**Curriculum Vitae: Dagmar Sternad**

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| Title and Affiliation | Professor |
|  | Departments of Biology, Electrical & Computer Engineering, and Physics |
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|  | Northeastern University |
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**Education**

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| PhD 1995 | Experimental Psychology, University of Connecticut (summa cum laude) |
| 1991-1992 | Movement Science, Free University of Amsterdam, The Netherlands |
| MS 1991 | Experimental Psychology, University of Connecticut |
| BA 1986 | Movement Science and English Linguistics / Literature, Technical University of Munich, Germany (summa cum laude) |

Professional Appointments

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| 2018 – | Affiliated Faculty of the Department of Physical Therapy, Movement Science and Rehabilitation, Northeastern University |
| 2015 – | Elected Member of the Board of the Society of Neural Control of Movements |
| 2015 – | Affiliated Faculty at the Max Planck Institute for Intelligent Systems, Tübingen, Germany |
| 2014 – | Affiliated Faculty in the Behavioral Neuroscience program. Northeastern University |
| 2011 – 2016 | Regular Member of NIH Study Section on Motor Function, Speech and Rehabilitation (MFSR) |
| 2009 – | Affiliated Faculty at the Department of Mechanical Engineering, Massachusetts Institute of Technology |
| 2009 – 2015 | Member of Steering Committee of the PhD Program in Bioengineering and Manager of Track “Motor Control”, College of Engineering, Northeastern University |
| 2009 – 2012 | Consulting Editor for Journal of Experimental Psychology: Human Perception and Performance |
| 2008 – | Member of the Center for Interdisciplinary Research in Complex Systems (CIRCS), Northeastern University |
| 2008 – | Professor of Biology, Electrical & Computer Engineering, and Physics, Northeastern University, Northeastern University |
| 2007 – 2008 | Professor, Department of Kinesiology and Integrative Biosciences, Pennsylvania State University |
| 2006 – | Adhoc reviewer for the NIH Study Sections on Motor Function, Rehabilitation and Speech (MFRS), Sensory and Motor Neuroscience, Cognition and Perception Fellowship Study Section (ZRG-1 F02B), SBRE and Musculo-skeletal Rehabilitation (MSR) |
| 2006 – 2008 | Member of the National Science Foundation (NSF) panel, Division of Behavioral and Social Sciences |
| 2005 – 2014 | Executive Editor of Journal of Motor Behavior |
| 2004 – 2008 | Joint appointment in the Intercollege Graduate Degree Program in Neuroscience, Huck Institutes of the Life Sciences, Pennsylvania State University, University Park |
| 2001 – 2007 | Associate Professor, Department of Kinesiology and Faculty at the Integrative Biosciences, Institute for Neuroscience, Pennsylvania State University, University Park |
| 1995 – 2001 | Assistant Professor, Department of Kinesiology, Pennsylvania State University, University Park |
| 1993 | Teaching Assistant, University of Connecticut |
| 1991 – 1995 | Research Assistant, University of Connecticut |
| 1992 | Research Assistant, Free University of Amsterdam, Department of Human Movement Sciences |
| 1989 – 1991 | Research Assistant, Haskins Laboratories, Yale University, New Haven |
| 1983 – 1986 | Research Assistant, Department of Movement Science, Technical University of Munich, Germany |

# Positions as Visiting Professor

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| 2014 – 2015 | Guest Scientist at the McGovern Institute for Brain Science and the Department of Brain and Cognitive Science, MIT |
| 2014 – 2015 | Visiting Professor at the Department of Mechanical Engineering, Newman Lab for Biomechanics and Rehabilitation, MIT |
| 2014 – 2015 | Guest Scientist at the Max-Planck Institute for Intelligent Systems, Tübingen, Germany |
| Spring 2003 | Visiting Associate Professor at the GRASP lab at the University of Pennsylvania, Philadelphia |
| Fall 2002 | Visiting Associate Professor at the Institute of Cognitive and Brain Sciences at the University of California at Berkeley |
| Summer 2002 | Invitation as Guest Professor at the Center for Research in Sport Sciences, University of Paris Sud XI (competitive appointment) |
| 2001 | Invited Researcher at the University of Saarbrücken, Germany |
| 1999 – 2001 | Collaboration on fMRI study with University of Western Ontario, Department of Psychology, Canada |
| Summer 1998 | Visiting Researcher at the Kawato Dynamic Brain Project of the ERATO (Exploratory Research for Advanced Technology), Program organized by Japan Science and Technology Corporation (JST) |
| May 1998 | Guest Professor at the Technical University of Munich (competitive appointment by the Technical University of Munich) |
| Summer 1997 | Visiting Researcher at the Kawato Dynamic Brain Project of the ERATO (Exploratory Research for Advanced Technology), Program organized by Japan Science and Technology Corporation (JST) |
| Spring 1997 | Researcher at the Simulations Applications Lab at Los Alamos National Laboratory, TSA-DO/SA MS M997, New Mexico |

Honors, Scholarships and Awards

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| 2017 | *Faculty of the Year,* Award from Residential Life, University-wide undergraduate student organization, awarded to one faculty member that has gone above and beyond to support learning for residents on campus |
| 2015 | Invited member of the *Nu Rho Psi NEU Honors Society* of Neuroscience students |
| 2014 | *Klein Lectureship Award*, Award for outstanding scholarship and teaching at Northeastern University, April 8 |
| 2013 | Presentation of the 11th Arthur S. Iberall (1918-2002) *Distinguished Lecture on Life and the Sciences of Complexity*, University of Connecticut, Center for the Ecological Study of Perception and Action, Storrs, CT, December 6 |
| 2009 | Invited Speaker in *Women in Computational Neuroscience*, Bernstein Center for Computational Neuroscience, Max-Planck-Institute for Dynamics and Self-Organization, Göttingen, Germany, January 13 |
| 2008 | Invited participant at the *National Academies Keck Futures Initiative on Complex Systems*, Arnold and Mabel Beckman Center, Irvine, CA |
| 2007 | Invited Researcher at the *Institute for Interdisciplinary Research* in Bielefeld (Zentralinstitut für Interdisziplinäre Forschung), Germany |
| 1999, 2000 | Fellow-at-Large of the *Santa Fe Institute for Complex Systems* |
| 1999 | Honorary Member of the *National Golden Key Honors Society,* award based on excellence in teaching |
| 1995 | Postdoctoral Fellowship of the Institute for Research in Cognitive Science of the University of Pennsylvania, Philadelphia (declined) |
| 1995 | Postdoctoral Fellowship of the Beckman Institute for Advanced Science and Technology, University of Illinois (declined) |
| 1995 | Postdoctoral Fellowship of the Leverhulme Trust, Lancaster University, Great Britain (declined) |
| 1994 | Dissertation Research Award of the *American Psychology Association* |
| 1992 – | Fellow of the *Santa Fe Institute* (Study of Complex Systems) |
| 1988 – 1993 | Scholarship and Fellow of the German National Merit Foundation (*Studienstiftung des Deutschen Volkes*, for the top 0.25% of all university students) |
| 1989 | Scholarship from the *German Academic Exchange Service* (Deutscher Akademischer Austauschdienst, DAAD) |
| 1988 | Doctoral Fellowship from the *Bavarian Government* for a doctoral dissertation |
| 1981 – 1982 | Scholarship from the University of Munich to study one year in Great Britain, (*Kontaktstipendium der Ludwig Maximilians Universität München*) | |
| 1978 – 1986 | Fellowship awarded to the academic elite by the Bavarian Government, (*Hochbegabtenförderung nach dem Bayerischen Begabtenförderungsgesetz*, for 0.20% of High School graduates) |

#### Research

#### Grants

In Progress

* *2017 – 2019*: NSF-NRI-1637854: *Collaborative Research: Towards robots with human dexterity* 01/01/17-12/31/19

Principal Investigators: Dagmar Sternad, Neville Hogan. Total costs: $1,000,000, NU: $500,000 (for 3 years).

* *2015 – 2020*: NIH-R01-HD087089: *Predictability in complex object control.* 12/01/15-11/30/20

Principal Investigator: Dagmar Sternad, Total: $1,835,860 (for 5 years).

* *2015 – 2020*: NIH-R01-HD081346: *Multi-center trial of augmented sensory feedback in children with dyskinetic CP*

05/31/15-4/30/20

Principal Investigator: Terence Sanger, Co-Investigator: Dagmar Sternad. Total: $3,100,000 (priority percentile 2%), NU portion: $51,285 per year.

* *2015 – 2017*: NSF-EAGER-1548514: *Collaborative research: Challenging the cognitive-control divide.*

09/01/15-08/30/17

Principal Investigators: Neville Hogan, Dagmar Sternad. Total: $300,000, NU: $170,060 (for 2 years).

* *2006 – 2015*: NIH-R01: *Research resource for complex physiologic signals* 05/31/15-4/30/16

Principal Investigator: Ary Goldberger, David Paydarfar. Subcontract: Dagmar Sternad. Direct cost: $32,721 per year.

* *2016 – 2018*: NIH-R21-HD089731: *Quantification of predictive motor impairments in individuals with ASD.* 12/01/16-11/31/18

Principal Investigator: Dagmar Sternad, Pawan Sinha. Percentile: 5%. Total direct costs: $275,000, NU: $134,600.

* *2017 – 2022*: NIH-P50: *Clinical research center for the improved prevention, diagnosis and treatment of vocal hyperfunction.*  04/01/17-03/31/22

Principal Investigator: Robert Hillman. Consultant: Dagmar Sternad. Total direct costs DS: $9,600 (1 day per year).

* *2017 – 2018:* Museum of Science: Living Laboratory Undergraduate Research Scholarship: *Catch the mouse! Prediction in interception and interaction with objects.*

Student Investigator: Hannah Tam, Mentor: Dagmar Sternad.

* *2017 – 2020*: NSF-1723998: *CRCNS US-German-Israeli Collaborative research proposal: Hierarchical coordination of complex actions.* 09/01/17-10/31/20

Principal Investigator: Dagmar Sternad, Neville Hogan, Tamar Flash, Martin Giese.

Total costs: $619,920. DS: $319,920

* 2017-2019: Charles Hood Foundation Child Health Grant: *From virtual reality to real life skill: enhancing potential of virtual environment for rehabilitation in children with cerebral palsy.*  07/01/17-06/30/19

Principal Investigator: Danielle Levac, Mentor: Dagmar Sternad. Total costs to DL: $150,000

* 2017-2022: NIH-K01 Career Development Award: *Enhancing transfer of motor skill learning from virtual to physical environments in children with cerebral palsy.*  12/01/17-11/30/22

Principal Investigator: Danielle Levac, Mentor: Dagmar Sternad. (Impact score 23)

* *2017*: Advanced Research/Creative Endeavor Award: *Analyzing spatiotemporal patterns in unimanual rhythmic and discrete movements: An EEG study.*

Principal Investigator: Hannah Tam. Supervisor: Dagmar Sternad. $2,100.

### Completed

* 2017-2022: NIH-K23 Career Development Award: *The relation of altered pain processing to impact loading and response to a gait retraining intervention in knee osteoarthritis* 07/01/17-06/30/22

Principal Investigator: Joshua Stefanik, Mentor: Dagmar Sternad. (Impact score 20) Total direct costs to JS: $827,820

* *2016*: MIT-G00005030: *Support for use of experimental facilities.*

Principal Investigator: Pawan Sinha, Dagmar Sternad. Total direct costs: $7,500.

* *2013 – 2016:* NIH-R21 DC013095-01: *Prosody in congenital and acquired dysarthria*

Principal Investigator: Rupal Patel, Co-Investigator: Dagmar Sternad. Total Costs: $414,041 (Priority percentile: 1%).

* *2010 – 2016:* NIH*-*R01-HD045639: *Variability and stability in skill acquisition*

Principal Investigator: Dagmar Sternad, National Institutes of Health. Total: $1,542,159 (priority percentile: 2%).

* *2015 – 2016:* Museum of Science: Living Laboratory Senior Thesis Scholarship: *Pitchers and pianists: timing in discrete and rhythmic motor skills.*

Student Investigator: Dena Guo, Mentor: Dagmar Sternad.

* *2016*: Provost Research Award: *Timing accuracy in a throwing task.*

Principal Investigator: Dena Guo. Supervisor: Dagmar Sternad. $3,000.

* *2014 – 2016*: F31 NIH Ruth Kirschstein Predoctoral Fellowship: *The influence of ambulatory biofeedback schedules on the retention of vocal motor behavior*

PhD Student: Jarrad van Stan. Mentor: Dagmar Sternad. Total: $60,000.

* *2015*: Provost Research Award and Creative Endeavors Award: *Human control of complex objects: Stability in the face of perturbations.*

Principal Investigator: Julia Ebert. Supervisor: Dagmar Sternad. $1,875.

* *2015*: Provost Research Award: *Neural and behavioral crosstalk during learning a polyrhythmic bimanual skill.*

Principal Investigator: Courtney Stead. Supervisor: Dagmar Sternad. $3,000.

* *2015*: Provost Research Award: *Effects of metric structure strength on motor learning of temporal rhythms.*

Principal Investigator: Keith Harrigian. Supervisor: Dagmar Sternad. $1,000.

* *2012 – 2015*: US Army Research Institute for Behavioral and Social Sciences W5J9CQ-12-C-0046: *The effect of threat on task performance: testing the threat-induced potentiation of prepotent responses model*

Principal Investigator: Steve Harkins. Total: $575,681.

* *2011 – 2014:* International Grant to University of Beijing: *Multi-joint intelligent prosthesis based on EMG control*

Principal Investigator: Long Wang and Kunlin Wei, Co-Investigator: Dagmar Sternad. Total: $320,000 to University of Beijng.

* 2014: Provost Undergraduate Research Award, Northeastern University: *Limits in human timing accuracy*

Student: Dena Guo. Mentor: Dagmar Sternad. Total: $1,000.

* 2013: Provost Undergraduate Research Award, Northeastern University: *Neuroplasticity in learning and retention of asymmetric bimanual movement*

Student: Julia Cowenhoven. Mentor: Dagmar Sternad. Total: $1,000.

* *2013 – 2014:* Tier I Seed Grant Vice Provost of Research, Northeastern University: *Development of an adaptive clinician-friendly virtual rehabilitation system and its evaluation in post-operative shoulder therapy*

Principal Investigator: Dagmar Sternad, Co-Investigators: Miriam Leeser, Amee Seitz. Total: $50,000.

* 2009 *–* 2014: NSF DMS-0928587 PRISM: *Attracting students to Mathematics, Physics and Biology through interdisciplinary research and discovery*

Principal Investigator: Richard Porter, Co-PI: Dagmar Sternad, Total: $1,987,411.

* *2011 – 2014:* American Heart Association, 11SDG7270001, National Center Research Program. *Training dual-task walking after stroke: effects on attentional and locomotor control*

Principal Investigator: Prudence Plummer d’Amato, Co-Investigator: Dagmar Sternad. Total: $308,000.

* *2010 – 2013*: DFG-MU 1374/3-1: (Deutsche Forschungsgesellschaft, Germany): *Feedbackverarbeitung beim motorischen Lernen unter besonderer Berücksichtigung von motorischem Rauschen* (*The role of motor noise in feedback processing in motor learning)*

Principal Investigator: Hermann Müller, Consultant: Dagmar Sternad, Total: $210,000 to University of Giessen.

* *2013*: Provost Undergraduate Research Award, Northeastern University: *Origins of asymmetric learning in an asymmetric bimanual task*

Student: Julia Ebert. Mentor: Dagmar Sternad. Total: $1,000.

* *2011 – 2013:* Tier I Seed Grant Vice Provost of Research, Northeastern University: *Central fatigue in motor, sensory and cognitive performance*

Principal Investigator: Dagmar Sternad, Therese Pirozzi O’Neill, Ying-Yee Kong, Deniz Erdogmus: Total: $50,000.

* *2012:* Mathworks Sponsorship of Research Assistant Meghan Huber*: Development of Matlab-based virtual rehabilitation systems using Microsoft Kinect.*

Principal Investigator: Miriam Leeser. Support: $10,000.

* *2011 – 2013:* NIH 1F32 AR061238: Postdoctoral Training Fellowship: *Learning to control flexible objects using error-tolerant movement strategies*

Principal Investigator: Christopher J. Hasson, Sponsor: Dagmar Sternad. Total: $119,499.

* *2009 – 2010*: DAAD 0809950: *Effektorabhängige und unabhängige Anteile beim motorischen Transfer (Effector-dependent and independent contributions in motor transfer*)

Principal Investigators: Heiko Maurer and Lisa Pendt, Contact and Collaborator: Dagmar Sternad, approx. $20,000 to University of Giessen.

* *2005 – 2010:* BCS-0904464: *Dynamics of action and perception in a rhythmic task*

Principal Investigator: Dagmar Sternad, National Science Foundation, Division of Behavioral and Cognitive Science, Perception, Action and Cognition, $355,000.

* *2003 – 2010:* R01 HD045639: *Variability and stability in skill acquisition*

Principal Investigator: Dagmar Sternad, National Institutes of Health, $1,237,155.

* *2005 – 2009:* ONR N00014-05-1-0844: *Anomalous behavior detection related to IEDs*

Principal Investigator: Lora Weiss, Applied Research Lab, Co-Investigator: Dagmar Sternad, $225,000.

* *2006 – 2007:* Penn State 421-55 1001: *Control of manual positioning sequences*

Investigator: David Rosenbaum. Co-Investigator: Dagmar Sternad. Social Science Research Institute, $20,000.

* *2004 – 2007:* TSF 4100020604: *Integrative functional imaging of cognitive systems in the developing brain*

Principal Investigator: Dr. Paul Eslinger, Hershey Medical Center, Co-Investigator: Dagmar Sternad, Pennsylvania Department of Health, Tobacco Formula Funded Health Research, $224,410.

* *1995 – 1996: A dynamical analysis of force production in rhythmic tapping and its application as a diagnostic tool for Parkinson patients.*

Principal Investigator: Dagmar Sternad. Co-Investigator: Dr. Karl Newell. Interdisciplinary Seed Grant of the College of Health and Human Development. $5,000.

* *1997 – 1998: Individual route planning in large-scale traffic simulations*

Principal Investigator: Chris Barrett. Los Alamos National Laboratories and the Santa Fe Institute for Complex Systems, Co-Investigator: Dagmar Sternad, $35,000.

* *1998 – 1999:* NSF: *Conference grant: Progress in Motor Control II*

Principal Investigator: Dagmar Sternad. Co-Investigators: Mark Latash and the Conference Organizing Committee. National Science Foundation (NSF), Integrative Biology and Neuroscience. $10,000.

* *1997 – 2001:* NSF-SBR 97-10312: *Multi-joint dynamics: A model for discrete and rhythmic movements*

Principal Investigator: Dagmar Sternad. Co-Investigator: Dr. Stefan Schaal, University of Southern California and ATR Human Information Research Laboratories, Japan. National Science Foundation, Social, Behavioral and Economic Research, Human Cognition and Perception, $203,845.

* *2002:* DFG: *Sensorimotor control of biped walking: Acquisition of dynamics and statics in the generation of walking patterns*

Principal Investigator: Karl-Theodor Kalveram, Department of Psychology, University of Düsseldorf, Germany. Co-Investigator: Dagmar Sternad. Deutsche Forschungsgesellschaft (DFG), German equivalent to the National Science Foundation. $3,000. (3-month internships of students in my lab) $50,000.

* *2005: International conference: Progress in Motor Control V: A multidisciplinary perspective*

Principal Investigator: Dagmar Sternad. Level–I Proposal to the Children, Youth and Families Consortium, The Pennsylvania State University, $6,000.

* *2005:* NIH: *International conference: Progress in Motor Control V: A multidisciplinary perspective*

Principal Investigator: Dagmar Sternad. National Institutes of Child Health and Human Development, $3,000.

* *2005: International conference: Progress in Motor Control V: A multidisciplinary perspective*

Principal Investigator: Dagmar Sternad. The Huck Institute, Pennsylvania State University, $5,000.

* *2001 – 2005:* NSF-BCS-0096543: *Discrete and rhythmic dynamics in multijoint movements*

Principal Investigator. Dagmar Sternad. Co-Investigator: Stefan Schaal. National Science Foundation, Human Cognition and Perception, $342,902.

##### Publications

**Peer-Reviewed Journal Articles**

1. Guo, D. Harrigian, K., & Sternad, D. (in preparation). Pitchers and pianists: A large-scale study on human timing.
2. Ochoa, J., Sternad, D. & Hogan, N. (in preparation). Gait entrainment to destabilizing ankle perturbations.
3. Park, S-W., Ebert, J., & Sternad, D. (in preparation). Limits of neuroplasticity: Long-term practice of an asymmetric bimanual task. *Journal of Neuroscience.*
4. Huber, M.E., Koeppen, R. Sternad, D., & Hogan, N. (in preparation). Controlling physical interaction: humans do not minimize muscle effort.
5. Dimitriv, V., Wonsick, M., Long, X., Maurice, P., Sternad, D., & Padir, T. (invited, under review). Northeastern's NASA Valkyrie humanoid robot dataset. *International Journal of Robotics Research.*
6. Sternad, D. (invited, under review). It’s not the mean that matters: variability, noise and exploration in skill acquisition. *Current Opinion in Behavioral Sciences.*
7. Zhang, Z., Guo, D., Huber, M.E., Park, S-W., & Sternad, D. (under review). Exploiting the geometry of solution space to reduce sensitivity to neuromotor noise. *PLoS Computational Biology*.
8. Maurice, P., Hogan, N., & Sternad, D. (under review). Predictability, effort, and (anti-)resonance in complex object control. *Journal of Neurophysiology.*
9. Chiovetto, E., Huber, M.E., Sternad, D., & Giese, M.A. (accepted). Angular momentum organization for dynamic balance control during walking on a narrow beam. *Scientific Reports.*
10. Maurice, P.J., Huber, M.E., Hogan, N., & Sternad, D. (2017). Velocity-curvature patterns matter in human-robot physical interaction. *Robotics and Automation Letters, 3, 1, 249-256.*
11. Ochoa, J., Sternad, D. & Hogan, N. (2017). Treadmill versus overground walking: Different response to physical interaction. *Journal of Neurophysiology, 118,* 2089-2102.
12. Van Stan, J.H., Park, S-W., Mehta, D.D., Hillman, R.E., & Sternad, D. (2017). Measuring vocal motor skill improvement using a virtual voice-controlled slingshot. *Journal of the Acoustical Society of America, 142,3,* 1199-1212.
13. Park, S.W., Marino, H., Charles, S. Sternad, D., & Hogan, N. (2017). Moving slowly is hard for humans: Limitations of dynamic primitives. *Journal of Neurophysiology,118, 1, 69-83.* doi: 10.1152/jn.00643.201.
14. Van Stan­­, J.H., Mehta, D.D., Sternad, D., Petit, R.J., & Hillman, R.E. (2017). Ambulatory voice biofeedback: relative frequency and summary feedback effects on performance and retention of reduced vocal intensity in the daily lives of participants with normal voices. *American Journal of Speech Language Pathology, 60*, 853-864.
15. Van Stan­­, J.H., Mehta, D.D., Petit, R.J., Sternad, D., Muise, J., Burns, J.A., & Hillman, R.E. (2017). Integration of motor learning principles into real-time ambulatory voice biofeedback and example implementation via a clinical case study with vocal fold nodules. *American Journal of Speech Language Pathology, 26, 1,* 1-10.
16. Huber, M.E., Kuznetsov, N., Sternad, D. (2016). Persistence of reduced neuromotor noise in long-term motor skill learning. *Journal of Neurophysiology, 116, 6,* 2922-2935.
17. Stein, P., Saltzman, E.L., Holt, K.G., & Sternad, D. (2016). Is failed predictive control a risk factor for focal dystonia? *Motor Disorders, 31,12*, 1772-1177.
18. Hasson, C.J., Zhang, Z., Abe, M.O., & Sternad, D. (2016). Neuromotor noise is malleable by amplification of perceived error. *PLoS Computational Biology, 12, 8,* e1005044. **FINALIST for Klein Vogelbach Prize (best paper award in rehabilitation-related research).**
19. Ahn, J., Zhang, Z., & Sternad, D. (2016). Noise induces biased estimation of the correction gain. *PLoS ONE, 11, 7,* e0158466. doi:10.1371/journal.pone.0158466
20. Huber, M.E., Brown, A., & Sternad, D. (2016). Girls *can* play ball: Stereotype threat reduces variability in a motor skill*. Acta Psychologica, 169,* 79-87.
21. Chu, W.T.V., Park, S.W., Sanger, T.D., & Sternad, D. (2016). Dystonic children can learn a novel motor skill: Strategies that are tolerant to high variability. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, *24, 8,* 847-858.
22. Huber, M.E., Seitz, A, Leeser, M., & Sternad, D. (2015). Validity and reliability of Kinect skeleton for measuring shoulder joint angles: A feasibility study. *Physiotherapy, 101, 4*, 389-393.
23. Huber, M.E. & Sternad, D. (2015). Implicit guidance to stable performance in a rhythmic perceptual-motor skill. *Experimental Brain Research,* *233, 6,* 1783-99. DOI 10.1007/s00221-015-4251-7.
24. Sternad, D. & Körding, K.P. (2015). Carrot or stick in motor learning. *Nature Neuroscience, 18, 4,* 480-481.
25. Park, S-W. & Sternad, D. (2015). Robust retention of individual sensorimotor skill after self-guided practice. *Journal of Neurophysiology*, *113, 7,* 2635-45.
26. Huber, M.E., Seitchik, A., Brown, A., Sternad, D., & Harkins, S. (2015). A mere effort account of stereotype threat in performance of a rhythmic motor skill. *Journal of Experimental Psychology: Human Perception and Performance, 41, 2*, 525-541.
27. Sternad, D., Huber, M.E., & Kuznetsov, N. (2014). Acquisition of novel and complex motor skills: Stable solutions where intrinsic noise matters less. *Advances in Experimental Medicine and Biology, 826*, 101-124. doi: 10.1007/978-1-4939-1338-1\_8.
28. Nasseroleslami, B., Hasson, C.J., & Sternad, D. (2014). Rhythmic manipulation of objects with complex dynamics: Predictability over chaos. *PLoS Computational Biology, 10(10),* e1003900. doi: 10.1371
29. Hasson, C.J. & Sternad, D. (2014). Safety margins in older adults increase with improved control of a dynamic object. *Frontiers in Aging Neuroscience, 6:158*, doi: 10.3389/fnagi.2014.00158
30. Park, S-W., Dijkstra, T.M.A., & Sternad, D. (2013). Learning to never forget: Time scales and specificity of long-term memory of a motor skill. *Frontiers in Computational Neuroscience, 7:111.* doi: 10.3389/fncom.2013.00111.
31. Sternad, D., Marino, H., Duarte, M., Dipietro, L., Charles, S., & Hogan, N. (2013). Transitions between discrete and rhythmic primitives in a unimanual task. *Frontiers in Computational Neuroscience, 7:90.* doi: 10.3389/fncom. 2013.00090.
32. Hogan, N. & Sternad, D. (2013). Dynamic primitives in the control of locomotion. *Frontiers in Computational Neuroscience, 7:71,* doi: 10.3389/fncom.2013.00071.
33. Abe, M.O., & Sternad, D. (2013). Directionality in distribution and temporal structure of variability in skill acquisition. *Frontiers in Human Neuroscience*, *7:225*. doi: 10.3389/fnhum.2013.00225.
34. Chu, W.T.V., Sternad, D., & Sanger, T.D. (2013). Healthy and dystonic children compensate for changes in motor variability. *Journal of Neurophysiology, 109, 8,* 2169-78.
35. Plummer d’Amato, P., Kyvelidou, A., Sternad, D., Najafi, B., Villalobos, R.M., & Zurakowski, D. (2012). Training dual-task walking in community-dwelling adults within 1 year of stroke: A protocol for a single-blind randomized controlled trial. *BMC Neurology, 12, 1,* 129.
36. Hogan, N., & Sternad, D. (2012). Dynamic primitives of motor behavior. *Biological Cybernetics*, *106 (11-12)*, 727-739. PMID: 23124919
37. Hasson, C.J., Shen, T., & Sternad, D. (2012). Energy margins in dynamic object manipulation. *Journal of Neurophysiology, 108, 5,* 1349-65.
38. Cohen, R.G. & Sternad, D. (2012). State space analysis of intrinsic timing: Exploiting task redundancy to reduce sensitivity to timing. *Journal of Neurophysiology, 107, 2*, 618-627.
39. Sternad, D., Abe, M.O., Hu, X., & Müller, H. (2011). Neuromotor noise, sensitivity to error and signal-dependent noise in trial-to-trial learning. *PLoS* *Computational Biology*, *7, 9,* e1002159.
40. Ajemian, R. & Sternad, D. (2010). Theoretical ideas in motor neuroscience and their capacity for falsification. *Journal of Motor Behavior, 6*, 331-332.
41. Ronsse, R. & Sternad, D. (2010). Bouncing between model and data: stability, passivity, and optimality in hybrid dynamics. *Journal of Motor Behavior, 6,* 387-397.
42. Sternad, D., Park, S., Müller, H., & Hogan, N. (2010). Coordinate dependence of variability analysis. *PLoS Computational Biology, 6, 4,* e1000751.
43. Sanger, T.D., Chen, D., Fehlings, D.L., Hallett, M. et al. (2010). Definitions and classification of hyperkinetic movements in childhood. *Movement Disorders, 25, 11,* 1538-49.
44. Ronsse, R., Wei, K., & Sternad, D. (2010). Optimal control of a hybrid rhythmic-discrete task: the bouncing ball revisited. *Journal of Neurophysiology, 103,* 2482-2493.
45. Ehrlenspiel, F., Wei, K., Sternad, D. (2010). Open-loop, closed-loop, and compensatory control: Performance under pressure in a rhythmic task. *Experimental Brain Research*, *201, 4,* 729-741.
46. Van der Wel, R.P.R.D., Sternad, D., & Rosenbaum, D.A. (2010). Moving the arm at different rates: Slow movements are avoided. *Journal of Motor Behavior*, *42, 1*, 29-36. PMCID: 3566270
47. Hogan, N. & Sternad, D. (2009). Sensitivity of smoothness measures to movement duration, amplitude and arrests. *Journal of Motor Behavior, 41, 6,* 529-534.
48. Ronsse, R., Sternad, D., & Lefevre, P. (2009). A computational model for rhythmic and discrete movements in uni- and bimanual coordination. *Neural Computation, 21,* 1335–1370.
49. Cohen, R.G., & Sternad, D. (2009). Variability in motor learning: Relocating, channeling and reducing noise. *Experimental Brain Research, 193,* 1, 69-83.
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**Books**

1. Sternad, D. (Editor, 2009). *Progress in motor control – A multidisciplinary perspective*. New York: Springer. **(over 30,000 downloads of the articles by 2013)**

**Popular Books**

1. Sternad, D. (2002). *Stretching*. München: Blv-Verlagsgesellschaft.
2. Sternad, D. (1999/1987). *Richtig Stretching* (**9th revised editions**). München: Blv-Verlagsgesellschaft. **Translated into 5 languages** (French, Spanish, Italian, Hungarian, Dutch).
3. Sternad, D., & Bozdech, K. (1990). *Spaß mit Stretching* (2nd edition). München: Blv-Verlagsgesellschaft.
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**Book Chapters**

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2. Sternad, D. & Hasson, C.J. (2016). Predictability and robustness in the manipulation of dynamically complex objects. In J. Lazsko & M.L. Latash (eds.), *Progress in motor control* (pp.55-77). New York: Springer.
3. Sternad, D. & Abe, M.O. (2011). Variability, noise, and sensitivity to error in learning a motor task. In F. Danion & M.L. Latash (eds.), *Progress in motor control: theories, experiments, and applications (*pp.267-295). New York: Springer.
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9. Sternad, D., Katsumata, H., Duarte, M., & Schaal, S. (1999). Perceptual information and dynamic stability in a one-handed juggling task. In M. Grealy & J. Thomson (Eds.), *Studies in Perception and Action V* (pp.170-174). Hillsdale, NJ: Erlbaum.
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13. Sternad, D. (1998). A dynamic systems’ perceptive to perception and action. In P. Blaser (Ed.), *Sport Kinetics ‘97: Theories of human motor performance and their reflection in practice* (pp.45-54). Hamburg: Zwalina Verlag.
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17. Beek, P., & Sternad, D. (1994). Koordination und Kontrolle von sportmotorischen Fertigkeiten aus ökologischer Perspektive (Coordination and control of sport skills from an ecological perspective). In K.-H. Leist, D. Hackfort & J. Loibl (Eds.), *Ordnungs- und Organisationsleistungen menschlicher Motorik* (pp.73-84). München: TU-Verlag.
18. Translation of: Shaw, R.E., Flasher, O.M., & Mace, W.M. (1994). Dimensions of event perception. In the German edition of W. Prinz & B. Bridgeman (Eds.), *Handbook of Perception and Action*. *Vol I*. London: Academic Press.
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20. Schaal, S., & Sternad, D. (1993). Learning of passive motor control strategies with genetic algorithms. Santa Fe Institute Proceedings. In L. Nadel & D. Stein (Eds.), *1992 Lectures on Complex Systems*. *Vol V (*pp.631-645). Redwood, CA: Addison Wesley.

Conference Proceedings

1. Bazzi, S., Ebert, J., Hogan, N, & Sternad, D. (submitted). Stability and predictability in dynamically complex physical interactions. *IEEE International Conference on Robotics and Automation (ICRA 2018)*, Brisbane, Australia, May 21-25.
2. Koeppen, R., Huber, M.E., Sternad, D., & Hogan, N. (2017). Controlling physical interactions: Humans do not minimize muscle effort. *Proceedings of the ASME 2017 Dynamic Systems and Controls Conference (DSCC2017)*, Tysons Corner VA, October 11-13.
3. Maurice, P.J., Huber, M.E., Hogan, N., & Sternad, D. (2017). Velocity-curvature patterns matter in human-robot physical interaction. *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Vancouver, September 24-28.
4. Ochoa, J., Sternad, D., & Hogan, N. (2016). Entrainment of overground human walking to mechanical perturbations at the ankle joint. *Proceedings of the 8th IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics (BioRob2016)*, University Town, Singapore, June 26-29.

**BEST NATIONAL SCIENCE FOUNDATION (NSF) STUDENT PAPER AWARD**

1. Sternad, D. (2015). From theoretical analysis to clinical assessment and intervention: Three interactive motor skills in a virtual environment. *IEEE* *Virtual Rehabilitation Proceedings (ICVR), International Conference on,* Valencia, Spain, June 9-12, pp. 265-272.

**BEST PAPER AWARD**

1. Huber, M.E., Leeser, M., Sternad, D., & Seitz, A. (2015). Accuracy of Kinect for measuring shoulder joint angles in multiple planes of motion. *IEEE* *Virtual Rehabilitation Proceedings (ICVR), International Conference on,* Valencia, Spain, June 9-12.
2. Ye, F., Nasseroleslami, B., & Sternad, D. (2014). Predictability in human manipulation on nonlinear dynamic objects. *IEEE Proceedings of the 40th Northeast Bioengineering Conference,* Boston, MA, April 25-27.
3. Nasseroleslami, B., & Sternad, D. (2014). Extrinsic contributions to movement variability in human object manipulation. *IEEE Proceedings of the 40th Northeast Bioengineering Conference,* Boston, MA, April 25-27.
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6. Kuznetsov, N., Huber, M.E., & Sternad, D. (2014). Exploratory aspects in learning a novel skill. *IEEE 40th Proceedings of the Northeast Bioengineering Conference,* Boston, MA, April 25-27.
7. Huber, M.E. & Sternad, D. (2014). Implicit guidance to dynamic stability in rhythmic ball bouncing. *IEEE Proceedings of the 40th Northeast Bioengineering Conference,* Boston, MA, April 25-27.
8. Guo, D., Huber, M.E. & Sternad, D. (2014). State space analysis of human timing: Timing accuracy limit is 9ms. *IEEE Proceedings of the 40th Northeast Bioengineering Conference,* Boston, MA, April 25-27.
9. Huber, M.E., Seitz, A., Leeser, M., & Sternad, D. (2014). Validity and reliability of Kinect for measuring shoulder joint angles. *IEEE Proceedings of the 40th Northeast Bioengineering Conference,* Boston, MA, April 25-27.
10. Huber, M.E., Leeser, M., & Sternad, D. (2013). Development of a low-cost, adaptive, clinician-friendly virtual rehabilitation system. *IEEE Proceedings for the 10th International Conference on Rehabilitation, Virtual Rehabilitation (ICVR),* pp.172-173, Philadelphia, PA, August 26-29.
11. Hasson, C.J., Hogan, N., & Sternad, D. (2012). Human control of dynamically complex objects. *Proceedings of the 4th IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics (BioRob2012)*, Rome, Italy, June 24-28.
12. Lee, M., Roan, M., Sternad, D. & van Werkhoven, H. (2006). Gait analysis to detect hidden external loads. *Biomedical Engineering Society Fall Meeting*, Chicago, IL, Oct 18-20.
13. Erdley, J., Weiss, L., Long, L., Sternad, D., Murphy, K., Roan, M. (2006). Predicting precursors to IED deployment, *7th International Symposium on Technology and the Mine Problem*, Monterey, CA, May 2-4.
14. Schaal, S., Kotosaka, S., Sternad, D. (2000). Nonlinear dynamical systems as movement primitives, *Proceedings of the 1st IEEE-RAS International Conference on Humanoid Robotics,* 1425-1436.
15. Schaal, S., Sternad, D., Dean, W.J., Kotosaka, S., Osu, R., & Kawato, M. (2000). Reciprocal excitation between biological and robotic research. *Sensor Fusion and Decentralized Control in Robotic Systems III, Proceedings of SPIE*, 30-40.
16. Dingwell, J.B., Cusumano, J.P., Cavanagh, P.R., & Sternad, D. (1999). Stride-to-stride variability in human walking is not noise. *Proceedings of the 23rd Annual Meeting of the American Society of Biomechanics*, 58-59.
17. Dingwell, J.B., Cusumano, J.P., Cavanagh, P.R., & Sternad, D. (1999). Walking variability and stability in diabetic neuropathy. *Proceedings of the 23rd Annual Meeting of the American Society of Biomechanics*, 60-61.
18. Dingwell, J.B., Cavanagh, P.R., & Sternad, D. (1999). Dynamic analysis of human walking: Treadmills, loss of sensation, and comparisons with surrogate data. *DETC99/VIB-8360,* *Proceedings of the 1999 ASME International Design Engineering Technical Conferences*, 120-129.
19. Schaal, S. & Sternad, D. (1998). Programmable pattern generators. *3rd International Conference on Computational Intelligence in Neuroscience*, 48-51.
20. Dingwell, J.B., Cusumano, J.P., Sternad, D., and Cavanagh, P.R. (1998). Beyond 3D: A nonlinear dynamics approach to the analysis of human locomotion. *Proceedings of the Fifth International Symposium on the 3-D Analysis of Human Movement*, 140-143.
21. Dingwell, J.B., Cusumano, J.P., Sternad, D., & Cavanagh, P.R. (1998). Using Lyapunov exponents to quantify dynamic stability during continuous overground locomotion. *Proceedings of the Third North American Congress on Biomechanics*, 125-126.
22. Dingwell, J.B., Ulbrecht, J.S., Sternad, D., & Cavanagh, P.R. (1997). Variability of neuropathic and non-neuropathic subjects walking on a motorized treadmill. *Proceedings of the 21st Annual Conference of the American Society of Biomechanics*, 254-255.

**Public Dissemination of Research Results**

1. *Museum of Science, Boston:* Our lab group had a research exhibit in the Living Laboratory for one academic year on the topic: *Pitchers and pianists: Rhythmic and discrete timing in a motor skill.* We educated and also collected data from over 450 museum patrons. October 2015- May 2016.
2. *Magnifying mistakes boosts motor skills past a performance plateau.* Press release by PLoS Computational Biology following the publication of: Hasson et al. (2016). Noise is malleable.
3. Dagmar Sternad’s conference paper “From theoretical analysis to clinical assessment and intervention: Three interactive motor skills in a virtual environment” is featured in the *Newsletter of the International Society for Virtual Rehabilitation, Issue 5,* August, 2015.
4. Dagmar Sternad appears on Chinese TV show “*The Brain*” as the International Science Judge, March 7, 2015.
5. *NSF Highlights 24778, MPS/DMS 2013,* Undergraduate NSF PRISM participant wins Goldwater Scholarship, July 2013.
6. *OpenNI Blog:* OpenNI brings virtual rehabilitation programs into patients’ home. May 6, 2013. <http://www.openni.org/articles/openni-brings-virtual-rehabilitation-programs-into-patients-homes/#.UYf1JWRhmLM>
7. *Video in Engadgets, Northeastern University’s haptic ball-racket system is one pricey game of paddle ball.* November 14, 2012. <http://www.viddler.com/v/b41e038f>
8. *Medical Daily*, Research highlighted in section on Science/Tech: *Carrying a cup of coffee is a complex task*. June 2012.
9. *NSF Highlights, Perception, Action & Cognition,* Dynamics of action and perception in a rhythmic task, February 2011.
10. STEM Research Symposium for Students, Northeastern University. The brain and the exponential power of handwriting – From Movements to Mathematics (&back). April 15, 2010.
11. *NSF Highlights, Perception, Action & Cognition,* Dynamics of action and perception in a rhythmic task, May 2007.
12. *Press Release and News and Views in Nature Neuroscience:* Miall, C.R. & Ivry, R. (2004). Moving to a different beat. *Nature Neuroscience, 7, 10*, 1025-1026.
13. *Technological Research News*, February 28, 2001: Robots learn soft touch. http://www.trnmag.com/Stories/022801/Robots\_learn\_soft\_touch\_022801.html
14. *Nature Science Update*, January 28, 2001: Chaos on center court. http://www.nature.com/nsu/010104/010104-9.html
15. *Plus*, Issue 16, 09/01: Robots can’t play tennis - yet. <http://plus.maths.org/issue16/news/tennis/>
16. *Revista Pesquisa Fapesp*, Edition 67, 08/01: Movement under measure.

###### Invited Presentations

1. “From simple movements to complex skills: A task-dynamic approach to motor control”. *60th Conference of Experimental Psychologists, 60.* *Tagung experimentell arbeitender Psychologen (TeaP 2018)*, Phillips Universität Marburg, Germany, March 11-14, 2018.
2. “From simple movements to complex skills: A task-dynamic approach to motor control”. *Sensorimotor Control for Animals and Robots*, *Workshop of the Mathematical and Biological Institute*, Ohio State University, Columbus, OH, November 13-17, 2017.
3. “Towards robots with human dexterity”. *Annual* *NSF-National Robotics Initiative Meeting*, Washington, DC, November 9-10, 2017.
4. “From simple movements to complex skills: A task-dynamic approach to motor control”. *Boston Action Club*, Northeastern University, Boston, October 19, 2017.
5. “Control of discrete and rhythmic motor skills – A task-dynamic approach”. *Control and Modulation of Neuronal and Motor Systems*, *Workshop of the Mathematical and Biological Institute*, Ohio State University, Columbus, OH, September 11–15, 2017.
6. “Human-object interactions: A task-dynamic approach as window into learning and adaptation”. **Plenary Talk** at the *8th International Symposium on Adaptive Motion of Animals and Machines*, Hokkaido University, Sapporo, June 27-30, 2017.
7. “The predictive impairment in autism hypothesis: An empirical assessment”. Joint talk with Pawan Sinha and Nouchette Hadjikhani. *Simons Center for the Social Brain*, Massachusetts Institute of Technology, April 28, 2017.
8. “Pitchers and pianists: Timing in discrete and rhythmic motor skills”. *New England Sequencing and Timing (NEST)*, University of Connecticut, Storrs, CT, March 25, 2017.
9. “From simple movements to complex skills: A task-dynamic approach to motor control”. **Keynote** **Talk** at the *Annual Conference of the Deutsche Vereinigung für Sportwissenschaften, Sektion Motorik/Training/Biomechanik*, Technische Universität Darmstadt, Germany, September 28, 2016.
10. “From actions to interactions: Variability, stability and predictability in the control of dynamic objects”. *Department of Bioengineering*, Politecnico di Milano, Italy, May 12, 2016.
11. “Explorations of extraordinary skill: What can neuroscientists learn from expert performers?” Symposium on *Motor Learning in the World of Music, Dance, and Performance: What can we learn from the experts* at *26th Annual Conference for Neural Control of Movement*, Jamaica, April 29, 2016.
12. “Control of intermittent and continuous interactions with objects”. *2nd Workshop of the Anthropomorphic Motion Factory: Geometric and Numerical Foundations of Movements*, LAAS-CNRS, Toulouse, France, November 19-20, 2015.
13. “From actions to interactions: Variability, stability and predictability in the control of dynamic objects”. *Department of Bioengineering*, University of Pittsburgh, October 29, 2015.
14. “Actions and interactions with the physical world: How the brain controls the body”. *Department of Engineering,* Lafayette College, Easton, PA, September 15, 2015.
15. “Skill learning – Actions and interactions with the physical world”. *Department of Engineering*, *Computational and Biological Learning,* University of Cambridge, United Kingdom, September 3, 2015.
16. “Control of intermittent and continuous interactions with objects”. *7th International Symposium on Adaptive Motion of Animals and Machines (AMAM 2015)*, Massachusetts Institute of Technology, Cambridge, MA, June 20-25, 2015.
17. “Skill learning – Self-guided practice and retention”. *Computational Neuroscience*, *Hertie Institute for Clinical Brain Research*, Eberhard Karls Universität Tübingen, Germany, May 21, 2015.
18. “Learning of complex skills: A basic approach with clinical perspectives”. *Department of Cognitive Neurology*, *Hertie Institute for Clinical Brain Research*, Eberhard Karls Universität Tübingen, Germany, May 18, 2015.
19. “Learning to never forget: Self-guided practice and reward”. *25th Annual Meeting of the Neural Control of Movement,* Charleston, SC, April 21-24, 2015.
20. “The wonder of human movement: How the brain controls the body”. Master class for incoming University Scholars, Northeastern University, March 23, 2015.
21. “Long-term retention – the forgotten aspect of motor memory”. *Department of Psychology*, Beijing University, Beijing, March 11, 2015*.*
22. “Actions and interactions in the physical world”. *Department of Psychology*, Beijing University, Beijing, March 10, 2015*.*
23. “Variability and stability in skill acquisition”. *Department of Psychology*, Beijing University, Beijing, March 9, 2015*.*
24. “Actions and interactions in the physical world”. *Department of Mechanical Engineering, Control, Instrumentation, & Robotics Area,* MIT, February 23, 2015*.*
25. “Actions and interactions in the physical world”. *Max Planck Institute for Biological Cybernetics*, Tübingen, Germany, September 26, 2014.
26. “Actions and interactions in the physical world”. *Department of Cognitive Neurology, Hertie Institute*, University of Tübingen, Germany, September 2, 2014.
27. “Neuroscience for the upper extremity: From analysis to assessment to intervention”. *Hospital Rede Lucy Montoro de Reabilitacao (IMREA),* Sao Paolo, Brazil, August 16, 2014.
28. “Neuroscience for the upper extremity: From analysis to assessment to intervention”. *Workshop at the IEEE International Conference on Biomedical Robotics and Biomechatronics, BioRob 2014*, Sao Paolo, Brazil, August 15, 2014.
29. “Variability, stability and predictability in physical interaction”. *IEEE International Conference on Biomedical Robotics and Biomechatronics, BioRob 2014*, Sao Paolo, Brazil, August 12, 2014.
30. “Variability and stability in skill acquisition: From actions to interactions ”. *Department of Bioengineering*, *Imperial College of London*, London, United Kingdom, July 21, 2014.
31. “Variability and stability in skill acquisition: From actions to interactions ”. *Institute of Motor Neuroscience*, *University College of London*, London, United Kingdom, July 18, 2014.
32. “Variability and stability in skill acquisition: From actions to interactions ”. *Institute of Neuroscience*, *Karl Eberhard* *University*, Tübingen,Germany, July 15, 2014.
33. “The wonders of human movement: How the brain controls the body”. *Klein Award Lecture*, Northeastern University, April 8, 2014.
34. “Quantifying motor learning and interventions in virtual rehabilitation”. *CDSP Workshop*, Northeastern University, March 28, 2014.
35. “Variability and stability in skill learning and retention - Behavioral correlates of neuroplasticity”. *Department of Psychology, Brandeis University*, Waltham, MA, February 27, 2014.
36. “Actions and interactions in a complex world”. *11th Arthur S. Iberall (1918-2002) Distinguished Lecture on Life and the Sciences of Complexity*, *University of Connecticut*, Storrs, CT, December 6, 2013.
37. “Variability and stability in skill learning and retention - Behavioral correlates of neuroplasticity”. Department of *Cognitive, Linguistic, and Psychological Sciences, Brown University*, Providence, November 7, 2013.
38. “Variability and stability in skill learning - Behavioral correlates of neuroplasticity”. Department of *Brain and Cognitive Sciences, Massachusetts Institute of Technology*, Boston, November 1, 2013.
39. “Variability and stability in skill learning and retention- Behavioral correlates of neuroplasticity”. *Boston Action Club, Northeastern University*, Boston, September 12, 2013.
40. “Variability and noise in skill acquisition”. *Progress in Motor Control IX*, Montreal, Canada, July 13-16, 2013.
41. “Redundancy and variability in skill acquisition”. *10th Motor Control Summer School*, Antiochian Village, Ligonier, PA, July 7-11, 2013.
42. “Rhythmic movements –A window into brain and behavior”. *Faculty of Sport and Health Science, Technical University of Munich,* Munich, Germany, July 2, 2013.
43. “Variability and stability in skill learning: From actions to interactions”. *Max-Planck Institute for Intelligent Systems*, Tübingen, Germany, June 19, 2013.
44. “Variability and stability in skill learning: From actions to interactions”. *Rehabilitation Institute of Chicago, Northwestern University,* Chicago, IL, June 6, 2013.
45. “Rhythm ‘n’ moves: A window into brain and behavior”. Keynote at the *Eastern New England Biology Conference*, Northeastern University, April 20, 2013 (Keynote talk).
46. “Rhythmic movements: A window into brain and behavior”. *Center for Brain Science, Harvard University*, March 25, 2013.
47. “Sensorimotor skill: Analysis of variability as a window into control.” *Applied Mathematics Interdisciplinary Seminar, Northeastern University*, January 15, 2013.
48. “Sensorimotor skills: Mechanics and neurophysiology constrains optimization and rehabilitation”. 35th *National Congress in Biomedical Engineerin*g, San Luis Potosi, Mexico, October 5, 2012. (Keynote talk).
49. “Stability and variability in learning a novel motor skill”. *Department of Applied Physiology and Kinesiology, University of Florida,* Gainesville FL, September 6, 2012.
50. “Towards coordinate-free analysis of motor variability”. *Santa Lucia Foundation*, Rome, Italy, June 24-28, 2012.
51. “Human control of dynamically complex objects”. *Biorob 2012*, Rome, Italy, June 24, 2012.
52. “A neuroscience perspective for upper limb rehabilitation.” *Biorob 2012*, Rome, Italy, June 26, 2012.
53. “Multiple solutions in skilled performance – Error tolerance and variability”. *Neural Control of Movement,* Venice, Italy, April 29, 2012.

1. “Stability and variability in learning interactive tasks”. *Department of Cognitive Science, Rensselaer Polytechnic Institute*, Troy, NY, February 29, 2012.
2. “Human motor performance: Exploiting stability, channeling variability, and tuning safety margins”. *Universite Catholique de Louvain, Center for Research in Mechatronic*, Louvain, Belgium, December 19, 2011.

1. “Rhythm ‘n’ moves –A window into brain and behavior”. *Universite Catholique de Louvain, Biomedical Engineering*, Louvain, Belgium, December 19, 2011.
2. “Scientific discoveries: Understanding the brain to combat neurological disorders - one step at a time”. *Holiday Presentation at the Cape Cod Alumni Chapter of Northeastern Faculty*, December 10, 2011.

1. “Rhythm ‘n’ moves –A window into brain and behavior” *Computational Neuroscience, Brandeis University*, Waltham MA, November 7, 2011.
2. “Motor skill: Exploiting stability, channeling variability, and tuning safety margins”. *33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC ’11)*, Boston, MA, September 1, 2011.

1. “Stability and variability in learning an interactive task”. *VII Computational Motor Control Workshop*, Israel, June 12-17, 2011.
2. “Noise, covariation, and tolerance to error in learning a motor skill.” *The Weizmann Institute of Science, Applied Mathematics and Computer Science*, Rehovot, Israel, June 20, 2011.
3. “Bouncing balls: Stability and variability in learning and performance of a rhythmic task.” *Technion Israel Institute of Technology, Mechanical Engineering*, Technion City, Haifa, Israel, June 13, 2011.
4. “Motor skills: Exploiting stability, channeling variability, and optimizing safety margins”. *Center for Complex Network Research*, Northeastern University, April 15, 2011.
5. “Variability and stability in interactive tasks: From motor learning to neuro-recovery”. *BioRobotics Laboratory, School of Engineering, Ecole Polytechnique Federale de Lausanne,* Lausanne, Switzerland, September 2, 2010.
6. “The brain and the exponential power of handwriting – From Movements to Mathematics (and back)”. STEM Research Symposium for Students, Northeastern University, April 15, 2010.
7. “The neuroscience of interactive tasks: From motor learning to neuro-recovery”. *Department of Mechanical Engineering, University Autonoma de San Luis Potosi*, Mexico, March 3, 2010.
8. “Variability, noise, and sensitivity to error in learning a motor task”. *Forschungszentrums Netzindustrien und Infrastruktur (CNI),* Technical University, Berlin, Germany, September 21, 2009.
9. “Variability, noise, and sensitivity to error in learning a motor task”. *Computational Principles of Sensorimotor Learning*, Kloster Irsee, Germany, September 13-15, 2009.
10. “Dynamic stability and active control in a rhythmic task – A dialogue between data and model”. *Satellite Symposium on Theoretical Motor Neuroscience at the* *19th Annual Conference of Neural Control of Movement*, Waikoloa Beach, April 28 – May 3, 2009.
11. “Variability, noise, and sensitivity to error in learning a motor task”. *Computational Science Invited Lectures*, Pennsylvania State University, State College, PA, February 9, 2009.
12. “Variability, noise, and sensitivity to error in learning a motor task”. *Bernstein Center for Computational Neuroscience, Max-Planck-Institute for Dynamics and Self-Organization*, Göttingen, Germany, January 13, 2009.
13. “Dynamical stability and variability in human sensorimotor control: Passive stability and active control in a rhythmic task“. *Northeastern University, Center for Interdisciplinary Research in Complex Systems (CIRCS)*, Boston, December 2, 2008.
14. “Variability, covariation and sensorimotor noise in motor learning and retention”. *Society for Engineering Science*, Champaign Urbana IL, October 12-14, 2008.
15. “Stochastic resonance in the acquisition and control of a perceptual-motor skill”. *The Turvey Transition*, University of Connecticut, June 19-21, 2008.
16. “Variability, noise and sensitivity to error in motor learning”. *Department of Neurology and Neurological Sciences, Stanford Medical Center*, Stanford University, CA, March 20, 2008.
17. “Rhythm ‘n’ moves – A window into brain and behavior”. *Institute for Research in Cognitive Science, University of Pennsylvania (IRCS)*, Philadelphia, February 1, 2008.
18. “Variability, covariation and equifinality in motor learning and retention”. *Institute for Sport Sciences, University of Giessen*, Giessen, Germany, January 11, 2008.
19. “Stability and variability in rhythmic and discrete tasks”. *International Conference Progress in Motor Control VI,* Brazil, August 18-21, 2007.
20. “Stability and variability in a rhythmic task: Passive stability and active control in ball bouncing”. *Department of Electrical Engineering, University of Liege,* Liege, Belgium, May 8, 2007.
21. “Towards a framework for rhythmic and discrete movements – Behavioral results, modeling and brain imaging. *Department of Psychology, University of Connecticut*, Storrs, CT, April 6, 2007.
22. “Analysis of rhythmic and discrete movements: Issues of timing, coordinate systems and primitives.” *Department of Biology, Northeastern University*, Boston, MA, April 5, 2007.
23. “Towards a framework for rhythmic and discrete dynamics: Behavioral results, modeling and brain imaging.” *Conference and Festschrift for Scott Kelso*, Boca Raton, FL, February 23-25, 2007.
24. “Stability and perturbation analyses in a rhythmic task”. Workshop on “Mathematical stability analyses in biomechanics und robotics.” *Center for Interdisciplinary Research, University of Bielefeld*, Germany, February 15-17, 2007.
25. “Rhythm ‘n’ Moves – Behavioral, modeling, and fMRI results on rhythmic and discrete movements”, *Department of Psychology, University of Potsdam*, Germany, December 20, 2006.
26. “Rhythmic and discrete movements – Behavioral and fMRI results.” *Crossover 2006*, *Conference at Penn State organized by the Huck Institute*, University Park, PA, October 12, 2006.
27. “Rhythm ‘n’ Moves – Behavioral, modeling, and fMRI results on rhythmic and discrete movements” *Behavioral and Brain Sciences, School of Psychology*, *University of Birmingham,* Great Britain, September 5, 2006.
28. “Two types of control for rhythmic and discrete movements? New results from fMRI.” Symposium at the Annual Conference of the *North American Society for Sport Psychology and Physical Activity*, June 3, 2006.
29. “Variability and stability in a rhythmic task: Active and passive control in ball bouncing.” *Department of Psychology, Wright State University*, Dayton, OH, February 24, 2006.
30. “Securing a reliable outcome in short goal-oriented movements – Three components of skill improvement”. *International Conference on Progress in Motor Control V – A Multidisciplinary Perspective*, State College, PA, August 17-20, 2005.
31. “Discrete and rhythmic movements as two units of action: fMRI, behavioral and modeling results.” *Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology*, Cambridge, MA, March 11, 2005.
32. “Discrete and rhythmic movements as two units of action: fMRI, behavioral and modeling results.” *Department of Psychology, University of Connecticut*, Storrs, CT, March 7, 2005.
33. “Rhythm ‘n’ Moves – A window into brain and behavior.” *National Science Foundation*, Washington, DC, February 12, 2005.
34. “Rhythm ‘n’ Moves – A window into brain and behavior.” *Department of Anatomy and Neurobiology, University of Maryland, School of Medicine*, Baltimore, MD, February 14, 2005.
35. “Rhythm ‘n’ Moves – A window into brain and behavior.” *Department of Kinesiology, Arizona State University*, Tempe, AZ, February 7, 2005.
36. “The role of resonance in the timing of rhythmic movements”. *International Scientific Congress on Motor Control*, Wisla, Poland, October 23-26, 2004.
37. “Rhythm ‘n’ Movement.” *Summer Academy of the Studienstiftung des Deutschen Volkes*, St. Johann, Italy, September 8, 2004.
38. “Rhythmic timing and resonance constraints.” *28th International Conference on Psychology*, August 8-13, 2004, Beijing, China.
39. “Discrete and rhythmic movements as two units of action: fMRI and behavioral results.” *Donders Institute for Cognitive Neuroscience*, University of Nijmegen, Netherlands, June 24, 2004.
40. “Paradigms in motor control - Overview and examples from a dynamical systems perspective”. *Institute for Biomechanics*, *University of Jena*, Germany, June 30, 2004.
41. “Tuning into dynamic stability: Acquisition and performance of a rhythmic ball skill.” Invited presentation at the *International Conference Progress in Motor Control IV*, Caen, France, August 22, 2003.
42. “Discrete and rhythmic dynamics as primitives in the control and coordination of action.” *Max Planck Institute for Psychological Research*, Munich, Germany, August 14, 2003.
43. “Discrete and rhythmic dynamics as primitives in the control and coordination of action.” *Institute of Mathematics and Signal Processing, University of the Armed Forces*, Munich, Germany, August 13, 2003.
44. “Period drift and variability in a rhythmic task - Signatures of an oscillator.” *Department of Psychology, University of Pennsylvania*, Philadelphia, PA, May 9, 2003.
45. “Discrete and rhythmic dynamics as primitives in the control and coordination of action: Behavioral data and brain imaging”. *Department of Kinesiology, University of Michigan*, Ann Arbor, MI, December 9, 2002.
46. “Discrete and rhythmic dynamics as primitives in the control and coordination of action: Behavioral data and brain imaging”. *Hershey Medical Center, Pennsylvania State University*, Hershey, PA, October 24, 2002.
47. “Discrete and rhythmic dynamics as primitives in the control and coordination of action: Behavioral data and a dynamical model”. *Department of Physical Therapy, University of Delaware*, Newark, DE, October 18, 2002.
48. “Acquisition and performance of a rhythmic skill”. *Symposium of the “Movement Club” at the University of Paris Sud XI*, Paris, September 24, 2002.
49. “Discrete and rhythmic dynamics as units of coordinated action: Behavioral data, a dynamic model, and brain imaging results “ *Department of Mouvement and Perception, University of Marseille*, France, September 18, 2002.
50. “Ball bouncing: Acquisition and performance of a rhythmic skill”. *Center for Research in Sport Sciences University of Paris Sud XI*, Paris, May 30, 2002.
51. “Dynamical stability and visual information in rhythmic ball manipulation”. *Department of Theoretical and Applied Mechanics, Cornell University*, Ithaca, NY, October 11, 2001.
52. “Discrete and rhythmic dynamics as primitives in the control and coordination of action: Behavioral data and a dynamical model”. *Department of Theoretical and Applied Mechanics, Cornell University*, Ithaca, NY, October 12, 2001.
53. “Discrete and rhythmic dynamics as units of coordinated action: Behavioral data, a dynamic model, and brain imaging results”, *Department of Movement Sciences, University of Illinois at Chicago*, Chicago, IL, May 11, 2001.
54. “Discrete and rhythmic dynamics as units of coordinated action: Behavioral data, a dynamic model, and brain imaging results”. *Department of Physical Medicine and Rehabilitation, Northwestern University*, Chicago, IL, May 10, 2001.
55. “Discrete and rhythmic dynamics as units of coordinated action: Behavioral data, a dynamic model, and brain imaging results“. *Medical School and Clinic for Child Neurology, Stanford University*, Stanford, CA, April 9, 2001.
56. “Discrete and rhythmic dynamics as units of coordinated action: Behavioral data, a dynamic model, and brain imaging results“. *Department of Psychology, Berkeley University*, Berkeley, CA April 6, 2001.
57. “The role of dynamic stability for the acquisition and performance of a rhythmic skill.” *University School of Physical Education*, *University of Katowice*, Poland, October 26, 2000.
58. “Rhythm and movement – A dynamic systems perspective”. *Academy of Physical Education, University of Wroclaw*, Poland, October 22, 2000.
59. “The role of dynamic stability for the acquisition and performance of a rhythmic skill”. Invited presentation at the *International Scientific Conference Motor Control 2000 at the Academy of Physical Education* in Katowice, Poland, October 27 - 29.
60. “A dynamic systems perspective to interlimb and intralimb coordination”. *Department of Sport Science, Technical University of Munich*, Germany, July 27, 2000.
61. “Planarity and 2/3 power law in endpoint trajectories of 3D drawing movements”. *Department of Electrical Engineering, Technical University of Munich*, Germany, July 20, 2000.
62. “Coordination and control of actions: From intralimb to interlimb coordination”. *The Santa Fe Institute*, Santa Fe, NM, June 16, 2000.
63. “Coupled oscillations as a model for bimanual coordination: From interlimb to intralimb coordination”. *Department of Psychology, Ohio State University*, Columbus OH, October 22, 1999.
64. "Interaction of rhythmic and discrete pattern generators in human point-to-point movements." *Department of Neurobiology and Anatomy, Medical College of Pennsylvania/Hahnemann Medical School, Allegheny University*, Philadelphia, PA, May 12, 1999.
65. "Planarity and 2/3 power law in endpoint trajectories of 3D drawing movements: Generating mechanisms or epiphenomena?" *Center for the Ecological Study of Perception and Action, University of Connecticut*, Storrs, CT, March, 1999.
66. “Coordination and control of actions: A dynamic approach to multi-joint movements”. *The Santa Fe Institute*, Santa Fe, NM, December, 1998.
67. “2/3 power law and movement segmentation in 3D arm movements.” *Center for Complex Systems, Florida Atlantic University*, Boca Raton, FL, April, 1998.
68. “A dynamic system’s perspective on issues in motor control.” *Technical University of Munich*, Germany, December, 1997.
69. “The dynamic systems approach to movement control.” Keynote address at the conference *“Sport Kinetics ‘97”*, Magdeburg, Germany, 1997.
70. "Oscillatory dynamics for multi-joint coordination." *Department of Kinesiology, University of Waterloo*, Canada, July, 1997.
71. "The dynamic systems approach to perception and action: From interlimb to intralimb coordination". *Kawato Dynamic Brain Project, ERATO*, Japan, June 23, 1997.
72. "Dynamics of 1:2 coordination in bimanual rhythmic movement." *The Santa Fe Institute for Complex Systems*, Santa Fe, NM, April, 1997.
73. "Bouncing of a ball: Dynamic stability and the role of visual and haptic perception." *Los Alamos National Laboratory, TSA-DO/SA MS M997*, Los Alamos, NM, April, 1997.
74. "Dynamics of 1:2 coordination in bimanual rhythmic movement." *Center for Complex Systems, Florida Atlantic University*, Boca Raton, FL, February, 1997.
75. "Dynamics of 1:2 coordination in bimanual rhythmic movement." *Department for Cybernetic Psychology, University of Düsseldorf,* Germany, September, 1996.
76. “Die amerikanische Bernstein-Rezeption und die USA-Konferenz zu Bernstein’s Tradition in Motor Control” (The American Bernstein reception and the US conference on Bernstein’s traditions in motor control.)Keynote presentation at the *2. Bernstein-Konferenz: Bewegungskoordination und sportliche Leistung integrativ betrachtet*, Zinnowitz/Usedom, Germany, September, 1996.
77. "Perceptual control of movement, units of action, and dynamical approaches." *Los Alamos National Laboratory, TSA-DO/SA MS M997*, Los Alamos, NM, May, 1996.
78. "A dynamical perspective on the control and coordination of movement." *Department for Computer and Information Science, GRASP Lab, University of Pennsylvania*, Philadelphia, PA, 1995.
79. "Diffusive, synaptic and synergetic coupling: An evaluation through inphase and antiphase rhythmic movements." *Department for Cybernetic Psychology, University of Düsseldorf,* Germany, 1994.
80. "Average phase difference theory and 1:1 phase entrainment in interlimb coordination." *Complex Systems Summer School*, Santa Fe, NM, 1992.
81. "Average phase difference theory and 1:1 phase entrainment in interlimb coordination." *3. dvs-Sommerakademie (Deutsche Vereinigung für Sportwissenschaften)*, Berlin, 1992.
82. "On the dynamics of serial order in human coordination." *Max-Planck-Institut für Psychologie*, München, 1991.
83. "Average phase difference theory and 1:1 phase entrainment in interlimb coordination." *Department of Psychology, University of Amherst,* MA, 1991.
84. "Neurophysiological aspects of endurance training on the example of aerobics." *Symposium on Sports Medicine*, München, 1989.
85. "Neurophysiological Aspects of Aerobics and Stretching." *Institute for Sports Medicine*, Buenos Aires, Argentina, 1987.

**Organization of Conferences and Symposia**

Member of the Scientific Committee of the 11th International Symposium on Computer Science in Sport, Konstanz, Germany, September 6-9, 2017.

Symposium on “Exploration of extraordinary skill: What can neuroscientists learn from performers”. Organizers*:* Terence Sanger, Dagmar Sternad. Participants: Gary Paige, Ken Broadway, Peter Sparling. *26th Annual Conference for Neural Control of Movement*, Jamaica, April 29, 2016.

Organization of annual “*Lab Advance”*, a joint workshop between the Newman Laboratory at MIT and the Action Lab at Northeastern University, July 31, 2015.

Symposium on “Motor memory – the forgotten aspect of motor adaptation and learning: From after-effects and savings to long-term retention”. Participants*:* Nicolas Schweighofer, Valeria Della-Maggiore, Gelsy Torres-Oviedo, Dagmar Sternad. *25th Annual Conference for Neural Control of Movement*, Charleston, SC, April 20-24, 2015.

Symposium on “Control of Physical Interaction”, as part of the *International Conference on Biomedical Robotics and Biomechatronics*, BioRob 2014, Sao Paolo, Brazil, August 12-15, 2014.

“*The Boston Action Club*”, tri-weekly interdisciplinary seminar with invited speakers on movement neuroscience, held at *Northeastern University*, I hosted 70 speakers since 2008.

Symposium on “*Virtual Rehabilitation and Health*”*, 25th Annual CDSP Research Workshop of the Communications and Digital Signal Processing Center for research and graduate Studies (CDSP)*, Northeastern University, March 28

Symposium on “*Human Dynamics*”, as part of the *40th Northeast Bioengineering Conference,* Boston, MA, April 25-27.

Organizer of “*The Penn State Action Club*”, bi-weekly interdisciplinary seminar with invited speakers on movement neuroscience, Pennsylvania State University, 1995-2008, I hosted more than 100 speakers during the 13 years.

International Conference on *Progress in Motor Control VII*, Marseille, France, July 23-25, 2009, Member of Conference Committee.

International Conference on *Progress in Motor Control VI,* Santos, Brazil, August 18-21, 2007, Member of Conference Committee.

International Conference on *Progress in Motor Control V, Multidisciplinary Perspective to Motor Control*. State College, PA, August 23-25, 2005.

Resulting in a Conference Volume: *Sternad, D. (ed),* *Progress in Motor Control–A Multidisciplinary Perspective*. 2009, New York: Springer.

Workshop on “*Debates in Dynamics III*”, sponsored by the Santa Fe Institute, held at the Pennsylvania State University, State College, PA, May 5-9, 2004

Workshop on “*Debates in Dynamics II*”, sponsored by the Santa Fe Institute, held at the Pennsylvania State University, State College, PA, December 6-10, 2000.

Workshop on “*Debates in Dynamics I*”, sponsored by the Santa Fe Institute, held at the Pennsylvania State University, State College, PA, August 16-19, 1999.

Resulting in a Special Issue in *Human Movement Science*, 19, 4, 2000.

**Presentations at Conferences (Posters**)

1. Park, S.W., Cardinaux, A., Guo, D., Ben-Ami, S., Sinha, P., & Sternad, D. (2018). Quantification of predictive motor impairments in children with Autism Spectrum Disorder. *International Society for Autism Research (INSAR)*, Rotterdam, Netherlands, May 9-12.
2. Maurice, P., Hogan, N., & Sternad, D. (2017). Predictability, effort, and (anti-)resonance in complex object control. *IROS 2017 Workshop on Human Movement Understanding for Humanoid and Wearable Robots,* Vancouver, Canada, September 28.
3. Lunardini, F., Sternad, D., & Hasson, CJ. (2017). Probing motor priorities with electrical manipulation of neural noise scaling. *Annual Conference of the Society for Neuroscience,* Washington, DC, November 11-15.
4. Koeppen, R., Huber, M.E., Sternad, D., & Hogan, N. (2017). Controlling physical interaction: humans do not minimize muscle effort. *ASME* *Dynamic Systems and Control Conference (DSCC)*, Tysons Corner, VA, October 11-13.
5. Van Stan­­, J.H., Mehta, D.D., Sternad, D., Petit, R.J., & Hillman, R.E. (2017). Ambulatory voice biofeedback: Effect of feedback modification on reducing vocal intensity of nurses in an intensive care unit. *Occupation Voice Symposium,* London.
6. Park, S.W, & Sternad, D. (2017). Time scales and specificity of acquisition, retention and generalization of a novel motor skill over months and years. *27th Annual Meeting of the Society for Neural Control of Movement (NCM),* Dublin, Ireland, May 2-5.
7. Maurice, P., Ye, F., Hogan, N., & Sternad, D. (2017). Predictability, effort and (anti-)resonance in complex object control. *27th Annual Meeting of the Society for Neural Control of Movement (NCM),* Dublin, Ireland, May 2-5.
8. Zhang, Z., Guo, D., Huber, M.E., Park, S.W., & Sternad, D. (2017). Limits in timing precision are not a real limit for task success in throwing. *New England Sequencing and Timing (NEST)*, University of Connecticut, Storrs, CT, March 25.
9. Maurice, P., Ye, F., Hasson, CJ, & Sternad, D. (2016). Predictability and effort in complex object control. *Annual Conference of the Society for Neuroscience,* San Diego, November 12-16.
10. Park, SW., Tam, H., & Sternad, D. (2016). Practice-induced changes in EEG during asymmetric bimanual skill learning. *Annual Conference of the Society for Neuroscience,* San Diego, November 12-16.
11. Zhang, Z., Huber, ME, Park, S-W., & Sternad, D. (2016). Structure of solution space in a redundant motor task determines learning. *Annual Conference of the Society for Neuroscience,* San Diego, November 12-16.
12. Ochoa, J., Sternad, D., & Hogan, N. (2016). Dynamic entrainment of human walking to ankle dorsi-flexion perturbations. *Annual Conference of the Society for Neuroscience,* San Diego, November 12-16.
13. Ochoa, J., Sternad, D., & Hogan, N. (2016). Entrainment of overground vs treadmill walking to mechanical perturbations at the ankle. *Biomechanics and Neural Control of Movement 2016*, Deer Creek, Sterling, OH, June 12-17.
14. Sternad, D., Mukovskiy, A, Ebert, J., & Dijkstra, T. (2016). Dynamic stability to cope with perturbations in control of complex objects. *Biomechanics and Neural Control of Movement 2016*, Deer Creek, Sterling, OH, June 12-17.
15. Huber, M.E., Kuznetsov, N., Sternad, D (2016). Persistence of reduced neuromotor noise in long-term motor skill learning. *Biomechanics and Neural Control of Movement 2016*, Deer Creek, Sterling, OH, June 12-17.
16. Zhang, Z., & Sternad, D. (2016). Variability and stages of motor learning in virtual and real environments.*Biomechanics and Neural Control of Movement 2016*, Deer Creek, Sterling, OH, June 12-17.
17. Zuzarte, I., Hogan, N. & Sternad, D. (2016). Rhythmic manipulation of complex objects with linearized dynamics. *Biomechanics and Neural Control of Movement 2016*, Deer Creek, Sterling, OH, June 12-17.
18. Park, S-W, Tam, H., & Sternad, D. (2016). Practice-induced changes in cortical activity during bimanual skill learning: an EEG study. *Biomechanics and Neural Control of Movement 2016*, Deer Creek, Sterling, OH, June 12-17.
19. Sternad, D., Mukovskiy, A, Ebert, J., & Dijkstra, T. (2016). Dynamic stability in human control of complex objects. *26th Annual Meeting of the Society for Neural Control of Movement (NCM)*, Montego Bay, Jamaica, April 24-29.
20. Lacosse, E., Bause, J., Lohmann, G., Scheffler, K., Schaal, S., & Sternad, D. (2016). Neural control of discrete and rhythmic movements. *26th Annual Meeting of the Society for Neural Control of Movement (NCM)*, Montego Bay, Jamaica, April 24-29.
21. Hogan, N., Marino, H., Charles, S. Sternad, D. (2015). Moving slowly is hard for humans. *Annual Conference of the Society for Neuroscience,* Chicago, October 17-21.
22. Sternad, D., Zuzarte, I., & Hogan, N. (2015). Predictability in complex object control. *Annual Conference of the Society for Neuroscience,* Chicago, October 17-21.
23. Ochoa, J., Sternad, D., & Hogan, N. (2015). Dynamic entrainment of human walking to external mechanical perturbations. *Annual Conference of the Society for Neuroscience,* Chicago, October 17-21.
24. Chiovetto, E., Huber, M., Righetti, L., Schaal, S., Sternad, D., & Giese, M. (2015). Whole-body motor strategies for balancing on a beam when changing the number of available degrees of freedom. *International Conference Progress in Motor Control X*, Budapest, Hungary, July 21-25.
25. Ochoa, J., Sternad, D., & Hogan, N. (2015). Dynamic entrainment to mechanical perturbation in human walking: treadmill vs. overground experiment. *Dynamic Walking 2015,* Ohio State University, July 21-24.
26. Huber, ME, Chiovetto, E., Righetti, L., Schaal, S., Giese, M., & Sternad, D. (2015). From humans to robots and back: Control of locomotory instability in the medio-lateral direction.*Dynamic Walking 2015,* Ohio State University, July 21-24.
27. Chiovetto, E., Huber, ME, Righetti, L., Schaal, S., Sternad, D., & Giese, M. (2015). Whole-body motor strategies for balancing on a narrow beam when changing the number of available degrees of freedom.*Progress in Motor Control X Conference*, Budapest, Hungary, July 22-25.
28. Huber, ME, Chiovetto, E., Righetti, L., Schaal, S., Giese, M., & Sternad, D. (2015). From humans to robots and back: Control of locomotory instability in the medio-lateral direction.*7th International Symposium on Adaptive Motion of Animals and Machines (AMAM 2015)*, Massachusetts Institute of Technology, Cambridge, MA, June 21-25.
29. Huber, M.E., Leeser, M., Sternad, D., & Seitz, A. (2015). Accuracy of Kinect for measuring shoulder joint angles in multiple planes of motion. *IEEE Proceedings for the 11th International Conference on Rehabilitation, Virtual Rehabilitation (ICVR).* Valencia, Spain, June 9-12.
30. Zhang, Z., Hasson, CJ, Abe, MO, & Sternad, D (2015). Error amplification improves performance by reducing motor noise. *Spring Symposium on Internal Models for Sensory, Motor and Cognitive Function.* MIT, April 20-24.
31. Huber, ME, Chiovetto, E., Righetti, L., Schaal, S., Giese, M., & Sternad, D. (2015). From humans to robots and back: Control of locomotory instability in the medio-lateral direction.*25th Annual Meeting of the Society for Neural Control of Movement (NCM)*, Charleston, SC, April 20-24.
32. Chu, V., Park, S-W., Sanger, TD., & Sternad, D. (2015). Dystonic children can learn: Improving sensorimotor performance with solutions that are tolerant to variability. *25th Annual Meeting of the Society for Neural Control of Movement (NCM)*, Charleston, SC, April 20-24.
33. Ebert, J., Park, S-W., & Sternad, D. (2015). Asymmetric learning in an asymmetric bimanual task. *25th Annual Meeting of the Society for Neural Control of Movement (NCM)*, Charleston, SC, April 20-24.
34. Park, S-W, Stead, C, & Sternad, D. (2015). Increase of interhemispheric coherence during acquisition of asymmetric bimanual movements. *25th Annual Meeting of the Society for Neural Control of Movement (NCM)*, Charleston, SC, April 20-24.
35. Zhang, Z., Hasson, CJ, Abe, MO, & Sternad, D (2015). Error amplification improves performance by reducing motor noise. *25th Annual Meeting of the Society for Neural Control of Movement (NCM)*, Charleston, SC, April 20-24.
36. Kuznetsov, N, Huber, ME, & Sternad, D (2015). Neuromotor noise can decrease with long-lasting persistence. *25th Annual Meeting of the Society for Neural Control of Movement (NCM)*, Charleston, SC, April 20-24.
37. Stan, JH, Jarvis, MT, Park, SW, Sternad, D, Mehta, DD & Hillman, RE (2015). Development of a two-dimensional virtual environment to study variability in vocal motor learning. *11th International Conference on Advances in Quantitative Laryngology*, London, UK, April 8-9. Podium presentation.
38. Kuznetsov, N., Sternad, D. (2015). The attraction of rhythm: how discrete events merge into a rhythmic sequence. *Annual Meeting of New England Sequencing and Timing (NEST)*, University of Amherst, MA, March 7.
39. Park, SW, & Sternad, D. (2015). Robust retention of sensorimotor timing in a polyrhythmic task. *Annual Meeting of* *New England Sequencing and Timing* *(NEST)*, University of Amherst, MA, March 7.
40. Seitz, AL., Huber, ME., Leeser, M., Sternad, D. (2014). Accuracy and precision of a low-cost virtual rehabilitation system utilizing the Microsoft Kinect to measure shoulder motion. *Annual Meeting of the American Society of Shoulder and Elbow Therapists*, Pinehurst, NC, October 9-12.
41. Park, S-W, Cowenhoven, J., & Sternad, D (2014). Increase of interhemispheric coherence during acquisition of asymmetric bimanual movements. *44rd Annual Meeting of the Society for Neuroscience*, Washington DC, November 15-19.
42. Ebert, J., Kim, S., Sternad, D., & Schaal, S. (2014). Learning and exploration in a novel dimensionality-reduction task. *24th Annual Meeting of* *Neural Control of Movement*, Amsterdam NL, April 20-25.
43. Ebert, J., Park, S., Cowenhoven, J, & Sternad, D. (2014). Asymmetric learning in an asymmetric bimanual task. RISE, Research, Innovation, Scholarship Expo, Northeastern University, April 10.
44. Cowenhoven, J., Park, S., Ebert, J., & Sternad, D (2014). Cortical activation in an asymmetric bimanual task: An EEG study. RISE, Research, Innovation, Scholarship Expo, Northeastern University, April 10.
45. Guo, D., Huber, ME, & Sternad, D (2014). State space analysis of human timing: timing accuracy limit is 9ms. RISE, Research, Innovation, Scholarship Expo, Northeastern University, April 10.
46. Becherer, K., Harris, PR, Huber, ME, Seitz, AL, Leeser, M, & Sternad, D. (2014). Accuracy and precision of a low-cost virtual rehabilitation system utilizing the Microsoft Kinect to measure shoulder joint motion. RISE, Research, Innovation, Scholarship Expo, Northeastern University, April 10.
47. Zhang, Z, Plummer, P., & Sternad, D. (2013). Asymmetry of lower-extremity coordination during walking in stroke patients. *43rd Annual Meeting of the Society for Neuroscience*, San Diego, November 9-13.
48. Sternad, D. & Hasson, CJ (2013). Older adults learn to increase safety margins in dynamic object manipulation. *43rd Annual Meeting of the Society for Neuroscience*, San Diego, November 9-13.
49. Park, SW, Ebert, J., Sternad, D (2013). Plasticity of interhemispheric interference in an asymmetric task. *43rd Annual Meeting of the Society for Neuroscience*, San Diego, November 9-13.
50. Nasseroleslami, B, Hasson, CJ, Sternad, D (2013). Chaos as source of variability in a discrete manipulation task. *43rd Annual Meeting of the Society for Neuroscience*, San Diego, November 9-13.
51. Huber, ME, Haffner, B. & Sternad, D. (2013). Enhancing sensitivity to timing in a throwing task.  *43rd Annual Meeting of the Society for Neuroscience*, San Diego, November 9-13.
52. Huber, ME & Sternad, D. (2013). Implicit guidance to dynamic stability in rhythmic ball manipulation. *43rd Annual Meeting of the Society for Neuroscience*, San Diego, November 9-13.
53. Hogan, N. & Sternad, D. (2013). Dynamic primitives for learning and performance of complex movements. *43rd Annual Meeting of the Society for Neuroscience*, San Diego, November 9-13.
54. Huber, M. E., Leeser, M., & Sternad, D. (2013). Development of a low-cost, adaptive, clinician-friendly virtual rehabilitation system. *Proceedings of International Conference on Virtual Rehabilitation*, Philadelphia, PA, August 26-29 (**Best Student Poster Award**).
55. Ebert, J., Park, S-W, & Sternad, D (2013). Asymmetric learning in an asymmetric bimanual task. *Northeast Undergraduate Research and Development Symposium*, University of New England, Biddeford, ME, March 2-3.
56. Huber, M.E. & Sternad, D. (2013). Learning to exploit dynamic stability in a motor task. *International Conference of Progress in Motor Control IX*, Montreal, CA, July 13-16.
57. Huber, M.E. & Sternad, D. (2013). Manipulating error tolerance decreases neuromotor noise with long-lasting persistence. *International Conference of Progress in Motor Control IX*, Montreal, CA, July 13-16.
58. Park, S-W., Ebert, J. & Sternad, D. (2013). Learning and retention of an asymmetric bimanual task. *International Conference of Progress in Motor Control IX*, Montreal, CA, July 13-16.
59. Nasseroleslami, B., Hasson, C.J., & Sternad, D. (2013). Dynamic predictability in rhythmic object manipulation. *International Conference of Progress in Motor Control IX*, Montreal, CA, July 13-16.
60. Hasson, C.J., Abe, M.O., Zhang, Z., & Sternad, D. (2013). Error amplification improves performance by reducing neuromotor noise. *International Conference of Progress in Motor Control IX*, Montreal, CA, July 13-16.
61. Nasseroleslami, B., Hasson, C.J., & Sternad, D. (2013). Dynamic predictability in rhythmic object manipulation. *23rd Annual Meeting of the Society for Neural Control of Movement,* San Juan, Puerto Rico, April 16-20.
62. Hasson, C.J., Abe, M.O., Zhang, Z., & Sternad, D. (2013). Error amplification improves task performance by reducing motor noise. *23rd Annual Meeting of the Society for Neural Control of Movement*, San Juan, Puerto Rico, April 16-20.
63. Lunardini, F., Bhanpuri, N., Bertucco, M., Casellato, C., Pedrocchi, A., Sternad, D. & Sanger, T.D. (2013). Poor motor performance and motor learning in childhood dystonia: speed-accuracy and movement variability in complex daily life activities. *23rd Annual Meeting of the Society for Neural Control of Movement*, San Juan, Puerto Rico, April 16-20.
64. Hasson, C.J., Abe, M.O., & Sternad, D. (2012). How does error amplification improve task performance? *Translational and Computational Motor Control 2012*, New Orleans, October 12.
65. Hasson, C.J., Abe, M.O., & Sternad, D. (2012). Effects of deterministic and stochastic error amplification on skilled performance. *42th Annual Meeting of the Society for Neuroscience*, New Orleans, October 13-17.
66. Park, S.-W., Hogan, N., & Sternad, D. (2012). Coordinate invariance of variability analysis: A revised covariation cost analysis. *42th Annual Meeting of the Society for Neuroscience*, New Orleans, October 13-17.
67. Huber, M., Kyvelidou, A., & Sternad, D. (2012). Information signaling error tolerance accelerates learning with long-term retention. *42th Annual Meeting of the Society for Neuroscience*, New Orleans, October 13-17.
68. Hasson, C.J., Nasseroleslami, B., Krakauer, J.W., & Sternad, D. (2012). Can object dynamics be learnt with vision alone? *42th Annual Meeting of the Society for Neuroscience*, New Orleans, October 13-17.
69. Nasseroleslami, B., Hasson, C.J., & Sternad, D. (2012). Dynamic predictability in the manipulation of complex objects. *42th Annual Meeting of the Society for Neuroscience*, New Orleans, October 13-17.
70. Kyvelidou, A., Villalobos, R., Sternad, D., & Plummer d’Amato, P. (2012). The effect of dual-task gait training on obstacle negotiation after stroke: A case study. *American Congress of Rehabilitation Medicine,* Vancouver, CA, October 9-13.
71. Marino, H., Duarte, M., Charles, S., Dipietro, L., Hogan, N., & Sternad, D. (2012). Transitions between rhythmic and discrete performance in unimanual movements. *Neural Control of Movement*, Venice, Italy, April 23-29.
72. Hasson, C.J., & Sternad, D. (2012). Safety margins and variability in a redundant object manipulation task. *Neural Control of Movement*, Venice, Italy, April 23-29.
73. Huber, M.E., Kyvelidou, A., & Sternad, D. (2012). Augmentation of perceived visual error improves control and enhances retention of a discrete task. *Neural Control of Movement*, Venice, Italy, April 23-29.
74. Hasson, C.J., & Sternad, D. (2011). Variability, safety margins, and redundancy in a timing task. *New England Sequencing and Timing (NEST),* University of Massachusetts at Amherst, March 10.
75. Hogan, N., & Sternad, D. (2011). Identifying synergies with coordinate-free methods. *41st Annual Meeting of the Society for Neuroscience*, Washington DC, November 12-16.
76. Park, S. & Sternad, D. (2011). Individual differences in learning and retention of a complex skill. *41st Annual Meeting of the Society for Neuroscience*, Washington DC, November 12-16.
77. Hasson, C.J., & Sternad, D. (2011). Controlling an oscillating system near its resonance frequency. *41st Annual Meeting of the Society for Neuroscience*, Washington DC, November 12-16.
78. Chu, V.T., Sanger, T.D., & Sternad, D. (2011). Convergence to an implicit target movement in children and adults. *41st Annual Meeting of the Society for Neuroscience*, Washington DC, November 12-16.
79. Farjadian, A., Park, S., & Sternad, D. (2011). Performance improvement by optimizing error tolerance and covariation but not noise. *41st Annual Meeting of the Society for Neuroscience*, Washington DC, November 12-16.
80. Hasson, C.J., Shen, T., & Sternad, D. (2011). Seeking safe strategies for transporting complex objects. *Advances in Computational Motor Control, Satellite Workshop* at the *41st Annual Meeting of the Society for Neuroscience*, Washington DC, November 11.
81. Farjadian, A., Geipel, A., Park, S., & Sternad, D. (2011). Improving performance by optimizing error tolerance and covariation but not noise. *Progress in Motor Control VIII*, Cincinnati, OH, July 21-23.
82. Hasson, C.J., Shen, T., & Sternad, D. (2011). Continuous energy margins and end-state accuracy in the control of objects with complex dynamics. *Progress in Motor Control VIII*, Cincinnati, OH, July 21-23.
83. Park, S., & Sternad, D. (2011). Learning an asymmetrical bimanual task: Decoupling of rhythmic and discrete movements. *Progress in Motor Control VIII*, Cincinnati, OH, July 21-23.
84. Hasson, C.J., Shen, T., & Sternad, D. (2011). Learning to control objects with time-varying energy constraints. *Neural Control of Movement*, San Juan, Puerto Rico, April 26 – May 1.
85. Cohen, R. & Sternad, D. (2011). A state space analysis of intrinsic timing in throwing. *Neural Control of Movement*, San Juan, Puerto Rico, April 26 – May 1.
86. Cohen, R. & Sternad, D. (2011). A state space analysis of intrinsic timing. *NEST New England Sequencing and Timing*, University of Massachusetts in Amherst, March 5.
87. Sternad, D., Hasson, C.J., Abe, M.O., & Huang, X. (2010). Enhanced motor adaptation with stochastic error amplification. *40th Annual Meeting of the Society for Neuroscience*, San Diego, CA, November 13-17.
88. Hasson, C.J, Shen, T., Abe, M.O. & Sternad, D. (2010). Taking advantage of a “free lunch” when transporting dynamic objects. *40th Annual Meeting of the Society for Neuroscience*, San Diego, CA, November 13-17.
89. Park, S., Dijkstra, T.M.H., & Sternad, D. (2010). Transfer effects in polyrhythmic bimanual coordination. *40th Annual Meeting of the Society for Neuroscience*, San Diego, CA, November 13-17.
90. Duarte, M. Charles, S., DiPietro, L., Sternad, D., & Hogan, N. (2010). Transitions between rhythmic and discrete performance in unimanual movements. *40th Annual Meeting of the Society for Neuroscience*, San Diego, CA, November 13-17.
91. Ronsse, R. & Sternad, D. (2010). Bouncing between models and data: Stability, passivity, and optimality in hybrid dynamics.  *Forum of European Neuroscience, Satellite Symposium on Motor Control,* Radboud University of Nijmegen, Netherlands, July 1-2.
92. Sternad, D., & Raftery, A. (2010). Preferred period and resonance tuning in a rhythmic motor task: central and peripheral contributions and long-term stability. *Forum of European Neuroscience, Satellite Symposium on Motor Control,* Radboud University of Nijmegen, Netherlands, July 1-2.
93. Sternad, D., & Raftery, A. (2010). Preferred period and resonance tuning in a rhythmic motor task: central and peripheral contributions and long-term stability. *Neural Control of Movement*, Naples, FL, April 20-25.
94. Chu, V., Sternad, D., & Sanger, T. (2009). Learning a redundant task in adults and children. *39th Annual Meeting of the Society for Neuroscience*, Chicago, IL, October 17-21.
95. Pendt, L.K., Müller, H., & Sternad, D. (2009). Changes in variability in motor learning in patients with Parkinson’s Disease. *39th Annual Meeting of the Society for Neuroscience*, Chicago, IL, October 17-21.
96. Park, S., Dijkstra, T.M.H., & Sternad, D. (2009). Learning of polyrhythmic synchronization in bimanual coordination and its retention after 8 years. *39th Annual Meeting of the Society for Neuroscience*, Chicago, IL, October 17-21.
97. Duarte, M., Sternad, D., Charles, S., DiPietro, L., & Hogan, N. (2009). Transitions between rhythmic and discrete performance in unimanual movements. *39th Annual Meeting of the Society for Neuroscience*, Chicago, IL, October 17-21.
98. Abe, M., & Sternad, D. (2009). Trial-to-trial adaptations in a redundant goal-directed task: Identification of factors contributing to error reduction. *39th Annual Meeting of the Society for Neuroscience*, Chicago, IL, October 17-21.
99. Abe, M., & Sternad, D. (2009). Trial-to-trial adaptations in alignment with the solution manifold in a redundant task. *Progress in Motor Control VII*, Marseille, France, July 23-25.
100. Park, S. Dijkstra, T.M.H., & Sternad, D. (2009). Changes in variability in motor learning in patients with Parkinson’s disease. *Progress in Motor Control VII*, Marseille, France, July 23-25.
101. Pendt, L., Müller, H., & Sternad, D. (2009). Dynamics of a complex bimanual task during practice and long-term retention. *Progress in Motor Control VII*, Marseille, France, July 23-25.
102. Abe, M., & Sternad, D. (2009). Trial-to-trial adaptations in alignment with the solution manifold in a redundant task. *Computational principles of sensorimotor learning*, Kloster Irsee, Germany, September 13-15.
103. Abe, M.O, & Sternad, D. (2009). Trial-to-trial fluctuations in a goal-directed task: Redundancy and neuromotor noise. *19th Annual Conference of Neural Control of Movement*, Waikoloa Beach, April 28 – May 3.
104. Chu, V.T., Sternad, D., & Sanger, T. (2009). Effect of movement variability on movement performance and learning. *19th Annual Conference of Neural Control of Movement*, Waikoloa Beach, April 28 – May 3.
105. Park, S., Dijkstra, T.M., & Sternad, D. (2009). Dynamics of a complex bimanual task during practice and long-term retention. *New England Sequencing and Timing (NEST),* Haskins Laboratories, New Haven, March 6.
106. Park, S., Dijkstra, T.M., & Sternad, D. (2009). Dynamics of a complex bimanual task during practice and long-term retention. *Dynamics Days 2009*, *International Conference on Chaos and Nonlinear Dynamics,* San Diego, CA, January 8-11.
107. Abe, M.O. & Sternad, D. (2008). Persistence and noise in trial-to-trial fluctuations depend on the direction of null space in redundant tasks. *38th Annual Meeting of the Society for Neuroscience*, Washington, DC, November 15-19.
108. Sternad, D., Wei, K., & Boonstra, T. (2008). Variability and stability in learning and adaptation of a rhythmic ball task. *38th Annual Meeting of the Society for Neuroscience*, Washington, DC, November 15-19.
109. Ronsse, R., Wei, K., & Sternad, D. (2008). Optimal feedback control of rhythmic movements – The bouncing ball revisited. *38th Annual Meeting of the Society for Neuroscience*, Washington, DC, November 15-19.
110. Hogan, N., Müller, H., & Sternad, D. (2008). Covariance cannot unambiguously reveal controlled variables. *38th Annual Meeting of the Society for Neuroscience*, Washington, DC, November 15-19.
111. Chu, V.T., Sternad, D., & Sanger, T.D. (2008). The role of noise on motor learning in children with dyskinetic cerebral palsy. *38th Annual Meeting of the Society for Neuroscience*, Washington, DC, November 15-19.
112. Chu, V., Sternad. D., & Sanger, T. (2008). Strategy to minimize motor performance errors in children with dyskinetic cerebral palsy. *Annual Fall Meeting of the Biomedical Engineering Society*, St. Louis, MO, Oct 2-4.
113. Abe, M.O., Gupta, A., Long, L., & Sternad, D. (2008). Perception of load in human walking. *The Turvey Transition*, University of Connecticut, June 19-21, 2008.
114. Abe, M.O., Gupta, A., Long, L., & Sternad, D. (2008). Perception of load in human walking. *Neural Control of Movement*, Naples, FL, April 29 - May 4.
115. Sternad, D. (2008). Variability, covariation and sensorimotor noise in motor learning and retention. *Neural Control of Movement*, Naples, FL, April 29 - May 4.
116. Cohen, R., & Sternad, D. (2007). Variability is more than just noise: quantification of exploration, sensitivity to error, and covariation. *37th Annual Meeting of the Society for Neuroscience*, San Diego, CA, November 3-7.
117. Ronsse, R., Sternad, D, & Lefevre, P (2007). A computational model for discrete and rhythmic movements in unimanual and bimanual coordination. *37th Annual Meeting of the Society for Neuroscience*, San Diego, CA, November 3-7.
118. Abe, M.O., Cohen, R., Sternad, D. (2007). Influence of ‘success’ criteria on trial-to-trial fluctuations in a discrete goal-directed task. *37th Annual Meeting of the Society for Neuroscience*, San Diego, CA, November 3-7.
119. Wei, K., Hogan, N., & Sternad, D. (2007). Effects of load on the interaction between rhythmic and discrete unimanual movements. *37th Annual Meeting of the Society for Neuroscience*, San Diego, CA, November 3-7.
120. Hu, X., & Sternad, D. (2007). Internal variability constrained to task-irrelevant directions in skill acquisition and control. *37th Annual Meeting of the Society for Neuroscience*, San Diego, CA, November 3-7.
121. Hu, X., & Sternad, D. (2007). Sensitivity and processing of system-internal noise in the control of a discrete task. *37th Annual Meeting of the Society for Neuroscience*, San Diego, CA, November 3-7.
122. Cohen, R., & Sternad, D. (2007). Shift, shuffle, and shrink: Three components of performance improvement in a throwing task. *European Workshop on Movement Science*, Amsterdam, May 31- June 1, 2007.
123. Cohen, R. & Sternad, D. (2007). Skill learning and refinement in a redundant task: Minimizing timing errors with an "equifinal trajectory". Annual meeting of *NEST (New England Sequencing and Timing),* New Haven, CT, March 9.
124. Hogan, N., & Sternad, D. (2006). Rhythmic and discrete movements: Definitions and implications for motor control. *36th Annual Meeting of the Society for Neuroscience*, Atlanta, GA, October 14-18.
125. Wei, K., Dijkstra, T., & Sternad, D. (2006). Passive stability, perturbations, and active control in a rhythmic task. *36th Annual Meeting of the Society for Neuroscience*, Atlanta, GA, October 14-18.
126. Cohen, R., & Sternad, D. (2006). Skill learning and refinement: The role of timing, noise reduction and equifinality in a throwing task. *36th Annual Meeting of the Society for Neuroscience*, Atlanta, GA, October 14-18.
127. Neralla, A., Yu, H., & Sternad, D. (2006). Cortical and subcortical control of uni- and bimanual smoothly rhythmic and intermittent movements. *36th Annual Meeting of the Society for Neuroscience*, Atlanta, GA, October 14-18.
128. Lee, M., Roan, M., Sternad, D. & van Werkhoven, H. (2006). Gait analysis to detect hidden external loads. *Biomedical Engineering Society Fall Meeting*, Chicago, IL, October 11-14.
129. Müller, H., Sternad, D. (2006). Hit the target – how to handle stochastic influences in goal-oriented movements. *11th annual Congress of the European College of Sport Science,* Lausanne, Switzerland, July 5-8.
130. Ehrlenspiel, F. Wei, K., & Sternad, D. (2006). Not a joke: no choking under pressure in a ball bouncing task. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Denver, CO, June 1-3.
131. Yu, H., Fuchs, A., & Sternad, D. (2006). Two types of control for rhythmic and discrete movements? New results from fMRI. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Denver, CO, June 1-3.
132. Erdley, J., Weiss, L., Long, L., Sternad, D., Murphy, K., Roan, M. (2006). Predicting precursors to IED deployment. *7th International Symposium on Technology and the Mine Problem*, Monterey, CA, May 2-4.
133. Sternad, D., Boonstra, T., Wei, K. (2006). Variability and stability in learning and adaptation of a rhythmic ball task. *Neural Control of Movement*, Key Biscaine, FL, May 2-8.
134. Weiss, L., Long, L., Sternad, D., Murphy, K., Erdley, J. & Roan, M. (2006). Predicting precursors to IED deployment. *NRL Conference*, Monterey, CA, March 1.
135. Yu, H., Fuchs, A., Sternad, D. (2005). Two types of control for rhythmic and discrete movements? New results from fMRI. *35th Annual Meeting of the Society for Neuroscience*, Washington, DC, November 12-16.
136. Neralla, A., Yu, H., Sternad, D. (2005). Uni- and bimanual performance of rhythmic and non-rhythmic movements. *35th Annual Meeting of the Society for Neuroscience*, Washington, DC, November 12-16.
137. Yu, H, Sternad, D, Corcos, D.M, & Vaillancourt, D.E (2005). Ipsilateral cerebellum activation is increased in patients with Parkinson's Disease during thumb flexion. *35th Annual Meeting of the Society for Neuroscience*, Washington, DC, November 12-16.
138. Sternad, D., Wei, K., & Dijkstra, T.M.H. (2005). Stochastic contributions to steady state performance of bouncing a ball on a racket. *11th International Congress de L’ACAPS*, Paris, France, October, 26-28.
139. Sternad, D. (2005). Decomposition of variability in throwing – Three components of skill improvement. *11th International Congress de L’ACAPS*, Paris, France, October, 26-28.
140. Müller, H., & Sternad, D. (2005). Hit the target! - How to handle stochastic influences in goal directed throwing. *ESF-EMBO Symposium on Three Dimensional Sensory and Motor Space: Probabilistic Mechanisms of Learning and Development in Sensorimotor Systems*, Barcelona, Spain, October 8-13.
141. Boonstra, T.A., Wei, K., Beek, P.J., & Sternad, D. (2005). Variability and stability during the acquisition of ball bouncing. *ESF-EMBO Symposium on Three Dimensional Sensory and Motor Space: Probabilistic Mechanisms of Learning and Development in Sensorimotor Systems*, Barcelona, Spain, October 8-13.
142. Boonstra, T.A., Wei, K., Beek, P.J., & Sternad, D. (2005). Variability and stability during the acquisition of ball bouncing. *International Conference on Progress in Motor Control V – A Multidisciplinary Perspective*, State College, PA, August 17-20.
143. Raftery, A., Cusumano, J.P., & Sternad, D. (2005). Attentional influences on resonance tuning in rhythmic movements. *International Conference on Progress in Motor Control V – A Multidisciplinary Perspective*, State College, PA, August 17-20.
144. Wei, K., Dijkstra, T.M.A., & Sternad, D. (2005). Passive stability and active control in a rhythmic ball bouncing task. *International Conference on Progress in Motor Control V – A Multidisciplinary Perspective*, State College, PA, August 17-20.
145. Yu, H., Sternad, D., Corcos, D.M., & Vaillancourt, D.E. (2005). Hyper- and hypo-activation of cortical and subcortical structures during rhythmic thumb movements in Parkinson's disease. *International Conference on Progress in Motor Control V – A Multidisciplinary Perspective*, State College, PA, August 17-20.
146. Reiser, M., Müller, H., Sternad, D. (2005). Covariation and equifinality in goal-oriented throwing tasks. *International Conference on Progress in Motor Control V – A Multidisciplinary Perspective*, State College, PA, August 17-20.
147. Maybhate, A., Russell, D.M., & Sternad, D. (2005). Acquisition and retention of a bimanual rhythmic skill with 1:3 coordination. *International Conference on Progress in Motor Control V – A Multidisciplinary Perspective*, State College, PA, August 17-20.
148. Duarte, M., Maybhate, A., & Sternad, D. (2005). Complexity of human postural control: Alterations with aging. *International Conference on Progress in Motor Control V – A Multidisciplinary Perspective*, State College, PA, August 17-20.
149. Katsumata, H., Imanaka, K, & Sternad, D. (2005). Joint and muscle activity in rhythmic ball bouncing. *International Conference on Progress in Motor Control V – A Multidisciplinary Perspective*, State College, PA, August 17-20.
150. Boonstra, T., Wei, K., Beek, P.J., & Sternad, D. (2005). Variability and stability in the acquisition of a rhythmic ball bouncing task. *13th International Conference on Perception and Action*, Monterey, CA, July 5-10.
151. Wei, K., & Sternad, D. (2005). Multimodal perception information in ball bouncing task. *13th International Conference on Perception and Action*, Monterey, CA, July 5-10.
152. Sternad, D. (2005). Bouncing a ball: dialogue between data and model. *13th International Conference on Perception and Action*, Monterey, CA, July 5-10.
153. Sternad, D. (2005). Neural and mechanical contributions to rhythmic timing. *13th International Conference on Perception and Action*, Monterey, CA, July 5-10.
154. Sternad, D. (2005). Discrete and rhythmic elements as units of complex behaviors. *Neural Control of Movement*, Key Biscayne, FL, April 12-17.
155. Sternad, D. (2005). Resonance constraints in rhythmic movements. *15th Meeting New England Sequencing and Timing*, Yale University, New Haven, CT, March 5.
156. Sternad, D. (2004). Resonance in rhythmic timing. *28th International Congress in Psychology*, Beijing, August, 8-13.
157. Wei, K., Wagner, H., & Sternad, D. (2004). Discrete and rhythmic ball bouncing. *8th International Conference on Cognitive and Neural Systems*, Boston, MA, May 19-23.
158. Sternad, D. (2004). Resonance in rhythmic timing. *8th International Conference on Cognitive and Neural Systems*, Boston, MA, May 19-23.
159. Sternad, D. & Müller, H. (2004). Decomposition of variability in the execution of goal-oriented tasks – Three components of skill improvement. *Satellite Conference on Skill Learning*, Barcelona, Spain, March 25 –28.
160. Sternad, D. (2004). The role of resonance in rhythmic timing. *Neural Control of Movement*, Sitges, Spain, March 30 - April 4.
161. Sternad, D. Yu, H., & Fuchs, A. (2003). Rhythmic timing and brain function: a fMRI study. *International Conference of Neuroscience*, New Orleans, LA, Nov 8-12.
162. De Rugy, A., Wei, K., Müller, H., & Sternad, D. (2003). Actively tracking “passive” stability in a ball bouncing task. Presentation at the *International Conference on Motor Control*, Caen, France, August 20-23.
163. Yu, H., & Sternad, D. (2003). Rhythmic timing: fMRI and behavioral studies.Presentation at the *International Conference on Motor Control*, Caen, France, August 20-23.
164. Wei, K., Diedrichsen, J., Ivry, R., & Sternad, D. (2003). Rhythmic and discrete elements in bimanual coordination of healthy and split-brain subjects. Presentation at the *International Conference on Motor Control*, Caen, France, August 20-23.
165. Katsumata H., & Sternad D. (2003). Visual and haptic information for the organization of rhythmic ball bouncing. Presentation at the *International Conference on Motor Control*, Caen, France, August 20-23.
166. Sternad, D. (2003). Tuning into dynamic stability: Acquisition and performance of a rhythmic ball skill. Presentation at the *International Conference on Motor Control*, Caen, France, August 20-23.
167. De Rugy, A., & Sternad, D. (2003). Actively tracking passive stability. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Savannah, GA, June 20-23.
168. Katsumata, H., & Sternad, D. (2003). Visual and haptic information for the organization of rhythmic ball-bouncing. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Savannah, GA, June 20-23.
169. Sternad, D. (2002). Discrete and rhythmic dynamics as primitives in the control and coordination of action: Behavioral data and a dynamical model. *Symposium on Dynamical Systems for Diagnosis and Prognosis*, Pennsylvania State University, University Park, PA, October 14.
170. de Rugy, A., & Sternad, D. (2002). Interaction between discrete and rhythmic movements: Experiment and a simple model. *32nd Annual Meeting of the Society for Neuroscience*, Orlando, FL, November 3-6.
171. Wei, K., Wertman, G., & Sternad, D. (2002). Effects of load on timing in a complex single-joint task. Presented at the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Baltimore, MD, June.
172. Katsumata, H., Zatsiorsky, V., & Sternad, D. (2002). Control of ball-racket collisions in rhythmic ball manipulation. Presented at the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Baltimore, MD, June.
173. Sternad, D. (2002). Period drift and variability in a rhythmic coordination task – Signatures of an oscillator. Presented at the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Baltimore, MD, June.
174. Sternad, D., & Dean, W. (2002). Rhythmic and discrete elements in multijoint coordination. Presented at the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Baltimore, MD, June.
175. de Rugy, A., Pataky, T., & Sternad, D., (2002). Bidirectional interaction between discrete and rhythmic elements in a single-joint task. Presented at the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Baltimore, MD, June.
176. Yu, H., Russell, D.M., & Sternad, D.(2002). Task-effector asymmetry in a rhythmic continuation task. Presented at the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Baltimore, MD, June.
177. De Rugy, A., Pataky, T., & Sternad, D. (2002). Bidirectional interaction between discrete and rhythmic movements: Experiment and model. *6th International Conference on Cognitive and Neural Systems*, Boston, MA, May 30- June 1.
178. Yu, H., Russell, D.M., & Sternad, D. (2002). Task-effector asymmetry in a rhythmic continuation task. *Coordination Dynamics 2002*, Boca Raton, FL, May 9-12.
179. Sternad, D., Wei, K., & Dean, W.J. (2002). Discrete and rhythmic dynamics as units of coordinated action: Behavioral and brain imaging results. *Coordination Dynamics 2002*, Boca Raton, FL, May 9-12.
180. de Rugy, A., Pataky, T., & Sternad, D. (2002). Bidirectional interaction between discrete and rhythmic elements in a single-joint task. *Coordination Dynamics 2002*, Boca Raton, FL, May 9-12.
181. Wei, K. & Sternad, D. (2002). Rhythmic and discrete elements in unimanual and bimanual tasks. *First Mid-Atlantic Motor Behavior Meeting,* University of Delaware, Newark, DE, April 13.
182. Sternad, D., Yu, H., & Russell, D. (2002). Task-effector asymmetry in a rhythmic continuation task. *First Mid-Atlantic Motor Behavior Meeting,* University of Delaware, Newark, DE, April 13.
183. Sternad, D., Yu, H., & Russell, D. (2002). Systematic drift toward the eigenperiod in a rhythmic continuation task. *12thAnnual meeting New England Sequencing and Timing (NEST).* New Haven, CT, March 16.
184. Sternad, D., Wei., & Dean, W. (2001). Rhythmic and discrete dynamics as units of discrete action: Behavioral data, a dynamic model, and brain imaging results. *31rst Annual Meeting of the Society for Neuroscience*, San Diego, CA, November 10-15.
185. Schaal, S., Sternad, D., Osu R., & Kawato, M. (2001). Rhythmic movement is not discrete. *31rst Annual Meeting of the Society for Neuroscience*, San Diego, CA, November 10-15.
186. Mohajerian, P., Sternad, D., & Schaal. S. (2001). Arm motor control based on superimposed rhythmic and discrete movement primitives. *31st Annual Meeting of the Society for Neuroscience*, San Diego, CA, November 10-15.
187. Katsumata, H. & Sternad, D. (2001). Acquisition and performance of a rhythmic ball skill: Tuning into dynamic stability.  *3rd International Symposium in Progress in Motor Control,* Montreal, August 15-18.
188. Sternad D., Dean, W.J., & Schaal, S. (2001). Extrinsic and intrinsic constraints in 3D drawing performed by 7-dof arm movements. *3rd International Symposium in Progress in Motor Control,* Montreal, August 15-18.
189. Yu, H., Russell, D.M., & Sternad, D. (2001). The role of biomechanical factors for period drifts observed in a rhythmic continuation task. *3rd International Symposium in Progress in Motor Control*, Montreal, August 15-18.
190. Sternad, D., Wei, K. Wertman, G., & Dean, W.J. (2001). Interaction of rhythmic and discrete elements in unimanual and bimanual actions. *3rd International Symposium in Progress in Motor Control,* Montreal, August 15-18.
191. Sternad, D., Wei, K., Wertman, G., & Dean, W.J. (2001). Rhythmic and discrete units in unimanual and bimanual actions. *10th International Conference for Perception and Action*, Storrs, CT, June.
192. Sternad, D., Dean, W.J., & Schaal , S. (2001). Extrinsic and intrinsic constraints in tracking and free drawing movements performed by the 7-dof arm in 3D. *10th International Conference for Perception and Action,* Storrs, CT, June.
193. Katsumata, H., & Sternad, D. (2001). Attunement to dynamic stability in short-term learning and long-term expertise. *10th International Conference for Perception and Action*, Storrs, CT, June.
194. Russell, D.M., Yu, H., & Sternad, D. (2001). The maintenance tendency during a rhythmic continuation task. *10th International Conference for Perception and Action,* Storrs, CT, June.
195. Russell, D.M., & Sternad, D. (2001). Task-effector asymmetries influence clock and motor variance in a rhythmic continuation task. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA),* St Louis, MO, June.
196. Katsumata, H., & Sternad, D. (2001). The role of dynamic stability in the acquisition and performance of a rhythmic skill. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA*), St Louis, MO, June.
197. Sternad, D., Dean, W.J., & Schaal, S. (2000). Curvature in 3D pattern performed by 7-dof arm movement as evidence for joint level coordination. *30th Annual Meeting of the Society for Neuroscience,* New Orleans, LA, November 4-9.
198. Katsumata, H., & Sternad, D. (2000). Dynamic stability and perceptual adjustments in a rhythmic perceptual-motor task. *30th Annual Meeting of the Society for Neuroscience,* New Orleans, LA, November 4-9.
199. Sternad, D., & Katsumata, H. (2000). The role of dynamic stability for the acquisition and performance of a rhythmic skill. *International Scientific Conference Motor Control 2000 at the Academy of Physical Education*, Katowice, Poland, October 27 - 29.
200. Russell, D.M., & Sternad, D. (2000). Oscillator asymmetries in perception-action coordination*. 10th Annual Meeting of The Society for Chaos Theory in Psychology and Life Sciences,* University of Pennsylvania, Philadelphia, PA, July 20-23.
201. Russell, D.M. & Sternad, D. (2000). Limitations in applicability of coupled-oscillator models to perception-action coordination. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA),* San Diego, CA, June.
202. Sternad, D., Dean, W.J., & Pataky, T.C. (2000). Rhythmic and discrete primitives in single-joint and two-joint actions. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA*), San Diego, CA, June.
203. Katsumata, H., Duarte, M., & Sternad, D. (2000). Time series analyses in ball bouncing: Relative phase and harmonicity. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA*), San Diego, CA, June.
204. Schaal, S., Sternad, D., Osu, R., & Kawato, M. (2000). Comparing functional brain anatomy in discrete and rhythmic movement. *Conference Neural Control of Movement,* Key West, FL, April 14-17.
205. Barry, B., Carroll, T.J., Sternad, D., Riek, S. & Carson, R.G. (2000). Cognitive and musculo-skeletal constraints on perception-action coupling: Wachholder revisited. *Fifth Biennial Motor Control and Human Skill Research Workshop,* Surfers Paradise, Queensland, Australia, January 27-30.
206. Sternad, D., Dean, W.J., & Schaal, S. (1999). A unified account for rhythmic and discrete actions with programmable pattern generators. *29th Annual Meeting of Neuroscience*, Miami, FL, October 22-25.
207. Sternad, D. (1999). A unified framework for discrete and rhythmic movement primitives *Progress in Motor Control II, Structure and Function in Voluntary Movements, Pennsylvania State University*, University Park, PA, August 19-22.
208. Sternad, D., Katsumata, H., Duarte, M. & Schaal, S. (1999). Rhythmic bouncing of a ball: The role of perceptual information in dynamically stable movement solutions. *Progress in Motor Control II, Structure and Function in Voluntary Movements,* Pennsylvania State University, University Park, PA, August 19-22.
209. Dean, W.J., Newell, K.M., & Sternad, D. (1999). Force and timing relations in rhythmic tapping. *Progress in Motor Control II, Structure and Function in Voluntary Movements,* Pennsylvania State University, University Park, PA, August 19-22.
210. Sternad, D., Dean, W.J., & Schaal, S. (1999). Interaction of discrete and rhythmic dynamics in single-joint movements*. 10th International Conference for Perception and Action*, Edinburgh University, Scotland, August 8-13.
211. Sternad, D., Katsumata, H., Duarte, M., & Schaal, S. (1999). Perceptual information and dynamic stability in a one-handed juggling task. *Tenth International Conference for Perception and Action*, Edinburgh University, Scotland, August 8-13.
212. Dean, W.J., Newell, K.M., & Sternad, D. (1999). Force and timing variability and natural frequency in rhythmic tapping. *Tenth International Conference for Perception and Action*, Edinburgh University, Scotland, August 8-13.
213. Russell, D. M. & Sternad, D. (1999). Changes in multifrequency coordination across practice. Presented at the *10th International Conference for Perception and Action*, Edinburgh University, Scotland, August 8-13.
214. Sternad, D. (1999). Dynamic stability and variability in rhythmic bouncing of a ball.*10th International Conference for Perception and Action*, Edinburgh University, Scotland, August 8-13, 1999.
215. Sternad, D., Dean, W.J., and Schaal, S. (1999). A unified account for rhythmic and discrete actions. Presented at the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Clearwater Beach, FL, June 10-13.
216. Sternad, D., Katsumata, H., Duarte, M., & Schaal, S. (1999). Rhythmic bouncing of a ball: Perceptual information in dynamically stable movement solutions performed in 1D and 3D. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Clearwater Beach, FL, June 10-13.
217. Dean, W.J., Newell, K.M., and Sternad, D. (1999). Natural frequency and its effect on timing and force production. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Clearwater Beach, FL, June 10-13.
218. Russell, D. M. & Sternad, D. (1999). Visuo-motor tracking as perception-action coupling. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Clearwater Beach, FL, June 10-13.
219. Sternad, D. (1999). Interaction of discrete and rhythmic dynamics in single-joint movements. *New England Sequencing and Timing Conference* *(NEST)*, Providence, RI, March 6.
220. Schaal, S. & Sternad, D. (1998). The 2/3 power law: Origins and violations. *28th Annual Meeting of Neuroscience*, Los Angeles, CA, November 7–12.
221. Sternad, D. & Schaal, S. (1998). Segmentation of endpoint trajectories does not imply segmented control. *28th Annual Meeting of Neuroscience*, Los Angeles, CA, November 7–12.
222. Schaal, S. & Sternad, D. (1998). Programmable pattern generators. *International Conference on Computational Intelligence in Neuroscience (ICCIN ’98)*, Research Triangle Park, NC, October.
223. Dingwell, J.B., Cusumano, J. P. Sternad, D. & Cavanagh, P. R. (1998). Using Lyapunov exponents to quantify dynamic stability during continuous overground locomotion. *North American Congress on Biomechanics*, August 14-18.
224. Dingwell J.B., Cusumano J.P., Sternad, D. & Cavanagh P.R. (1998). Beyond 3D: A Nonlinear dynamics approach to the analysis of human locomotion. *5th International Symposium on 3D Analysis of Human Movement*, Chattanooga, TN, July 1-4.
225. Sternad, D. (1998). A nonlinear dynamic model for ball juggling. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, St. Charles, IL, June 11-14.
226. Sternad, D., Mears P.S., Woods, J., Russell, D.M. (1998). Perception-action coupling in a rhythmic tracking task. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, St. Charles, IL, June 11-14.
227. Sternad, D., Dean, W.J. & Newell, K.M. (1998). Variability in timing and force production in rhythmic tapping. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, St. Charles, IL, June 11-14.
228. Sternad, D. (1998). Learning and transfer in multifrequency coordination. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, St. Charles, IL, June 11-14.
229. Sternad, D. (1998). 2/3 power law and movement segmentation in 3D arm movements. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, St. Charles, IL, June 11-14.
230. Schaal, S. & Sternad, D. (1998). Origins and violations of the 2/3 power law in rhythmic 3D arm movements. *Second International Conference on Cognitive and Neural Systems (CNS ‘98)*, Boston, MA, May 27-30.
231. Sternad, D. & Schaal, S. (1998). Segmentation of endpoint trajectories does not imply segmented control: 3D arm movements in human and robot “subjects”. *Second International Conference on Cognitive and Neural Systems (CNS ‘98)*, Boston, MA, May 27-30.
232. Sternad, D. (1998). Segmentation of endpoint trajectories does not imply segmented control. *Neural Control of Movement*, Key West, FL, April.
233. Sternad, D. (1997). The dynamic systems approach to movement control. *"Sport Kinetics '97"*, Magdeburg, Germany, September.
234. Sternad, D. (1997). Oscillatory dynamics for multi-joint coordination. *Conference of the International Ecological Psychology*, Toronto, Canada, July.
235. Dingwell, J., Sternad, D. & Cavanagh, P. (1997). Variability in walking in neuropathic and non-neuropathic patients. *Conference of the International Ecological Psychology*, Toronto, Canada, July.
236. Sternad, D. Russell, M.D., & Schaal, S. (1997). Rhythmic Bouncing of a Ball: Dynamic Stability and the Role of Visual and Haptic Perception. *Conference of the International Ecological Psychology*, Toronto, Canada, July.
237. Sternad, D. (1997). Promises of the dynamic systems approach to movement coordination. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Denver, CO, May.
238. Sternad, D., Lelivelt, A.B., & Newell, K.M. (1997). Variability in force and time in rhythmic unimanual tapping. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Denver, CO, May.
239. Sternad, D., & Schaal, S. (1996). Bouncing a ball: The role of perceptual information. *Dynamical Neuroscience: Traversing Scales of Organization*, University of Maryland, Washington, DC, November.
240. Sternad, D., & S.Schaal (1996). Bouncing a ball: The role of perceptual information. *Progress in Motor Control: Bernstein's traditions in motor control*, Pennsylvania State University, State College, PA, August.
241. Sternad, D., Turvey, M.T., & Saltzman, E.L. (1996). Coupling in serial coordination: A task dynamic model. NASPA/SCAPPS, Toronto, Canada, June.
242. Sternad, D., Saltzman, E.L., & Turvey, M.T. (1996). Dynamics of 1:2 coordination in rhythmic interlimb movement. *Neural Control of Movement*, Florida, April.
243. Sternad, D., Saltzman, E.L., & Turvey, M.T. (1996). Dynamics of 1:2 coordination in rhythmic interlimb movement. *Annual Spring Conference of the International Ecological Psychology*, Trinity College, Hartford, CT, March.
244. Sternad, D. (1996). Dynamische Analyse von einhändigem Jonglieren eines Balles: Stabilität und Variabilität von dynamischen Bewegungslösungen. *Motorik - Struktur und Funktion. Symposium der dvs - Sektion "Sportmotorik"*, 25.1.-27.1.1996, Erfurt, Germany, January.
245. Sternad, D., Saltzman, E.L., & Turvey, M.T. (1995). A dynamical perspective on 1:2 coordination in rhythmic interlimb movement. *8th International Conference on Event Perception and Action*, University of Marseille, France, July.
246. Sternad, D., Schaal, S., & Atkeson, C.G. (1995). Batting a ball: A dynamical solution to a rhythmic task. *8th International Conference on Event Perception and Action*, University of Marseille, France, July.
247. Sternad, D., Saltzman, E.L., & Turvey, M.T. (1994). Dynamics of 1:2 coordination in rhythmic interlimb movement. *Annual Fall Conference of the International Ecological Psychology*, University of Connecticut, Storrs, CT, September.
248. Sternad, D., Schaal, S. (1994). One-handed juggling: A dynamical solution to a rhythmic task. *Annual Fall Conference of the International Ecological Psychology*, University of Connecticut, Storrs, CT, September.
249. Sternad, D., Schaal, S. (1994). One-handed juggling: A dynamical solution to a rhythmic task. *17. Tagung experimentell arbeitender Psychologen und Psychologinnen (TaPP)*, Max-Planck Institut für psychologische Forschung in Munich, Germany, March.
250. Sternad, D., Turvey, M. (1994). The dynamics of rhythmic interlimb coordination. *17. Tagung experimentell arbeitender Psychologen und Psychologinnen (TaPP)*, Max-Planck Institut für psychologische Forschung in Munich, Germany, March.
251. Sternad, D., Collins, D, & Turvey, M.T. (1993). The detuning factor in the dynamics of rhythmic interlimb coordination. Further analyses. *Annual Fall Conference of the International Ecological Psychology*, Smith College, Northampton, MA, October.
252. Sternad, D., Amazeen, E., & Turvey, M.T. (1993). Inphase and antiphase coordination of rhythmic interlimb movements. Diffusive, synaptic and synergetic coupling. *Annual Fall Conference of the International Ecological Psychology*, Smith College, Northampton, MA, October.
253. Sternad, D., Collins, D, & Turvey, M.T. (1993). The detuning factor in the dynamics of rhythmic interlimb coordination. *7th International Conference on Event Perception and Action*, University of British Columbia, Vancouver, Canada, August.
254. Sternad, D., Beek, P.J., & Turvey, M.T. (1993). Mechanical and intentional perturbations of rhythmical forearm movements. *7th International Conference on Event Perception and Action*, University of British Columbia, Vancouver, Canada, August.
255. Beek, P.J. & Sternad, D., & Rikkert, W. (1992). Specificity in interlimb coordinaton. *Second European Conference on Ecological Psychology,* University of Strathclyde, Glasgow, Scotland, June.
256. Sternad, D., Turvey, M.T., & Schmidt, R.C. (1991). Average phase difference theory and 1:1 phase entrainment in interlimb coordination. Further analyses. *Dynamic Representation of Cognition*, Bloomington, University of Indiana, Bloomington, IN, November.
257. Sternad, D., Turvey, M.T., & Schmidt, R.C. (October, 1991). Average phase difference theory and 1:1 phase entrainment in interlimb coordination. *Annual Fall Conference of the International Ecological Psychology*, Trinity College, Hartford, CT, October.
258. Sternad, D., Saltzman, E., & Turvey, M.T. (1991). An investigation of the dynamics of serial coordination. *Sixth International Conference on Event Perception and Action*, Free University of Amsterdam, August.
259. Sternad, D., Saltzman, E., & Turvey, M.T. (1990). Towards a dynamics of serial coordination. *Annual Fall Conference of the International Ecological Psychology*, Trinity College, Hartford, CT, September.

**II. Teaching**

**Courses Taught**

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| --- | --- | --- |
| Fall 2017 |  | Undergraduate course BIOL 2299: “Inquiries in Movement Neuroscience: Control of Human Movement: Skill and Loss of Skill in Disease” |
| Spring 2017 |  | Undergraduate course BIOL 2299: “Inquiries in Movement Neuroscience: Control of Human Movement: Skill and Loss of Skill in Disease” |
| Fall 2016 |  | Graduate course BIOL 5601: “Multidisciplinary Approaches to Motor Control” |
| Spring 2016 |  | Undergraduate course BIOL 2299: “Inquiries in Movement Neuroscience: Control of Human Movement: Skill and Loss of Skill in Disease” |
| Fall 2015 |  | Graduate course BIOL 5601: “Multidisciplinary Approaches to Motor Control” |
| 2014 - 2015 |  | Sabbatical year |
| Summer 2014 |  | One-month full immersion summer school for freshmen and sophomores (co-taught): Summer Discovery PRISM |
| Spring 2014 |  | Graduate course BIOL 5601: “Multidisciplinary approaches to motor control”  Undergraduate course (co-taught): Exploration and research: Mathematics, Physics, and Biology |
| Fall 2013 |  | Graduate course: “Advanced Topics in Integrative Biology: Motor learning” |
| Summer 2013 |  | One-month full immersion summer school for freshmen and sophomores (co-taught): Summer Discovery PRISM |
| Spring 2013 |  | Graduate course BIOL 5601: “Multidisciplinary approaches to motor control”  Undergraduate course (co-taught): Exploration and research: Mathematics, Physics, and Biology |
| Fall 2012 |  | Graduate course: Advanced Topics in Integrative Biology: “Motor learning” |
| Summer 2012 |  | One-month full immersion summer school for freshmen and sophomores (co-taught): Summer Discovery PRISM |
| Spring 2012 |  | Graduate course BIOL 5601: “Multidisciplinary approaches to motor control”  Undergraduate course (co-taught): Exploration and research: Mathematics, Physics, and Biology |
| Fall 2011 |  | Graduate course: Advanced Topics in Integrative Biology: “Motor learning” |
| Summer 2011 |  | One-month full immersion summer school for freshmen and sophomores (co-taught): Summer Discovery PRISM |
| Spring 2011 |  | Graduate course BIOL 5610: “Multidisciplinary approaches to motor control”  Undergraduate course (co-taught): Exploration and research: Mathematics, Physics, and Biology |
| Fall 2010 |  | Graduate course: Advanced topics: “Movement neuroscience” |
| Summer 2010 |  | One-month full immersion summer school for freshmen and sophomores (co-taught): Summer Discovery PRISM |
| Spring 2010 |  | Graduate course BIOL 5601: “Multidisciplinary approaches to motor control”  Undergraduate course (co-taught): Exploration and research: Mathematics, Physics, and Biology |
| Fall 2009 |  | Graduate course: Advanced topics: “Movement neuroscience” |
| Fall 2007 |  | Graduate course: “Multidisciplinary approaches to motor control” |
| Fall 2006 |  | Graduate course: “Paradigms in motor control: Stability and variability” |
| Fall 2005 |  | Graduate course: “Multidisciplinary approaches to motor control” |
| Fall 2004 |  | Graduate course: “Paradigms in motor control” |
| Spring 2004 |  | Undergraduate course: “Skill acquisition” |
| Fall 2003 |  | Graduate course: “Multidisciplinary approaches to motor control” |
| Spring 2002 |  | Undergraduate course: “Movement forms”  Undergraduate course: “Movement skills: An introduction into motor control” |
| Fall 2001 |  | Graduate course: “Dynamical systems perspective to action” |
| Spring 2001 |  | Undergraduate course: “Movement forms” |
| Spring 2001 |  | Graduate course: “Multidisciplinary approaches to motor control” |
| Fall 2000 |  | Undergraduate course: “Movement skills: An introduction into motor control” |
| Spring 2000 |  | Graduate course: “Multidisciplinary approaches to motor control” |
| Spring 2000 |  | Undergraduate course: “Movement forms” |
| Fall 1999 |  | Undergraduate course: “Movement skills: An introduction into motor control” |
| Spring 1999 |  | Undergraduate course: “Skill Acquisition” |
| Spring 1999 |  | Undergraduate class on “Movement forms” |
| Fall 1998 |  | Reading seminar for graduate students |
| Fall 1998 |  | Undergraduate class on “Movement skills: An introduction into motor control” |
| Spring 1998 |  | Undergraduate class on “Movement forms” |
| Spring 1998 | : | Graduate Seminar on “A dynamic perspective on perceptual control of movement” |
| Fall 1997 | : | Undergraduate class on “Movement skills: An introduction into motor control” |
| Spring 1997 | : | Undergraduate class on “Movement forms”  Co-teaching of graduate seminar on “Dynamic systems perspective on movement coordination” |
| Fall 1996 | : | Undergraduate class on “Movement skills: An introduction into motor control” |
| Spring 1996 | : | Undergraduate class on “Movement skills: An introduction into motor control” |
| Fall 1995 | : | Undergraduate class on “Movement acquisition” |

# Summer Schools Taught

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| August 9-10, 2017 |  | CosMo 2017, Computational Sensory-Motor Neuroscience, Minneapolis, MN |
| August 5-6, 2016 |  | CosMo 2016, Computational Sensory-Motor Neuroscience, Minneapolis, MN |
| January-March 2016 |  | Robotics in Rehabilitation Course, International Society of Physical and Rehabilitation Medicine |
| July 8-10, 2013 |  | Motor Control Summer School X, Antiochian Village, PA |
| May 13-17, 2013 |  | PRISM Summer Discovery Experience, Northeastern University (one week of introduction to the scientific process) |
| May 9 -13, 2012 |  | PRISM Summer Discovery Experience, Northeastern University (one week of introduction to the scientific process) |
| May 9 -13, 2011 |  | PRISM Summer Discovery Experience, Northeastern University (one week of introduction to the scientific process) |
| May 10-14, 2010 |  | PRISM Summer Discovery Experience, Northeastern University (one week of introduction to the scientific process) |
| July 7 - 11, 2004 |  | First Summer School of the International Society for Motor Control, Jim Thorpe, PA |
| Aug 29 – Sept 11, 2004 |  | Annual Summer Academy of the Studienstiftung des Deutschen Volkes (Society for National Merit Fellowships in Germany), St. Johann, Italy |
| **Further Education** |  |  |
| October 2004 |  | MGH NMR Visiting Fellowship: Intensive training course in functional Magnetic Resonance Imaging at the Massachusetts General Hospital and Harvard University, Boston |

# Student Supervision

## Students Graduated Under My Supervision

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| --- | --- | --- | --- |
| Name | Thesis Title | Time of Completion | Present Position |
| William Dean 1995 - 1997 | Force and timing variability in rhythmic unimanual tapping | MS: July 1997Kinesiology | Senior Software Developer |
| Daniel Russell1996 - 2000 | Task-effector asymmetries in visually guided rhythmic movements | PhD: May 2000 Kinesiology | Assistant Professor in Physical Therapy Old Dominion University |
| William Dean 1997 - 2001 | Rhythmical and discrete movement patterns in the upper extremity | PhD: December 2001 Kinesiology | Senior Software Developer |
| Kunlin Wei 2000 - 2002 | Interaction of rhythmic and discrete elements in unimanual and bimanual movements | MS: July 2002 Kinesiology | Professor in Psychology Peking University, China |
| Hiromu Katsumata1997 - 2002 | Acquisition and performance of rhythmic ball bouncing: Attuning to dynamical stability | PhD: August 2002Kinesiology | Professor in Movement Science University of Daito Bunka, Japan |
| Hong Yu 2001 - 2005 | Rhythmic timing in human movements: Behavioral data, a model and fMRI studies | PhD: August 2005 Kinesiology | Neurologist Harvard Medical School |
| Kunlin Wei 2002 - 2007 | Bouncing a ball: Stability and variability in a rhythmic task | PhD: May 2007 Kinesiology | Professor in PsychologyPeking University, China |
| Xiaogang Hu 2006 - 2008 | The role of variability in the control and learning of a throwing task | MS: August 2008 Kinesiology | Assistant Professor,  University of North Carolina |
| Rajal Cohen 2005 - 2008 | Variability in motor learning | PhD and Minor Degree: August 2008 Psychology | Assistant Professor in Psychology University of Idaho |
| Se-Woong Park 2008 - 2013 | Acquisition and retention of an asymmetric bimanual skill: Behavioral correlates of neuroplasticity | PhD: September 2013 Biology | Postdoctoral Fellow Northeastern University, MIT |
| Fei Ye 2012 - 2014 | Manipulation of complex dynamic objects | MS: July 2014 Electrical Engineering | PhD student in Electrical Engineering University of California, Riverside |
| Meghan Huber 2011 - 2016 | Assessing and enhancing complex motor skill learning in virtual environments: Basic insights for rehabilitation | PhD: June 2016 Bioengineering | Postdoctoral Fellow in Mechanical Engineering, MIT |

**Graduate and Masters Students Under My Current Supervision**

|  |  |  |
| --- | --- | --- |
| Name | Thesis Title | Institution |
| Zhaoran Zhang  2012 - | Major: Bioengineering | Northeastern University |
| Ian Zuzarte  2014 - | Major: Bioengineering | Northeastern University |
| Rashida Nayeem  2017 - | Major: Electrical and Computer Engineering | Northeastern University |
| Michael Graham  2017 - | Major: Mechanical Engineering | Northeastern University |
| Hao Li  2017 - | Major: Mechanical Engineering | Northeastern University |

## Member on Student Thesis Committee

|  |  |  |
| --- | --- | --- |
| Name | Thesis Title | Time of Completion |
| Allen Wolstenholme | The swimming relay exchange: An investigation of movement timing Major: Kinesiology, Advisor: Bob Eckhardt | MS: August 1996 Penn State University |
| Michael Broderick | Major: Kinesiology, Advisor: Karl Newell | PhD: September 1997 Penn State University |
| Jon Dingwell | Variability and nonlinear dynamics of continuous locomotion: Applications to treadmill walking and diabetic peripheral neuropathy Major: Kinesiology, Minor: Mechanical Engineering, Advisor: Peter Cavanagh | PhD: December 1998  Penn State University |
| Matt Rearick | Major: Kinesiology, Advisor: Bob Eckhardt | MS: May 1998 |
| Paola Cesari | Scaling of human grip configurations Major: Kinesiology, Advisor: Karl Newell | PhD: August 1999 Penn State University |
| Laura Julien | Connections between anxiety, cognitive functioning, and coping in multiple sclerosis Major: Psychology, Advisor: Peter Annett | PhD: August 2001 Psychology, Penn State |
| Harmen Slijper | Sensory aspects and central organization of anticipatory postural adjustments  Major: Kinesiology, Advisor: Mark Latash | PhD: December 2001 Penn State University |
| Mohamed Tlili | Approche dynamique des mouvements cycliques complexes: application au jonglage en football et du dribble en basket (A dynamical systems approach to complex cyclic movements: soccer juggling and basketball dribbling ball) Major: Human Movement Science, Advisor: Denis Mottet | PhD: May 2002 University of Poitiers, France |
| Kunlin Wei | Gait recognition: Model validation approach and Martin distance approachMajor: Electrical Engineering, Advisor: Mario Sznaier | MS: December 2003 Penn State University |
| Felix Ehrlenspiel | Choking under Pressure - Aufmerksamkeit und Bewegungskontrolle in Leistungssituationen (Attention and motor control in pressurized situations)  Major: Psychology, Advisor: Reinhard Kliegl | PhD: Fall 2006 University of Potsdam, Germany |
| Robrecht van der Wel | Subdivision of time intervals: a new method for determining preferred movement speed Major: Psychology, Advisor: David Rosenbaum | MS: August 2006  Penn State University |
| Lee Hong | Constraint-driven redundancy and uncertainty in the control of human action  Major: Kinesiology, Advisor: Karl Newell | PhD: May 2007 Penn State University |
| Tjitske Boonstra | Variability and stability during the acquisition of ball bouncing  Major: Human Movement Sciences, Advisor: Peter Beek | MS: October 2006Free University of Amsterdam, Netherlands |
| Robin Salesse | La dynamique des coordinations inter-segmentaires - Résultat d’une coalition des contraintes neuromusculaires et spatiales (Dynamics of intersegmental coordination - Results from neuromuscular and spatial constraints)  Major: Human Movement Sciences, Advisor: J.-J. Temprado | PhD: October 2006University of Marseille, France |
| Renaud Ronsse | Rhythmic movements control: Parallels between human behavior and robotics  Major: Electrical Engineering and Computer Science, Advisor: Rudolphe Sepulchre | PhD: May 2007 University of Liege, Belgium |
| Gregg Twietmeyer | Embodying kinesis: How Aristotle and Polanyi reshape the philosophy of kinesiology  Major: Kinesiology, Advisor: Scott Kretschmar | PhD: Spring 2008 Penn State University |
| Rajal Cohen | Ready for action: Fixational limb movements  reveal forthcoming voluntary movements  Major: Psychology, Advisor: David Rosenbaum | PhD: June 2008 Penn State University |
| Britne Shabbott | The contributions of visual information to reaching behaviors  Major: Integrative Biosciences, Special Field: Kinesiology, Advisor: Robert Sainburg | PhD: December 2008 Penn State University |
| Robrecht van der Wel | The flexible use of reference frames in human action planning  Major: Psychology, Advisor: David Rosenbaum | PhD: January 2009 Penn State University |
| Avijit Bakshi | A biomechanical and statistical mechanics analysis of human standing posture  Major: Physics and Ashton Graybiel Spatial Orientation Laboratory  Advisor: Paul Dizio and James Lackner | PhD: March 2009 Physics and Neuroscience,  Brandeis University |
| Virginia Chu | The role of variability in human motor learning  Major: Bioengineering, Advisor: Terrence Sanger | PhD: August 2009 Bioengineering, Stanford University |
| Rajiv Ranganathan | Utilizing redundancy in motor learning  Major: Kinesiology, Advisor: Karl Newell | PhD: August 2009 Kinesiology, Penn State University |
| Amanda Hitchcock | Mechanisms for maintaining stability in the helmeted guinea fowl, *Numida meleagris*, when running on uneven terrain  Major: Biology, Advisor: Richard Marsh | MS: August 2010  Biology, Northeastern University |
| Sarah Degallier | Rhythmic and discrete movements  Major: Computer and Communication Science, Biorobotics  Advisor: Auke Ijspeert | PhD: September 2010  Ecole Polytechnique Federale Lausanne, Switzerland |
| Hamal Marino | Transitions between rhythmic and discrete performance in unimanual movements  Advisor: Arianna Menciassi | MS: August 2012  Control Engineering, Scuola Superiore Sant’Ana, Pisa, Italy |
| Andrew Yegian | The roles of muscles in arm swing and thoracic rotation during walking  Major: Biology, Advisor: Richard Marsh | MS: April 2012  Biology, Northeastern University |
| Lindsay Griffin | Exploring the relation between fatigue and cognitive-communication performance  Major: Speech, Language Pathology and Audiology  Advisor: Therese O’Neil-Pirozzi | MS: April 2012  Northeastern University |
| Hyunglae Lee | Quantitative characterization of multi-variable human ankle mechanical impedance  Major: Mechanical Engineering, Advisor: Neville Hogan | PhD: May 2013  Mechanical Engineering, MIT |
| Tyler Susko | MIT Skywalker: A novel robot for gait rehabilitation of stroke and cerebral palsy patients  Major: Mechanical Engineering  Advisor: Hermano Igo Krebs | PhD: January 2015  Mechanical Engineering  MIT |
| Jarrad van Stan | Performance and retention of a modified vocal behavior using ambulatory voice biofeedback and motor learning principles in subjects with normal voices  Major: Rehabilitation Sciences  Advisor: Robert Hillman | PhD: May 2016  Massachusetts General Hospital |
| Francesca Lunardini | Functional assessment methods and EMG-based interventions for children with dystonia  Major: Electronics, Information and Bioengineering  Advisor: Alessandra Pedrocchi | PhD: May 2016  Bioengineering  Politecnico di Milano, Italy |
| Peter Stein | Task variables in violin bowing: influence of variability of bow and bowing limb movement  Major: Rehabilitation Science  Advisor: Elliot Saltzman | PhD: August 2016  Boston University |
| Eric Lacrosse | TBA  Max Planck Institute for Intelligent Systems  Major: Computer Science  Advisor: Gaby Lohmann | PhD  Karl Eberhard University of Tübingen |
| Julie Ochoa | Entrainment of overground human walking to mechanical perturbations at the ankle joint.  Major: Mechanical Engineering  Advisor: Neville Hogan | MS: 2016  Massachusetts Institute of Technology |
| Xianchao Long | Optimization-based whole-body motion planning for humanoid robots: Formulations, motion templates and applications  Major: Electrical and Computer Engineering  Advisor: Taskin Padir | PhD: August 2017  Northeastern University |
| Robert Bottomley | The MAGic Table  Mechanical Engineering  Co-Advisor: Rifat Sipahi | MS: May 2017  Northeastern University |
| Jingwei Liu | Path planning for intelligent wheelchair based on modified tentacle method  Major: Electrical and Computer Engineering  Advisor: Taskin Padir | MS: August 2017  Northeastern University |

## Previous and Current Postdoctoral Fellows

|  |  |  |
| --- | --- | --- |
| Name | Grant Support | Present Position |
| Aymar de Rugy  2001 - 2003 | NSF Grant BCS-0096543: Rhythmic and discrete dynamics in multijoint movements | Senior Researcher at Centre Nationale Recherche Scientifique (CNRS), Bordeaux, France |
| Anil Maybhate  2004 - 2006 | NIH Grant: R01 HD045639 Variability and stability in skill acquisition | Lecturer  Johns Hopkins University |
| Masaki Abe  2007 - 2010 | ONR Grant: Detection of anomalous behavior due to IEDs | Associate Professor  Hokkaido University, Japan |
| Christopher J. Hasson  2009 - 2012 | NIH Grant: R01 HD045639 Variability and stability in skill acquisition NIH F32 Postdoctoral training grant | Assistant Professor  Northeastern University |
| Anastasia Kyvelidou  2011 - 2012 | AHA grant on gait rehabilitation in stroke patients | Assistant Professor  University of Nebraska |
| Bahman Nasseroleslami  2012 - 2014 | NIH Grant: R01 HD045639 Variability and stability in skill acquisition | Research Scientist  Trinity College of Dublin, Ireland |
| Jooeun Ahn  2014 | NIH Grant: R01 HD045639 Variability and stability in skill acquisition | Assistant Professor  Seoul National University, Korea |
| Nikita Kuznetsov  2013 - 2015 | NIH Grant: R01 HD045639 Variability and stability in skill acquisition | Postdoctoral Fellow  University of North Carolina |
| Se-Woong Park  2014 - | NIH Grant: R01 HD045639 Variability and stability in skill acquisition | Postdoctoral Fellow  Northeastern University, MIT |
| Pauline Maurice  2015 - 2017 | NIH Grant: R01 Predictability in complex object control | Postdoctoral Fellow  INRIA, French Institute for Research in Computer Science and Automation, France |
| Francesca Lunardini  2016 - 2017 | NIH Grant: R01 Predictability in complex object control | Postdoctoral Fellow  Politecnico di Milano, Italy |
| Salah Bazzi  2017 - | NRI Grant: R01 Towards robots with human dexterity |  |
| Won Joon (Eric) Sohn  2017 - | NIH Grant: R01 Predictability in complex object control |  |

## Undergraduate Students

|  |  |  |
| --- | --- | --- |
| Name | Department, Type of Experience | Time in the Action Lab |
| Peter Mears | Kinesiology, Internship | 1997 - 1999 |
| Jocelyn Woods | Kinesiology, Internship | 1997 - 1999 |
| Gary Wertman | Biology, Internship | 1999 - 2002 |
| Emily Wiecek | Behavioral Neuroscience, Research CoopObtained PhD degree from University College of London and Harvard University | 2009 - 2011 |
| Leo Byun | Mechanical Engineering and Physics, Research Coop | 2010 - 2011 |
| Brittany Haffner | Physics, Research Coop and Directed Study | 2011 - 2013 |
| Julia Ebert | Behavioral Neuroscience, two Research Coop’s in Action LabRecipient of Goldwater Fellowship and Marshall Fellowship (Imperial College, London), PhD Bioengineering, Harvard | 2011 - 2015 |
| Anthony Lamattina | Mathematics and Premed, Research Coop | 2012 |
| Michael Spens | Physics, Research Coop | 2012 |
| Dena Guo | Physics, Directed StudyRecipient of Senior Thesis Fellowship of Museum of Science **Lawrence Fellowship from Department of Physics**  **Shafer fellowship for research co-op in the Action Lab** | 2013 - 2016 |
| Julia Cowenhoven | Biology, Directed Study | 2014 |
| Oliver Cervantes | Biology, Directed Study | 2014 - 2016 |
| Courtney Stead | Biomedical Physics, Directed Study | 2014 - 2015 |
| Keith Harrigian | Mathematics, Physics **Outstanding Student Research Award at RISE**  **Northeastern Nomination for Goldwater Fellowship**  **Finalist for Marshall fellowship** | 2014 - 2016 |
| Rebecca Cheung | Biomedical Physics, Directed Study | 2015 - 2016 |
| Marie Mitchell | Electrical and Computer Engineering, Directed Study | 2015 |
| Katie Owens | Behavioral Neuroscience | 2015 - 2017 |
| Hannah Tam | Biochemistry **Recipient of Goldwater Fellowship 2017** | 2015 - |
| Lynnsey Martin | Computer Engineering | 2016 - 2017 |
| Alexandra Dubinsky | Behavioral Neuroscience, Mathematics | 2017 - |
| Abigail Cahill | Behavioral Neuroscience | 2017 - |
| Jeffrey Zhu | Computer Science | 2017 - |
| Daniel Silver | Computer Engineering | 2017 - |
| Diederique van der Knaap | Psychology | 2017 - |

## Visiting Students and Scientists

**(Longer than 1 month in the Action Lab)**

|  |  |  |
| --- | --- | --- |
| Name | Home Institution | Time of Stay |
| Karl-Theodor Kalveram | Visiting Scientist  University of Düsseldorf, Germany | Summers 1999, 2000, 2001 |
| Tjeerd Dijkstra | Visiting Scientist University of Leiden, Netherlands | 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010 |
| Hendrik Heger | Visiting Doctoral StudentUniversity of Jena, Germany | 2004, 2007, 2008 |
| Heiko Wagner | Visiting Scientist University of Jena, Germany | Spring 2004 |
| Marcos Duarte | Visiting Scientist University of Sao Paolo, Brasil | Spring 2005 |
| Till Frank | Postdoctoral Fellow  University of Münster, Germany | Fall 2005 |
| Felix Ehrlenspiel | Visiting Doctoral Student  University of Potsdam, Germany | Fall 2004, Spring 2005 |
| Hermann Müller | Visiting Scientist/Sabbatical Visitor  University of Saarland, Germany | 2004, 2005, 2006, 2007, 2008, 2010, 2012 |
| Neville Hogan | Visiting Scientist (Sabbatical)  Massachusetts Institute of Technology | Spring 2006 |
| Renaud Ronsse | Visiting Scholar  University of Liege, Belgium | Summer 2007 |
| Hendrik Heger | Assistant Professor  University of Tübingen, Germany | 2009, 2010 |
| Lisa Pendt | Visiting Scholar  Justus-Liebig University, Giessen, Germany | Spring 2008 |
| Heiko Maurer | Visiting Scholar  Justus-Liebig University, Giessen, Germany | Spring and Fall 2009  Spring and Fall 2010 |
| Andrea Geipel | Visiting Intern  Technical University, Munich, Germany | Fall 2010 |
| Armin Biess | Visiting Scholar  Max-Planck Institute for Dynamics and Self-Organization, Göttingen, Germany | Fall 2011 |
| Natalia Dounskaia | Visiting Faculty on Sabbatical leave  Arizona State University | Fall 2011 |
| Hamal Marino | Visiting Scholar  Scuola Superiore Sant’Anna, University of Padova, Italy | Fall, Spring 2011 |
| Eric Lacosse | Visiting graduate student  Max Planck Institute for Intelligent Systems, Tübingen, Germany | Fall 2016 |

## III. Professional Services

**Organization and Program Committees AT UNIVERSITY**

|  |  |  |
| --- | --- | --- |
| 2017 – 2018 |  | Member of the Evaluation Committee of the Dean of the College of Social Sciences and Humanities |
| 2018 – 2019 |  | Member of the Search Committee for the Chair of the Department of Physical Therapy, Movement Science and Rehabilitation |
| 2017 – 2018 |  | Chair of the Search Committee for Faculty Position in Movement Neuroscience (open rank), in Biology |
| 2017 |  | Member of the Search Committee for the Chair of the Department of Physics |
| 2017 – |  | Member of the College of Science Oversight Committee on Healthy Aging |
| 2016 - 2018 |  | Member of Full Professor Promotion Committee of the College of Science |
| 2015 – 2017 |  | Member of Nomination Committee of Rhodes, Marshall and Mitchel Scholars |
| 2015 – 2016 |  | Chair of Full Professor Promotion Committee of the College of Science |
| 2015 – 2016 |  | Chair of the Search Committee in Biology in the area of Neuroscience and Aging |
| 2014 – 2015 |  | Chair of the Provost Committee for Cluster Hires in the area of Health |
| 2013 – 2014 |  | Member of the Administrator Evaluation Review Committee: review of Dean of Bouve College |
| 2013 – 2014 |  | Member of Search Committee for a tenure-track faculty position in Electrical and Computer Engineering |
| 2013 – 2014 |  | Member of Senate Committee for Interdisciplinary Faculty Tenure Procedures |
| 2013 – 2014 |  | Member of the Executive Committee of the Department of Biology |
| 2012 – 2013 |  | Member of the Search Committee for the Chair of Biology |
| 2012 – 2013 |  | Member of Search Committee for a position in Network Science, Department of Physics |
| 2012 – 2013 |  | Member of Senate Committee for Academic Policy |
| 2012 – 2013 |  | Member of the Full Professor Advisory Committee at the College of Science |
| 2011 – 2012 |  | Member of Senate Agenda Committee for Evaluation of Department Head in Physical Therapy |
| 2010 – 2011 |  | Member of Senate Agenda Committee for Research and Policy Oversight |
| 2009 – 2010 |  | Member of Search Committee for Dean of College of Science |
| 2009 – 2010 |  | Chair of Search Committee for Senior Faculty in Movement Neuroscience |
| 2009 – 2014 |  | Member of the Bioengineering PhD Graduate Committee, Northeastern University |
| 2009 – 2013 |  | Member of the Promotion and Tenure Committee of the Physical Therapy Department |
| 2009 – 2011 |  | Member of the University Standing Tenure Appeals Committee, Northeastern University |
| 2009 |  | Member of the College Restructuring Committee, Northeastern University |
| 2007 – 2008 |  | Member of the Promotion and Tenure Committee, Department of Kinesiology, Pennsylvania State University |
| 2006 – 2008 |  | Member of the Steering Committee of the Penn State Neuroscience Institute |
| 2005 – 2008 |  | Member of the WISE Advisory Committee (Women in Science and Engineering) |
| 2005 – 2008 |  | Member or Chair of the Awards Committee |
| 2004 – 2008 |  | Member of the International Advisory Board of the Dean of the College of Health and Human Development |
| 2002 – 2005 |  | Faculty advisor to the Honor Society of the College of Health and Human Development |
| 2002 – 2004 |  | Vice Chair of the Senate Committee on Libraries of the Pennsylvania State University |
| 2000 – 2005 |  | Member of the Faculty Senate of the Pennsylvania State University |
| 2003 – 2005 |  | Member of the Curriculum Committee |
| 2000 – 2001 |  | Member of the Advisory Board of the Department of Kinesiology |
| 1995 – now |  | Member of the Candidacy Exam Committee in Motor Control |
| 1997 – 2003 |  | Chair of the Candidacy Committee in Motor Control |

**Organization Committees at External Associations And Conferences**

|  |  |  |
| --- | --- | --- |
| 2017 |  | Member of the NIH Study Section Sensory and Motor Neuroscience, Cognition and Perception Fellowship, Arlington, VA |
| 2017 |  | Organization of Lab Advance - Recent Research of the Newman Lab and the Action Lab, Massachusetts Institute of Technology, August 23 |
| 2016 |  | Member of the National Advisory Mental Health Council Workgroup, RDoC Motor Systems Workshop, National Institute of Mental Health (NIMH), Moderator of Praxis Construct Group |
| 2016 |  | Organization of Lab Advance - Recent Research of the Newman Lab and the Action Lab, Northeastern University, August 26 |
| 2016 |  | External Reviewer for Applicants for Professor Position in Motor Learning and Cognitive Science, University of Darmstadt, Germany |
| 2015 – |  | Member of the Executive Board of the Society of Neural Control of Movement |
| 2015 |  | Organization of Lab Advance - Recent Research of the Newman Lab and the Action Lab, Massachusetts Institute of Technology, July 25 |
| 2014 |  | Member of Organizing Committee of 5th IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics (BioRob2014), “Biomedical Robotics and Biomechatronics Technology for a World without Borders”, Sao Paolo, Brazil, August 12-15 |
| 2014 |  | Chair of Symposium on Human Dynamics at the 40th Annual Northeast Bioengineering Conference (NEBEC), Northeastern University, April 25-27 |
| 2012 |  | Organization of Lab Advance - Recent Research of the Newman Lab and the Action Lab, Massachusetts Institute of Technology, September 15 |
| 2011 |  | Organization of Lab Advance - Recent Research of the Newman Lab and the Action Lab, Northeastern University, August 25 |
| 2010 |  | Organization of Lab Advance - Recent Research of the Newman Lab and the Action Lab, Massachusetts Institute of Technology, August 21, 2010 |
| 2010 – 2011 |  | Member of the Advisory Committee for the Organization of the International Conference: “Progress in Motor Control VIII”, Cincinnati, July 2011 |
| 2008 |  | Member of the grant review panel for the National Science Foundation, Cyber-Enabled Discovery, Special topic: Complexity |
| 2008 – |  | Member of the Organizing Committee of the International Conference “Progress in Motor Control VII”, Marseille, France, August, 2009 |
| 2006 – 2008 |  | Member of the grant review panel for the National Science Foundation, Program Perception, Cognition and Action |
| 1995 – 2008 |  | Organization of the bi-weekly seminar series “Penn State Action Club” with invited speakers on topics of motor control |
| 2006 – 2008 |  | Temporary member of the study section “Motor Function, Speech and Rehabilitation” (MFSR) at the National Institute of Health |
| 2006 – 2007 |  | Member of the Organizing Committee of the International Conference “Progress in Motor Control VI”, Santos, Brazil, August, 2007 |
| 2005 – 2011 |  | Member of the NIH Taskforce on Childhood Motor Disorders |
| 2004 – 2005 |  | Chair of the Organization of the 5th International Conference “Progress in Motor Control”, held at Penn State August 17-20, 2005 |
| May 6–9, 2004 |  | Organization of the third workshop “Debates in Dynamics III” held at Penn State |
| 2002 – 2014 |  | Member of the Executive Committee of the International Society for Motor Control |
| 2001 |  | Member of review committee in the organization of the annual conference of NASPSPA (North American Society of Psychology of Sport and Physical Activity) |
| December 7–11,  2000 |  | Organization of the second workshop sponsored by the Santa Fe Institute "Debates in Dynamics: Modeling Action and Perception II" held at The Pennsylvania State University |
| August 16–19, 1999 |  | Organization of the first workshop sponsored by the Santa Fe Institute "Debates in Dynamics: Modeling Action and Perception" held at The Pennsylvania State University |
| 1999 | : | Member of the organizing committee of the International Conference on “Progress in Motor Control II” in August 19-22, 1999 at The Pennsylvania State University |

**Editorial Work**

2014 – 2015 Member of the Editorial Board of *Neuroscience for Kids*

2011 – 2014 Member of the Editorial Board of *Biomathematics*

2010 Guest Editor for special issue in *Journal of Motor Behavior*: Theoretical ideas in motor neuroscience and their capacity for falsification

2009 – 2012 Consulting Editor of *Journal of Experimental Psychology: Human Perception and Performance*

2005 – 2014 Executive Editor of *Journal of Motor Behavior*

1997 – 2005 Member of the Editorial Board of *Journal of Motor Behavior*

2001 Guest Editor for *Human Movement Science*: Special issue on “Debates in Dynamics”

**Ad hoc Reviewing**

***Journals:***

* Science
* Neuroimage
* Proceedings of the National Academy of Sciences
* PLoS Computational Biology
* Brain
* PloS ONE
* Journal of Neuroscience
* Current Biology
* Cerebral Cortex
* Journal of Experimental Psychology: Human Perception and Performance
* Journal of Neurophysiology
* Journal of Applied Physiology
* Biological Cybernetics
* Journal of Applied Biomechanics
* Brain Research
* Experimental Brain Research
* Motor Control
* Acta Psychologica
* Developmental Psychology
* Neuroscience Letters
* Human Movement Science
* IEEE Transactions on Robotics
* Journal of Biomechanics
* Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences
* Proceedings of the Royal Society B: Biological Sciences
* Journal of the Royal Society
* Journal of Computational Neuroscience
* Proceedings of the National Academy of Sciences of the United States
* Transactions on Biomedical Engineering
* IEEE Transactions on Neural Systems & Rehabilitation Engineering

***Adhoc Reviewer for Grant Institutions:***

* Minerva Foundation
* Israel Science Foundation
* National Institute of Health: Study Section Motor Function, Speech and Rehabilitation
* National Science Foundation: Program Perception, Action and Cognition
* NSF Program for Methodology, Measurement, and Statistics (MMS)
* The Patrick and Catherine Weldon Donaghue Medical Research Foundation
* Netherlands Organization for Scientific Research (NWO)
* Canadian Institutes of Health Research (Instituts de Recherche en Sante du Canada)
* Natural Sciences and Engineering Research Council of Canada (NSERC)

**Memberships in Societies**

* Society for Neuroscience
* Society for the Neural Control of Movement
* International Society for Motor Control
* American Association for the Advancement of Science (AAAS)
* Studienstiftung des Deutschen Volkes
* National Honors Society in Neuroscience Nu Rho Psi