

Mu Qiao

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Education

PhD candidate, Kinesiology program, School of Nutrition and Health Promotion, Center for Adaptive Neural Systems, Arizona State University, Tempe, Arizona, expected summer 2012

Dissertation: "CONTROL OF STABILITY BY HUMANS DURING LOCOMOTION"

Committee Members: Prof. Devin Jindrich, Chair; Prof. Richard Hinrichs; Prof. James Abbas; Prof. Natalia Dounskaia; and Prof. Marco Santello

Bachelor of Engineering, Man-Machine and Environment Engineering, Department of Flight Vehicle Design and Applied Mechanics, Beijing University of Aeronautics and Astronautics, Beijing, China PR, 2004

Thesis: "the Temperature Distribution of Airfoil in Icing Conditions"

Supervisor: Prof. Shinan Chang

Teaching experience

Teaching Associate, Kinesiology Program, School of Nutrition and Health Promotion, Arizona State University, Tempe, AZ, 2007 ~ present

KIN 335: Biomechanics, 2011 fall

KIN 422: Motor Control in Special Populations, 2011 spring, fall, 2012 spring

KIN 345: Motor Control, Development, and Learning, 2010, 2011 fall, 2012 spring

KIN 494: Kinesiology Laboratory: Motor Behavior section, 2008 fall, 2009, 2010 spring

Publications

D. L. Jindrich, and **M. Qiao**, 'Maneuvers during Legged Locomotion', *Chaos* vol. 19, issue 2. pp. 2009

Manuscripts submitted

M. Qiao, and D. L. Jindrich, 'Body Control of Human Sagittal-Plane Running', *PLoS ONE*.

M. Qiao, Brian Brown, Carolyn Westlake, and Devin L. Jindrich, 'Effects of Increasing Inertia on Sidestep Cutting Turns', *Journal of Experimental Biology*.

Manuscripts in preparation

M. Qiao, and D. Jindrich, 'Joints in Lower Extremities Show Functional Preference in Running Maneuverability'.

M. Qiao, and D. Jindrich, 'Phase Changing Spring in Human Leg during Maneuverability'

M. Qiao, and D. Jindrich, 'The Functions of Joints in Human Lower Extremities during Walking Maneuvers'

Works ongoing

'On Bipedal Locomotion: Maneuverability and Stability', Literature Review.

Conference Presentations and invited seminars

P2. 'Comparing Stride Local Stability During Walking and Running', Society for Integrative and Comparative Biology. 2011 Annual Meeting, Salt Lake City, UT, 3-7 Jan 2011.

P1. 'Do Humans Stabilize Running like Robots?', American Society of Biomechanics, 2009 Annual Meeting, College Station, PA, 19-22 Aug 2009.

Abstracts

- A10. D. L. Jindrich, and **M. Qiao**, ‘Active Control of Unsteady Legged Locomotion’, Dynamic Walking 2012, Institute for Human and Machine Cognition (IHMC), Pensacola Beach, FL, 21-25 May 2012.
- A9. **M. Qiao**, and D. Jindrich, ‘Response to Medio-lateral Perturbations of Human Walking and Running’, American Society of Biomechanics, Annual Meeting. Gainesville, FL, 15-18 Aug 2012.
- A8. Rich K, Prince J, **Qiao M**, Jindrich D, ‘An Instrumented Split-belt Treadmill System Using Commercial Parts’, American Society of Biomechanics, Annual Meeting. Long Beach, CA, 12-17 Aug 2011.
- A7. **M. Qiao**, and D. Jindrich, ‘Human Adjusts Initial Body Rotational Speed to Control Braking Force in Turning’, American Society of Biomechanics, Annual Meeting. Long Beach, CA, 12-17 Aug 2011.
- A6. **M. Qiao**, and D. Jindrich, ‘Comparing Dynamic Stability During Walking and Running’, Neuroscience 2010, San Diego, CA, 12-17 Oct 2010.
- A5. **M. Qiao**, and D. Jindrich, ‘Whole-body Local Dynamic Stability During Walking and Running’, American Society of Biomechanics, Annual Meeting. Providence, RI, 17-22 Aug 2010.
- A4. **M. Qiao**, and D. Jindrich, ‘How do Humans Stabilize Running?’, “Multi-scale Approaches to Understanding Neural Plasticity” symposium, Arizona State University, Tempe, AZ, 3-6, Mar 2010.
- A3. **M. Qiao**, and D. Jindrich, ‘How do Humans Stabilize Running?’, Neuroscience 2009, Chicago, IL, 19-22 Oct 2009.
- A2. **M. Qiao**, and D. Jindrich, ‘Horizontal Leg Stiffness and Running Stability Simulation, “Co-Adaptive Learning: Adaptive Technology for the Aging” Symposium, Arizona State University, Tempe, AZ, 19-22 Jan 2009.
- A1. **M. Qiao**, and D. Jindrich, ‘Horizontal Leg Stiffness in Human Running’, Graduates in Earth, Life and Social Sciences (GLESS) Research Symposium, Arizona State University, Tempe, AZ, 19-22 Jan 2008.

Awards and Honors

Broadening Participation Committee Travel Award, the Society for Integrative & Comparative Biology, 2011
Graduate Travel Grant Award, Graduate & Professional Student Association, Arizona State University, 2009, 2010, 2011
Douglas L. Conley Memorial Scholarship, Department of Kinesiology, Arizona State University, 2008, 2010
Rolls-Royce Scholarship, Department of Flying Vehicle Design and Applied Mechanics, Beijing University of Aeronautics and Astronautics, 2003

Affiliations

The Society for Integrative Comparative Biology, 2010 ~ present
American Society of Biomechanics 2009 ~ present
American Society for Neuroscience 2009 ~ 2011

Service

Society for Integrative & Comparative Biology (SICB) student poster and oral presentation judge, 2011
Graduate & Professional Student Association (GPSA) Graduate Research Support Program (GPSP) reviewer, Arizona State University, 2010
Graduate & Professional Student Association (GPSA) Teaching Excellence Award (TEA) program reviewer, Arizona State University, 2009 ~ 2011
Graduate & Professional Student Association (GPSA) JumpStart Research Grant reviewers, 2010 ~ 2011

Certificate

Professional Engineers (preparing)
American Safety & Health Institute CPR Professional Rescuer, Nov 2010

Community

Banner Wheelchair Suns Wheelchair Basketball Tournament, Mesa, AZ 2009 ~ 2012, volunteer