Chapter.

Graduate Student Representative in the Graduate Studies Committee, 1999-2000. Department of Kinesiology, University of Wisconsin- Madison.

Coordinator of the Locomotion Laboratory Seminar, Department of Physical Therapy and Human Movement Sciences, Northwestern University, 2006-2007.

Focused Symposium: Dance, dance, dance - Universal language of expression and movement

Combined American Academy of Cerebral Palsy and Developmental Medicine 73rd Annual Meeting and International Alliance of Academies of Childhood Disability 2nd Triannual Meeting, Anaheim CA, USA 2019.

Peer reviewed.

Presenters: **Citlali López-Ortiz**, PhD, MA, University of Illinois at Urbana-Champaign, Tara Egan DPT, Shirley Ryan AbilityLab, Chicago, USA, Dido Green, OT, PhD, MSc, Jonkoping University, Sweden, and Min Shen, MD, The Chinese Association Rehabilitation Medicine Pediatric Rehabilitation Committee. Discussant: Bernard Dan, PhD, MD, Inkendaal Rehabilitation Hospital, Belgium, Chair: Deborah Gaebler-Spira, MD, Shirley Ryan AbilityLab, Chicago, USA.

2) UIUC University/Campus Service

Departmental Service

1. Committee member for the Second Year Graduate Review for the Bio-Behavioral Kinesiology Concentration, 2015-2016.
2. Committee member to establish the award rules for the Chittenden Family Foundation Fund 2018.
3. Participated in the organization of a new Minors program in Kinesiology: Specialty in Cultural-Interpretive and Science Studies in collaboration with ten interdisciplinary faculty under the leadership of KCH Associate Professor Sydnor.
4. Participation in the organization of the MS Research Collaborative 2018-2019.

College Service

5. Interviewed two faculty candidates and provided feedback, 2015.
6. Participated in the Center on Health Aging and Disability CHAD research collaboration meetings, 2015.
7. Participated in CHAD's initiative for the development of a Memorandum of Understanding for MS Patient Recruitment with CARLE Collaboration, 2015-2016.
8. Interviewed a faculty candidate and provided feedback, Fall 2016.
9. Participated in the Health Aging and Technology Faculty search organized by Prof. Jeffery Woods, 2016-2017.

Campus Service

10. Involved KIN 257 students in the 2015 McKinnley Health, organized by the Special Populations Health Committee, 2015.
11. Participation of the Neuroscience of Dance in Health and Disability Lab in the Brain Awareness Day event at the Orpheum Theater in Champaign IL, organized by the Neuroscience Program of the University of Illinois, Urbana-Champaign. April 2016.
12. Participated at the Pre-Society for Neuroscience Campus Poster Presentations, Fall 2016.
13. Involved KIN 257 students in the 2016 McKinnley Health, organized by the Special Populations Health Committee, 2016.
14. Participation in drafting the letter of intent of grant proposal to the NSF for the creation of an interdisciplinary M. S. program on the Rapid Internet of Things (RIoT). 12 hours. Role: Core faculty team member along, 2016-2017.

15. Participation in the Neuroscience Fair for recruitment of graduate students, Spring 2017.
16. Participation in the selection of graduate students for the Neuroscience Program for Fall 2017, 2017.
17. Participation of the Neuroscience of Dance in Health and Disability Lab in the Brain Awareness Day event at the Orpheum Theater in Champaign IL, organized by the Neuroscience Program of the University of Illinois, Urbana-Champaign. April 16, 2017.
18. Participation of the Neuroscience of Dance in Health and Disability Lab in the Brain Awareness Day event at the Orpheum Theater in Champaign IL, organized by the Neuroscience Program of the University of Illinois, Urbana-Champaign. April 7, 2018.
19. Participation in the Neuroscience Fair and recruitment campus events for recruitment of graduate students, Spring 2018.
20. Participation in the selection of graduate students for the Neuroscience Program for Fall 2018.
21. Reviewer for the Campus Research Board, Spring 2018.
22. Member of the Graduate Admissions Committee for the PhD Program in Neuroscience, 2018-2019.
23. External Committee for Dancing Technique Placement Day, Department of Dance, 19 April 2019

University Service

24. Participation by invitation in the President's Executive Leadership Program Faculty Panel, 2015.
25. Participation in the AKA|Strategy focus group as per invitation form President Killeen to discuss and contribute to the establishment of University-wide priorities for the next five years, 2015.
26. Participation in the Apple meeting organized by Dr. Lina Lander, Higher Education Development Executive, Jason Beckham, Account Executive and hosted by Mark Nolan, Director, Information Technology & Economic Development, Office of Corporate Relations, 2015.
27. Judge for the 2019 Undergraduate Research Symposium.
28. Judge for the Health Maker Lab Competition, 2019.
29. Mentor for an award winning project in Health Maker Lab Competition, 2019-2020.

TRAINEES and MENTORING:

University of Illinois at Urbana Champaign:

Graduate students 2015-2019:

- 1) Andrew Scheidler, Kinesiology MS, non-thesis option, 2018. Now in private industry.
- 2) Nathaniel Speidel, Mechanical Science and Engineering MS, 2018, "Dimensionality Reduction in the Control of Quasi-Static Force Production Tasks in Humans". Now in private industry.
- 3) Reika McNish, Kinesiology MS student. "Development Of A Virtual Reality Video Game Using Principal Component Analysis To Map Isometric Force Efforts For Haptic Feedback: A Proof Of Concept". May 2019.
- 4) Paul Camacho, PhD student, Neuroscience Program. Fall 2018 to date. Expected graduation date May 2022.
- 5) Andrea Rivera Maza, Kinesiology MS student Fall 2019. Expected graduation date May 2023.
- 6) Maouyuan He, PhD student, Neuroscience Program. Fall 2019. Expected graduation date May 2023.

Participation on doctoral examining committees:

- 1) Douglas Wjada, PhD, Dissertation Title: "Cognitive-motor interaction: influence of the individual, the task and the environment" 2016. Role: Doctoral Dissertation Committee Member, now Visiting Assistant Professor at Cleveland State University.
- 2) Sean Paul Durkin, Doctor of Musical Arts in Music. Dissertation title: "The Valsalva maneuver and brass instrument performance: review and personal account" 2019. Role: Dissertation Committee Member.
- 3) Mohammad Amanzadeh, Illinois Informatics Program PhD student Doctoral Dissertation Committee Member.

Project Mentorship for:

- 1) Mikaela Lynn Frechette, BS, Graduate student, Kinesiology. Health Make-a-Thon Competition Project: "Wearable Anti-Collision Technology". Awarded \$10,000 prize.

Teaching supervision:

- 1) Yang Hu, second year Kinesiology PhD student. Supervised teaching training. 28 contact hours, Fall 2018.

Undergraduate Students in Kinesiology 2014-2019

- 1) Andrew Scheidler, January 2015 - December 2016. Accepted into the MS program in Kinesiology at the University of Illinois at Urbana-Champaign.

- 2) Melanie Solheim, January 2015 - December 2016.
- 3) Anna Rushing, January 2015 - December 2016.
- 4) Ariann Ippensen, January 2015 - December 2015.
- 5) Nadia Chumbipuma Pareja, January 2015 - May 2015.
- 6) Emily Ciasto, August 2015 – May 2016
- 7) Jenitha Jomi, August 2015 – December 2015.
- 8) Melissa Marwitz, August 2015- May 2017. Accepted into the DPT program at Northwestern University, July 2017.
- 9) Mario Misseha, August 2015 – May 2016. Accepted into the Physician Assistant program at Gardner University. October 2017.
- 10) Katherine Sistler, August 2015 - December 2016. Accepted into the MS in Occupational Therapy program at Washington University in Saint Louis School of Medicine with a Merit Scholarship, Fall 2017.
- 11) Katerina Alemis, January 2016 – May 2017. Applying to DO programs.
- 12) Elizabeth Gelande, January 2016 – December 2016.
- 13) Hannah Feldman, May 2016 -August 2016.
- 14) Nichole Alberto, August 2016 - Date. Recipient of the Deutsch Kinesiology Scholarship 2018. Accepted into the Masters in Public Health at the University of Illinois Urbana-Champaign. Fall 2019.
- 15) Danielle Lencioni, August 2016 – May 2018. Accepted into the DPT program at Northern Illinois University, Fall 2018.
- 16) Shelly Li, August 2016 – December 2017.
- 17) Sara McKeeman, August 2016 – May 2018. Co-authored peer reviewed publication #9. Accepted into the dual DPT/PhD in Rehabilitation Sciences program at Ohio State University with a full tuition and stipend scholarship Summer 2018.
- 18) Mirna Misseha, August 2016 – December 2017. Applying to DPT programs.
- 19) Julie Zheng, August 2016 – May 2017. Applying to DPT programs.
- 20) Edward Tang, January 2017 – Date.
- 21) Elise Chong, August 2017 – December 2018. Applying to DPT programs.
- 22) Elizabeth Lopez, August 2017 – May 2018. . Enrolled in Rosalind Franklin University DPT program.
- 23) Reagan Tapley, August 2017 - December 2017. Applying to DPT programs.
- 24) Amanda Vadeboncoeur, August 2017 - May 2018.
- 25) Cicely Thom, January 2018 – May 2018. Enrolled in Rush University MS in OT program.
- 26) Irin Abraham, August 2018- December 2018.
- 27) Brittany Faurie, August 2018 – Date.
- 28) Jazmine Garcia, August 2018 – December 2018.
- 29) Morgan Rozelle, August 2018 – December 2018.
- 30) Emilee Crabbe, January 2019 - Date.

Undergraduate Students in Community Health 2014-2019

- 31) Alexa Alchin, January 2016 to December 2016. Accepted into Medical Administration Masters programs at DePaul, Loyola, University of Illinois-

- Chicago, University of Michigan, and Northwestern University. May 2017.
Currently attending Northwestern University.
- 32)Brittany Lau, January 2017 – December 2017. Applying to DPT programs.
- 33)Casey Petroschuk, January 2018 – May 2018.

Undergraduate Students in Interdisciplinary Health Sciences 2014-2019

- 34)Olivia Burke, January 2019 - Date.
- 35)Katarina Pong, January 2018 – Date.
- 36)Mackenzie Thompson, January 2018 - Date.

Undergraduate Students in Dance 2014-2019

- 37)Reika McNish, August 2015 – July 2017. Accepted into the MS in Kinesiology at University of Illinois Urbana-Chamapign, August 2017.
- 38)Juliana Boylan, January 2017 – May 2017.
- 39)Nina Crouchelli, January 2019 – Date.

Undergraduate Students in Psychology 2014-2019

- 40)Alison Gelfond, August 2015 - May 2016. Accepted into the MD program at the Chicago Medical School at Rosalind Franklin University of Medicine and Science. February 2018.
- 41)Carly Keliman, Psychology August 2018 – December 2018.

Undergraduate Students in Biology 2014-2019

- 42)Nitiksh Paul, August 2018 – Date.

Undergraduate Students in Chemistry 2014-2019

- 43)Kaitlin Medland, January 2016 – December 2016. Currently employed in private pharmaceutical company. Chicago, IL.

Undergraduate Students in Engineering Physics 2014-2019

- 44)Evan Dietrich, January 2019 – Date.

James Scholar Students in Kinesiology

- 45)Jennifer Bishop, Spring semester 2015.
- 46)Ali Mack, Spring semester 2015.
- 47)Po-Lin Chen, Fall semester 2015.
- 48)Danielle Januszyk, Fall semester 2015.
- 49)Allison Gelfond Fall semester 2015, Spring semester 2016.

- 50) Katherine Sistler, Spring semester 2016.
- 51) Aubrey Carballo, Spring semester 2016.
- 52) Sara McKeeman, Spring semester 2016.
- 53) Kelsey Thompson, Spring semester 2016.
- 54) Danielle Lencioni, Spring semester 2016.
- 55) Stephanie Andrea Farmer, Fall semester 2016. UIUC Bronze Tablet. Admitted to the DPT program in University of Illinois-Chicago and Northwestern University.
- 56) Erick Flacus, Fall semester 2016.
- 57) Shelly Li, Fall semester 2016 and Spring semester 2017.
- 58) Anna Shea Lipstein, Spring semester 2017.
- 59) Michelle Swiatiewicz, Spring semester 2017.
- 60) Reagan, Elizabeth Tapley, UIUC Bronze Tablet. Spring semester 2017.

Northwestern University and Rehabilitation Institute of Chicago

Resident Fellows, Interns, and Externs mentored:

- 1) Kim Gladden, MD, 2009-2010
- 2) Laura Deon, MD, 2010
- 3) Geneva Jacobs, MD, 2010
- 4) Maria Resee, MD, 2011
- 5) Mary Dubon MD, 2012-2013

Independent study, Interns, Externs, and Co-op Students:

- 6) Matthew W. Schmidt, BS, University of Wisconsin-Madison, 1998-2001
- 7) Laila Alibigalou, PT, Northwestern University, 2006-2008
- 8) Tim Rachoy, BS, PT Governor's State University, 2008-2009
- 9) Mark Kashmer, BS, Medical Student, University of Illinois Chicago Medical College, 2009
- 10) Smita Sarkar, BS, University of Illinois-Chicago, 2009
- 11) Melissa Troyk, Exercise Physiology Major, University of Virginia, 2010
- 12) Laura Wong, BS, Medical Student Feinberg School of Medicine, 2010
- 13) Jennifer Warnick, Psychology Major, Dance Minor, Northwestern University, 2011
- 14) Wendolyn Gomez, Social Services Major, Dance Minor, Loyola University-Chicago, 2011-2012
- 15) Julia Simkowski, Bio-Medical Engineering Co-op Student Northwestern University, 2011-2012
- 16) Miriam Komisar, BS, University of Illinois College of Medicine, 2012
- 17) Katherine Burke, BS, University of Wisconsin-Madison, 2012
- 18) Khushboo Doshi, BS, Medical Student, University of Illinois Chicago Medical College, 2011-2013

- 19)Evan Kaspi, North Shore Country Day School, 2011-2013
- 20)Jessica Mork, Dance Major, Palm Beach Atlantic University, 2013
- 21)Jamila Bahrainwala, Medical extern 2013

Master's Thesis Consultant (Dance/Movement Therapy/Statistics):

- 22)Sabrina Washington, Columbia College, Chicago, 2010
- 23)Kristina Fluty, Columbia College Chicago, 2010

National Science Foundation/STEM Students:

- 24)Alexander Weiss, 2011-2012.

Dozens of volunteers in weekly dance classes for children with cerebral palsy including physical therapy students, physical, occupational and speech therapists, medical students and residents.

Students that have won awards on research projects under my mentorship:

Mikaela L Frechette, BS. Winner of Health-Make-a-Thon Competition, University of Illinois at Urbana-Champaign 2019.

Paul Camacho, Distinguished Pre-Doctoral Fellow, The Graduate School, University of Illinois at Urbana-Champaign, 2018-2021.

Evan Kaspi, UIUC i-Foundry , 2015.

NSF/STEM Students

Alexander Weiss, 2011-2012. Illinois Junior Academy of Science State Exposition, Awarded Best Research in Health Category in State Level 2012.

Julia Simkowski, Bio-Medical Engineering "A Quantitative Comparison of Variance in Movement of Children with Cerebral Palsy" Northwestern University Office of the Provost Research Grant 2011.

Khushboo Doshi, BS, Medical Student, UIC, Rehabilitation Research Experience for Medical Students, Association of Academic Physiatrists, 2011.

Ballet students that became professional dancers/chorographers:

Tanya Perez-Salas <http://taniaperezsalas.org/principal.html>

Alejandra Cobo , San Jose Cleveland Ballet.

Isabel Sotelo, Compania Nacional de Danza, Mexico. D.F.

Vera Islas, Mariana Cobo, Ángel Mayrén, Isabel Sotelo, Vania Moysén, and Guillermo Galindo, Taller Coreográfico de la UNAM, Mexico D.F.

<http://www.tcunam.org/bienvenida.cfm>

Dozens of physically able and disabled students participate annually at the Joffrey Ballet Nutcracker, Auditorium Theater, Chicago, IL 2012-1019.

PROFESSIONAL ORGANIZATIONS:

American Academy for Cerebral Palsy and Developmental Medicine

American Association for the Advancement of Science

IEEE

International Association for Dance Medicine and Science

International Dance Teachers Association

International Society for Motor Control

Mark Morris Dance for PD

Society for Neuroscience

EDITORIAL AND REVIEW RESPONSIBILITIES:

Ad hoc reviewer for the following journals:

Adapted Physical Activity Quarterly

Alzheimer's disease and Parkinsonism Journal

Archives of Physical Rehabilitation Medicine

Arts and Health, An International Journal for Research, Policy and Practice

Biological Cybernetics

BioMed Research International

Clinical Rehabilitation

Experimental Brain Research

Heliyon, Elsevier

IEEE Transactions on Haptics

IEEE Transactions on Systems, Man, and Cybernetics

IEEE International Conference on Robotics and Automation

Journal of Neuroscience

Motor Control

Neurorehabilitation and Neural Repair

PlosONE

Topics in Stroke Rehabilitation

Picture

