

# CURRICULUM VITAE

## I. Personal Data

### A. Name and Title/Rank

Karl M. Newell  
Professor

### B. Birthdate and Birthplace

August 2, 1945  
Hove, Sussex, England (U.S. Citizen)

## II. Formal Education

### A. Graduate Education

Ph.D. - University of Illinois, Physical Education, 1973  
M.S. - University of Illinois, Physical Education, 1970

### B. Undergraduate

Loughborough College of Education, Loughborough, Leicestershire, England, 1964-1967  
Diploma, Loughborough College of Education, 1st class honors, 1967  
Certificate of Education, University of Nottingham, Nottinghamshire, England, 1967  
Physical Education, Mathematics  
B.Sc. Hons. Loughborough University, Loughborough, Leicestershire, England, 2009

## III. Professional Positions

### A. Post Doctoral

The University of Georgia, 2014-present

Associate Dean for Research  
College of Education, 2014-present

Professor, Department of Kinesiology, 2014-present

University of Nebraska at Omaha, 2016-present

Adjunct Professor, Department of Biomechanics

The Pennsylvania State University, 1992-2014:

Head, Department of Kinesiology, 2007-2012  
Marie Underhill Noll Chair of Human Performance  
January 2007-2014

Associate Dean for Research and Graduate Education,  
College of Health and Human Development, 2001-2007

Head, Department of Kinesiology, 1993-2001  
Professor, Department of Kinesiology and Department of Biobehavioral Health,  
1992-2014

University of Illinois at Urbana-Champaign, 1974-1992:

Head, Department of Kinesiology, 1985-1992  
Coordinator, UIUC-Hines VA Satellite Research Program, 1989-1992  
Professor, Beckman Institute for Advanced Science and Technology, 1988-1992  
Professor, Department of Psychology, 1987-1992  
Professor, Institute for Research on Human Development, 1983-1992  
Professor, Department of Kinesiology, 1983-1992  
Director, Motor Performance Laboratory, Children's Research Center, 1982-1985  
Visiting Scholar and NIH Senior Fellow, Department of Physiology, Northwestern University Medical School, 1980-1981  
Associate Professor, Institute for Child Behavior and Development and Associate Professor of Kinesiology, 1978-1983  
Assistant Professor, Institute for Child Behavior and Development and Assistant Professor of Kinesiology, 1975-1978  
Assistant Professor, Children's Research Center and Assistant Professor of Recreation and Park Administration, 1974-1975

Other:

Spent one year in England looking for an academic position. During this time worked 6 months at the European Headquarters of American Express as a statistician to the Chief Investment Officer, 1973-1974.

B. Graduate

Research Associate, Motor Performance and Play Research Laboratory, Children's Research Center, University of Illinois, 1972-1973  
Research Assistant, Motor Performance and Play Research Laboratory, Children's Research Center, University of Illinois, 1970-1972  
Teaching Assistant in the Department of Physical Education for Men, University of Illinois, 1969-1970

C. Undergraduate

Master in charge of Physical Education and teacher of Mathematics, Herbert Carter School, Poole, Dorset, England, 1967-1969

**IV. Academic Honors**

Phi Kappa Phi  
NIH Senior Fellowship, 1980-1981  
Arnold O. Beckman Research Award, University of Illinois, 1982  
Fellow, American Academy of Kinesiology and Physical Education, 1987  
King J. McCristal Distinguished Scholar Award, College of Applied Life Studies, University of Illinois, 1990  
University Scholar, University of Illinois, 1992  
Industrial Designers Society of America Excellence Award, 1994  
for Microsoft Corporation Ballpoint Mouse 2.0 Research  
with Bryce G. Rutter (PI) and Michael Austrin of Metaphase Design  
Distinguished Alumni Award, Department of Kinesiology, University of Illinois, 1997  
Pauline Schmitt Russell Distinguished Research Career Award, College of Health and Human Development, The Pennsylvania State University, 1999  
Senior Scholar Award, Motor Development Section, North American Society for Psychology and Sport Activity, 1999  
Faculty Scholar Medal, Behavioral and Social Sciences, The Pennsylvania State University, 2002

Distinguished Scholar Award, North American Society for Psychology and Sport Activity, 2002  
Verona Lectures, University of Verona, Italy, May 2008.  
Distinguished Alumni Award, Department of Kinesiology, University of Illinois, 2009  
Visiting Scholar, Australian Institute of Sport, Canberra, Australia, May 2011.  
Distinguished Alumni Award, College of Applied Health Sciences, University of Illinois, 2011  
Alliance Scholar, American Alliance for Health, Physical Education, Recreation and Dance, 2013  
President, National Academy of Kinesiology, 2015-16  
Distinguished Leadership Award, American Kinesiology Association, 2016

## **V. Professional Organizations**

### Memberships

American Academy of Kinesiology and Physical Education  
American Alliance for Health, Physical Education, Recreation and Dance  
American Psychological Association  
American Psychological Society  
American Association for Advancement of Science  
American College of Sports Medicine  
Gerontological Society  
International Society for Ecological Psychology  
Movement Disorder Society  
North American Society for the Psychology of Sport and Physical Activity (President - 1994-95)  
Psychonomic Society  
Society for Neuroscience

## **VI. Professional Services**

### Reviewing

Editorial Board - Journal of Motor Behavior (1987-present)  
Executive Editor - Journal of Motor Behavior (1980-1986)  
Associate Editor - Journal of Motor Behavior (1975-1980)  
Editorial Board - Journal of Human Movement Sciences (1982-present)  
Editorial Board - Journal of Sports Science (1982-present)  
Editorial Board - Ecological Psychology (1989-present)  
Editorial Board – Journal of Experimental Child Psychology (1999-present)  
Editorial Board – Infant Development and Behavior (1999-present)  
Editorial Board – Developmental Psychobiology (2002–present)  
Editorial Board – Kinesiology Review (2011-2014)

Have reviewed manuscripts for the following journals (most on a continuing and regular basis): Acta Psychologica, Adapted Physical Activity Quarterly, Advances in Physical Education, Aging Clinical and Experimental Research, Aging, Neuropsychology and Cognition, American Journal on Intellectual and Developmental Disabilities, American Journal of Lifestyle Medicine, American Journal of Psychology, American Journal on Mental Retardation, Annals of Biomedical Engineering, Archives of Physical Medicine and Rehabilitation, Autism: International Journal of Research and Practice, Behavior Research Methods, Behavioral and Brain Functions, Brain, Brain and Behavioral Sciences, Brain Research, British Journal of Applied Science and Technology, British Journal of Medicine and Medical Research, British Journal of Psychology, Chaos, Child Development, Child Development Research, Clinical Neurophysiology, Cognition Brain and Behavior, Developmental Psychobiology, Developmental Psychology, Developmental Medicine & Child Neurology, Developmental Neuropsychology, Developmental Science, Emotion, Ergonomics, Exercise and Sport Sciences Reviews, Experimental Aging Research, Experimental Brain Research, European Journal of Applied Physiology, European Journal of Cognitive Psychology, European Journal of Neuroscience, European Journal of Pediatric Neurology, European Journal of Sport Science, European Review of Aging and Physical

Activity, *Frontiers in Neuroscience*, *Frontiers in Psychology*, *Human Factors*, *Human Performance*, *Infant Development and Behavior*, *International Journal of Sport Psychology*, *IEEE Transactions on Systems, Man and Cybernetics*, *International Journal of Sports Science and Coaching*, *International Journal of the History of Sport*, *Laterality: Asymmetries of Body, Brain and Cognition*, *Leisure Sciences*, *Journal of Applied Biomechanics*, *Journal of Biomechanics*, *Journal of Biological Physics*, *Journal of Experimental Child Psychology*, *Journal of Experimental Psychology: Applied*, *Journal of Experimental Psychology: Human Perception and Performance*, *Journal of the American Medical Directors Association*, *Journal of Applied Psychology*, *Journal of Experimental Psychology: Learning, Memory and Cognition*, *Journals of Gerontology: Medical Sciences*, *Journals of Gerontology: Psychological Sciences*, *Journal of Mathematical Psychology*, *Journal of Neurology, Neurosurgery, & Psychiatry*, *Journal of Neurophysiology*, *Journal of Neuroscience*, *Journal of Neuroscience Methods*, *Journal of Personality*, *Journal of Psychology*, *Journal of the Royal Society Interface*, *Journal of Sports Sciences*, *Journal of Sports Science and Medicine*, *Kinesiology Review*, *Laterality*, *Measurement in Physical Education and Exercise Science*, *Medicine & Science in Sports & Exercise*, *Memory and Cognition*, *Merrill-Palmer Quarterly*, *Motor Control*, *Muscle & Nerve*, *Nature Scientific Reports*, *Neurobiology of Aging*, *Neuroscience*, *Neuroscience Letters*, *Neurotoxicology and Teratology*, *Nonlinear Dynamics, Psychology, and Life Sciences*, *Perception and Psychophysics*, *Perceptual and Motor Skills*, *Perspectives on Psychological Science*, *Physica D*, *Physical Educator*, *Physical Therapy*, *PLoS ONE*, *Psychological Bulletin*, *Psychological Research*, *Psychological Review*, *Psychological Science*, *Psychology and Aging*, *Psychology of Sport & Exercise*, *Quest*, *Psychonomic Bulletin & Review*, *Research Quarterly for Exercise and Sport Science*, *Quarterly Journal of Experimental Psychology*, *Science*, *Sports Medicine*, *The Journal of Pediatrics*, *The Open Sports Sciences Journal*, *Trainingswissenschaft*, *Transactions on Biomedical Engineering*, *World Haptics*.

Have reviewed Grants and Fellowship Applications for: Agencerecherche, France; Australian Science Council; Canada Council; Canadian Institutes of Health Research; Guggenheim Foundation; Health Research Board of Ireland; Illinois Association of Health, Physical Education and Recreation; Israel Science Foundation, March of Dimes Foundation; National Science Foundation; National Institutes of Health (including being on Study Sections); Illinois Department of Mental Health; Netherlands Organization for Scientific Research, Singapore Office of education, Wellcome Trust (London, England), University of Connecticut.

#### External Reviewer Master's Degrees

Taiwan Normal University, Taipei, Department of Physical Education, 2006

Tsung-Yu Hsieh, Taiwan Normal University, Taipei, Department of Physical Education, 2007

Lee, I-C. The learning of riding a unicycle: Changes of coordination structures.

Taiwan Normal University, Graduate Institute of Exercise and Sport Science, 2010

#### External Reviewer Doctoral Degrees

University of Waterloo, Canada, Department of Kinesiology, 1984

Flinders University, Australia, Department of Psychology, 1986

University of Australia, Perth, Australia, Department of Human Movement and Recreation Studies, 1989

Free University, Amsterdam, The Netherlands, Faculty of Human Movement Sciences, 1991

Taiwan Normal University, Taipei, Department of Physical Education, 2002

Manchester Metropolitan University, England, 2004

Ying Hwa Kee, Taiwan Normal University, Taipei, Taiwan, 2009

Tyler Cluff, Neuroscience, McMaster University, Canada, 2011

Williams, Genevieve. Cardiff School of Sport, University of Wales Institute, Cardiff, UK, 2012

Kilby, Melissa C. Movement Science, Johannes Gutenberg University, Mainz, Germany (2013)

Orth, Dominic. Sports Science, University of Rouen, France (2015)

Rudisch, Julian, Rehabilitation, Oxford Brookes University, Oxford, England

Rusga, Tom, Cardiff School of Sport, University of Wales Institute, Cardiff, UK

#### External Reviewer Habilitation

Universit e de Marseille – M diterran enne. Movement and Perception Group, Dr. Benoit Bardy, 1998.

Lisbon Institute, Human Kinetics, Dr. Duarte Araujo, 2013

#### External Reviewer of Programs

University of Minnesota, Department of Kinesiology Graduate Program, 1990

Institute for Fundamental and Clinical Human Movement Sciences, The Netherlands, 2001

University of Queensland, School of Human Movement Studies, Australia, 2005

University of Massachusetts, Department of Kinesiology Doctoral Program, Amherst, MA.

October 2007.

University of Florida, Department of Kinesiology Doctoral Program, Gainesville, Fl. April 2008.

NASPSPA Awards Committee 2012

NIH National Children's Study – Motor Functioning Committee – 2013-2014

COBRE External Advisory Committee, University of Omaha, Nebraska – 2014 to present

## **VII. Grants and Contracts**

Newell, K. M. Knowledge of results and children's motor learning. University of Illinois Research Board for the period of August 21, 1975 to May 1976. \$2,343.

Newell, K. M. Response complexity and the motor skill performance of retarded persons. The Illinois Department of Mental Health for the period of July 1, 1976 - June 30, 1977. \$13,968.

Barclay, C. R., & Newell, K. M. Metamotorial knowledge. The College of Education, University of Illinois, November 1, 1976 - August 20, 1977. \$4,050.

Newell, K. M. Response complexity and the motor skill performance of retarded persons. The Illinois Department of Mental Health for the period July 1, 1977 - June 30, 1978. \$14,839.

Newell, K. M. On the correction of movement errors. University of Illinois Research Board for the period August 21, 1978 - May 1979. \$4,000.

Newell, K. M. Response complexity and the motor skill performance of retarded persons. The Illinois Department of Mental Health for the period July 1, 1978 - June 30, 1980. \$31,731.

Newell, K. M., & Ward, C. H. T. Increase core size of PDP-11/03 computer. University of Illinois Research Board - November 1979. \$11,000.

Newell, K. M. Response complexity and the motor skill performance of retarded persons. The Illinois Department of Mental Health for the period July 1, 1980 - June 30, 1981. \$17,031.

Newell, K. M. Kinematic and kinetic parameters as information feedback in motor skill learning. National Science Foundation for the period October 1, 1980 - March 31, 1984. \$149,988. NSF DAR-8016287.

Newell, K. M. The correction of movement error. NIH Senior Fellowship for the period September 1, 1980 - August 21, 1981. \$18,277.

Newell, K. M., & Ward, C. H. T. Arnold O. Beckman Research Award, University of Illinois, 1982. \$8,277.

Newell, K. M., Carlton, L. G., & Groppe, J. Movement recording apparatus. University of Illinois, 1984. \$75,000.

Newell, K. M. Kinematic information feedback and motor skill learning. National Science Foundation. March 1, 1984 - August 31, 1987. \$122,580.

Newell, K. M. Learning strategies program. Defense Advanced Research Projects Agency, April 1, 1984 - March 31, 1986. \$77,375.

Newell, K. M. Development of coordination in physical activity. University of Illinois Research Board, August 21, 1984 - May 20, 1985. \$6,000.

- Flach, J., Adams, J., Kramer, A., Wickens, C., & Newell, K. Manual control instruction facility. IBM Project Excel, University of Illinois at Urbana-Champaign, 1985. \$29,429.
- Newell, K. M., & Sprague, R. L. Tardive dyskinesia and stereotypic movement disorders. National Institutes of Health, September 1, 1987 - August 30, 1990. \$420,048.
- Newell, K. M. Modelling speed-accuracy relationships in motor control. University of Illinois Research Board, August 21, 1987 - May 31, 1988. \$5,384.
- Newell, K. M. Apparatus to measure human hand function. Biomedical Research Support Grant, 1988. \$6,500.
- Newell, K. M. Force platform equipment. National Institutes of Health, Small Instrumentation Program, 1988. \$15,745.
- Newell, K. M. Handwriting analysis. Lazar Bell Inc., 1988-1989, \$5,000.
- Newell, K. M., & Kugler, P. N. Computerized instruction of principles of human movement. Appled Seedlings Grant, 1989, \$4,156.
- Newell, K. M. UIUC-Hines VA Satellite Research Program, Hines VA, 1989-92, \$ 300,000.
- Newell, K. M., & Corcos, D. Conference on response variability and motor control. Sponsored by the Vice-President's office, University of Illinois and Human Kinetics Publishers, 1989, \$10,000.
- Newell, K. M., Kugler, P. N., Riccio, G. E., & Sprague, R. Biomedical Research Support Grant, 1989, \$10,000.
- Newell, K. M. Children's motor skill acquisition. University of Illinois Research Board, August 21, 1990 - August 20, 1991, \$8,676.
- Newell, K. M., & McAuley, E. Exercise Physiology Recording System. National Institutes of Health Small Instrumentation Award, 1990, \$5,000.
- Newell, K. M. Studies on hand function. Metaphase Design, St. Louis, 1988-1995, \$125,000.
- Newell, K. M., & Sprague, R. L. Tremor as an index of aging. Office of Aging and Gerontology, University of Illinois, May 1991, \$500.
- Newell, K. M., & Sprague, R. L. Tardive dyskinesia and stereotypic movement disorders. National Institutes of Health, April 1, 1991 - September 31, 1995, \$675,520.
- Sprague, R. L., & Newell, K. M. Conference on stereotypic behavior. American Psychological Association, 1992, \$5,700.
- Sternad, D., (PI) & Newell, K. M. A dynamical analysis of force production in rhythmic tapping and its application as a diagnostic tool for Parkinson patients. College of Health and Human Development Seed Grant, 1995-96. \$5,000.
- Slifkin, A. B. Variability and movement control. NIH Postdoctoral Award. 1995-99. (Newell - mentor). \$100,000.
- Cavanagh, P. R. (PI). Posture in the neuropathic elderly. (Newell – Investigator). National Institutes of Health, September 1994-September 1997. \$763,762.
- Newell, K. M. Measurement and evaluation of the movement dynamics of Parkinson's disease and tardive dyskinesia. Part of General Clinical Research Center, C. M. Evarts (PI). National Institutes of Health, 1995-2000. \$13,800,000 (total grant).

- Newell, K. M. Tardive dyskinesia and stereotypic movement disorders. National Institutes of Health. May 1, 1996 - April 30, 2000. \$942,839.
- Newell, K. M. The dynamics of akathisia. National Institutes of Health, January 1, 1997-December 30, 1999. \$643,139.00
- Newell, K. M. Aging and the complexity of motor output. Gerontology Center, Pennsylvania State University, 1999-2000. \$3,500.00.
- Kozub, F., (PI) & Newell, K. M. A preliminary study of the relationship between physical activity of adolescents with MR and their parent/giver. College of Health and Human Development. 2000. \$7,825.00
- Newell, K. M. Time scales and motor learning. National Science Foundation, 2001-2004. \$394,314.00
- Zarit, S. (PI). Interdisciplinary Training in Gerontology. Newell, K. M. (I). National Institutes of Health, 2000-2005. \$1,577,535.
- Feinberg, M. (PI). Modeling sustained, effortful attention in children: Time series analysis of multiple channels. Newell, K. M. (I). Children, Youth, and Family Consortium. 2000-2002. \$10,000.
- Newell, K. M. Novel antipsychotics and stereotypic movement disorders. National Institutes of Health. 2003-2009. \$1,619,410.
- Davidson, K., Birch, L., & Newell, K. M. Predictors of physical activity in adolescents. Children, Youth, and Family Consortium. 2003-2004. \$15,000.00
- Newell, K. M. Aging and the complexity of visual-motor behavior. National Institutes of Health. 2004-2006. \$111,360.00
- Newell, K. M. Time scales and motor learning. National Science Foundation, 2005-2009. \$283,725.00
- Slobounov, S. M. (PI). Newell, K. M. (I). Identification of athletes at risk for traumatic brain injuries. National Institutes of Health, 2007-2012. \$1,709,357.
- Molenaar, P. C. M., & Newell, K. M. Individual pathways of change in learning and development. American Psychological Association. 2008-09. \$15,000.
- Newell, K. M., Challis, J. H., Bartok, C. Growth and obesity during adolescence: Inertial constraints on physical activity. AAHPERD, 2008-2009. \$15,000.
- Bartok, C. (PI), Newell, K. M. (I). Examining relations among gait pattern, physical activity, and changes in weight/body fatness among postpartum women and young children. Children, Youth and Family Consortium, Penn State. 2008. \$20,000.
- Newell, K. M. Time scales and motor learning. National Science Foundation, 2009-2012. \$303,725.00
- Newell, K.M., Challis, J. H., & Bartok, C. J. Growth and obesity during adolescence: Inertial constraints on physical activity. Children, Youth and Family Consortium, Penn State. 2009. \$5,000.
- Newell, K.M., Challis, J. H., Bartok, C. J., & Molenaar, P. C. M. Growth and obesity during adolescence: Inertial constraints on physical activity. Children, Youth and Family Consortium, Penn State. 2009. \$20,000.
- Molenaar, P.C. M., Lerner, R. M., & Newell, K. M. Handbook of developmental systems theory and methodology. Guildford Publications, 2010. \$15,000.

Williams, G., Newell, K. M., & Gordon, D. Understanding skill acquisition from a dynamical systems perspective – the overarm throw. Anglia Ruskin University, Cambridgeshire, UK. 2016-2019. \$20,000.

### VIII. Publications

#### A. Books

- Roberts, G. C., & Newell, K. M. (Eds.). (1978). Psychology of motor behavior and sport. Champaign: Human Kinetics.
- Nadeau, C. H., Halliwell, W. R., Newell, K. M., & Roberts, G. C. (Eds.). (1980). Psychology of motor behavior and sport. Champaign: Human Kinetics.
- Newell, K. M. (Ed.). (1992). Dynamical approaches to motor skill acquisition. Theme Issue. Journal of Motor Behavior (Vol. 1).
- Newell, K. M., & Corcos, D. M. (Eds.). (1993). Variability and motor control. Champaign: Human Kinetics.
- Sprague, R. L., & Newell, K. M. (Eds.). (1996). Stereotypes: Brain-behavior relations. Washington, D.C: American Psychological Association.
- Newell, K. M., & Molenaar, P. M. C. (Eds.). (1998). Applications of nonlinear dynamics to developmental process modeling. Hillsdale, NJ: Erlbaum.
- Davids, K., Bennett, S., & Newell, K. (Eds.). (2006). Variability in the movement system: A multidisciplinary perspective. Champaign, Ill: Human Kinetics.
- Molenaar, P. C. M., & Newell, K. M. (Eds.). (2010). Individual pathways of change: Statistical models for analyzing learning and development. Washington, D.C.: American Psychological Association.
- Molenaar, P. C. M., Lerner, R. M & Newell, K. M. (Eds.). (2014). Handbook of developmental systems theory and methodology. New York, NY: Guilford Publications.

#### B. Chapters in Books

- Newell, K. M., & R. Martens. (1974). Applications of multivariate analysis of variance in motor behavior research. In M. G. Wade & R. Martens (Eds.), Psychology of motor behavior and sport. Urbana, IL: Human Kinetics Publishing.
- Newell, K. M. (1975). On assessment of motor impairment. In final report of the State of Research Review and Conference on the Psycho-Motor Development of Preschool and Handicapped Children. Bureau of the Education for the Handicapped. Contract No. 300-75-0025.
- Newell, K. M. (1975). On motor learning without knowledge of results. In D. M. Landers & R. Christina (Eds.), Psychology of sport and motor behavior. University Park, PA: College of HPER, The Pennsylvania State University.
- Shapiro, D. C., & K. M. Newell. (1975). Variability of practice and transfer of training. In D. M. Landers & R. Christina (Eds.), Psychology of sport and motor behavior. University Park, PA: College of HPER, The Pennsylvania State University.
- Newell, K. M. (1976). Knowledge of results and motor learning. In J. Keogh & R. S. Hutton (Eds.), Exercise and Sport Sciences Reviews, Vol. 4. Santa Barbara, CA: Journal Publishing Affiliates.



- Newell, K. M. (1976). Knowledge of results and children's motor learning. In U. Simiri (Ed.), Motor learning in physical education and sport. Netanya, Israel: Wingate Press.
- Newell, K. M. (1977). Theories of motor learning. In R. A. Schmidt & E. A. Fleishman (Eds.), Section IX: Psychomotor learning and performance. In B. B. Wolman (Ed. in chief), International encyclopedia of neurology, psychiatry, psychoanalysis and psychology. New York: Von Nostrand.
- Newell, K. M. (1977). Knowledge of results and feedback. In R. A. Schmidt & E. A. Fleishman (Eds.), Section IX: Psychomotor learning and performance. In B. B. Wolman (Ed. in Chief), International encyclopedia of neurology, psychiatry, psychoanalysis and psychology. New York: Von Nostrand.
- Newell, K. M. (1977). Principles of skill acquisition and their implications for assessment and programming. In R. E. Stadulis (Ed.), Research and practice and physical education. Champaign, IL: Human Kinetics.
- Newell, K. M. (1977). Motor control: Developmental issues. Proceedings of NCPEAM/NCPEAW Conference. NAPCEAM.
- Newell, K. M. (1978). Reaction to Jones' paper--The role of efference in motor behavior. In D. M. Landers & R. Christina (Eds.), Psychology of motor behavior and sport. Champaign, IL: Human Kinetics.
- Newell, K. M. (1978). Some issues on action plans. In G. E. Stelmach (Ed.), Information processing in motor control and learning. New York: Academic Press.
- Newell, K. M. (1980). The speed-accuracy paradox in movement control: Errors of time and space. In G. E. Stelmach & J. Requin (Eds.), Tutorials in motor behavior. Amsterdam: North-Holland.
- Carlton, M. J., & Newell, K. M. (1980). The relationship between response initiation and response outcome. In P. Klavara & J. Flowers (Eds.), Motor learning and biomechanical factors in sport. Toronto: University of Toronto.
- Newell, K. M. (1981). Skill learning. In D. H. Holding (Ed.), Human skills. New York: Wiley.
- Newell, K. M., & Hancock, P. A. (1981). Kinematic and kinetic parameters as information feedback in the acquisition of man-machine skills. Proceedings of the Human Factors Society.
- Newell, K. M., & Barclay, C. R. (1982). Developing knowledge about action. In J. A. S. Kelso & J. Clark (Eds.), The development of movement control and coordination. New York: Wiley.
- Wade, M. G., Hoover, J. H., & Newell, K. M. (1983). Training and trainability in motor skill performance of mentally retarded persons. In J. Hogg & P. Mittler (Eds.), Aspects of competence (Vol. 2). New York: Wiley.
- Newell, K. M. (1983). Physical constraints to the development of motor skills. In J. R. Thomas (Ed.), Motor development during preschool and elementary years. Minneapolis: Burgess.
- Newell, K. M., & Hancock, P. A. (1983). Space-time and motion study. Proceedings of the Human Factors Society.
- Hancock, P. A., & Newell, K. M. (1985). The movement speed-accuracy relationship in space-time. In H. Hueur, U. Kleinbeck & K. H. Schmidt (Eds.), Motor behavior: Programming, control and acquisition. Berlin: Springer.
- Robertson, R. N., Carlton, M. J., Carlton, L. G., & Newell, K. M. (1985). Height and slope of IEMS and predictors of torque parameters. In D. A. Winter (Ed.), Biomechanics-IX. Champaign, IL: Human Kinetics.

- Carlton, L. G., & Newell, K. M. (1985). Force variability in isometric tasks. In D. A. Winter (Ed.), Biomechanics-IX. Champaign, IL: Human Kinetics.
- Newell, K. M. (1985). Motor skill acquisition and mental retardation: Overview of traditional and current orientations. In J. E. Clark & J. H. Humphrey (Eds.), Current selected research in motor development, (Vol. 1). Princeton: NJ: Princeton Book Co.
- Newell, K. M., Morris, L. R., & Scully, D. M. (1985). Augmented information and the acquisition of skill in physical activity. In R. L. Terjung (Ed.), Exercise and Sport Sciences Reviews, (Vol. 13) (pp. 235-261). Lexington, MA: Collamore Press.
- Newell, K. M. (1985). Coordination, control and skill. In D. Goodman, I. Franks & R. Wilberg (Eds.), Differing perspectives in motor learning, memory and control (pp. 295-317). Amsterdam: North-Holland.
- Newell, K. M. (1986). Constraints on the development of coordination. In M. G. Wade & H. T. A. Whiting (Eds.), Motor skill acquisition in children: Aspects of coordination and control (pp. 341-360). Amsterdam: Martinus Nijhoff.
- Newell, K. M. (1986). Comments on coordination, control and skill papers. In M. G. Wade (Ed.), Motor skill development in the mentally handicapped: Issues in research and training. Amsterdam: North Holland.
- Carlton, L. G., & Newell, K. M. (1986). The role of impulse parameters in force variability. In R. Jagacinski (Ed.), 21st Proceedings of the Annual Conference on Manual Control.
- van Emmerik, R. E. A., & Newell, K. M. (1987). Topological characteristics in the acquisition of coordination. In L. S. Mark, J. Warm, & R. L. Huston (Eds.), Human factors and ergonomics: Recent research. New York: Springer-Verlag.
- Newell, K. M. (1987). Skill learning and human factors: A brief overview. In L. S. Mark, J. Warm, & R. L. Huston (Eds.), Human factors and ergonomics: Recent research. New York: Springer-Verlag.
- Newell, K. M., & Carlton, M. J. (1987). Augmented information feedback and task constraints. In L. S. Mark, J. Warm, & R. L. Huston (Eds.), Human factors and ergonomics: Recent research. New York: Springer-Verlag.
- Sprague, R. L., & Newell, K. M. (1987). Toward a movement control perspective of tardive dyskinesia. In Meltzer, Bunney, Coyle, Davis, Kopin, Schuster, Shader, & Simpson (Eds.), Psychopharmacology: The third generation of progress. New York: Raven Press.
- Newell, K. M., & Scully, D. M. (1988). Steps in the development of coordination: Perception of relative motion? In J. E. Clark & J. H. Humphrey (Eds.), Advances in motor development research (Vol. 1, pp. 153-170). New York: AMS Press.
- van Emmerik, R. E. A., & Newell, K. M. (1989). The relationship between pen-point and joint kinematics in handwriting and drawing. In C. Y. Suen, R. Plamondon, & Simner, M. L. (Eds.), Computer recognition and human production of handwriting (pp. 231-248). Singapore: World Scientific Publishing Company.
- Newell, K. M., Kugler, P. N., & Emmerik, R. E. A. van, & McDonald, P. V. (1989). Search strategies and the acquisition of coordination. In S. A. Wallace (Ed.), Perspectives on coordination (pp. 86-122). Amsterdam: North Holland.

- Newell, K. M., & van Emmerik, R. E. A. (1990). Are Gesell's developmental principles general principles for the acquisition of coordination. In J. E. Clark & J. H. Humphrey (Eds.), Advances in motor development research (Vol. 3), (pp. 143-164). New York: AMS Press.
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Morrison, S., Newell, K. M., & Kavanaugh, J. J. Differentiating between age- and disease-related postural tremor.

Pacheco, M. M., & Newell, K. M. Search strategies in practice: Influence of information and task constraints.

Pacheco, M. M., & Newell, K. M. Search strategies in practice: Movement variability affords perception of task dynamics.

*D. Reprint Work*

Burwitz, L., & Newell, K. M. (1972). The effects of the mere presence of coactors on learning a motor skill. *Journal of Motor Behavior*, *4*, 99-102. Also published in A. C. Fisher (Ed.), *Psychology of sport*, Palo Alto, CA: Mayfield Publishing Co., 1976.

Newell, K. M. (1974). Decision processes of baseball players. *Human Factors*, *16*, 520-527. Also published in W. F. Straub (Ed.), *Sport psychology: An analysis of athlete behavior*, (2nd Ed.). Ithaca, NY: Movement Publications, 1981.

*E. Reports*

Newell, K. M. (1989). Constraints, plans and action. *Journal of Motor Behavior*, *21*, 167-169.

Newell, K. M. (Chair), D. W. Edington, D. L. Feltz, G. C. Roberts, W. W. Spirduso, and C. L. Wells. (1997). *Kinesiology: The field of study*. Report to The American Academy of Kinesiology and Physical Education.

**IX. Presentations**

*A. Scholarly Annual Meetings*

Wade, M. G., & Newell, K. M. Performance criteria on the stabilometer and strategies for learning. Paper presented at the National Convention of the American Association of Health, Physical Education and Recreation (AAHPER), Houston, TX, March, 1972.

Newell, K. M. Flight feedback and learning a projectile task. Paper presented at the Fourth Canadian Psychomotor Learning Symposium, Waterloo, Canada, October, 1972.

Newell, K. M., & Martens, R. Applications of multivariate analysis of variance in motor behavior research. Paper presented at the Allerton Conference of the North American Society for the Psychology of Sport and Physical Activity (NASPSPA), Monticello, IL, May, 1973.

Newell, K. M. On motor learning without knowledge of results. Paper presented at NASPSPA, Penn State University, May, 1975.

Shapiro, D. C., & Newell, K. M. Variability of practice and transfer of training. Paper presented at NASPSPA, Penn State University, May, 1975.

- Newell, K. M. On assessment of motor impairment. Paper presented to the Roundtable in Research on the Psychomotor Development of Young Handicapped Children, University of Wisconsin, Milwaukee, September, 1975.
- Newell, K. M., & Shapiro, D. C. Knowing which modality to produce in the matching of visual and kinesthetic information. Paper presented at the Seventh Canadian Psychomotor Learning Symposium, Quebec, Canada, October, 1975.
- Newell, K. M. Knowledge of results and children's motor learning. Paper presented at AAHPER, Milwaukee, WI, April, 1976.
- Newell, K. M. Principles of skill acquisition and their implications for assessment and programming. Paper presented at the Research Symposium "Practical and conceptual problems in the linkage between assessment and programming for motor disabled children," AAHPER, Milwaukee, WI, April, 1976.
- Newell, K. M. Knowledge of results and children's motor learning. Paper presented at the International Seminar on Motor Learning. Wingate Institute, Israel, April 1976.
- Newell, K. M. Precision of knowledge of results and children's motor learning. Paper presented at NASPSPA, The University of Texas, Austin, May, 1976.
- Newell, K. M. Issues and trends in motor learning. Paper presented at the Conference of the American College of Sports Medicine, The University of Iowa, Iowa City, September, 1976.
- Newell, K. M. Motor control: Developmental issues. Paper presented at the Joint NAPCEAM/NAPCEAW Conference, Orlando, Florida, January, 1977.
- Newell, K. M. Motor plans and motor learning. Paper presented at CIC Big Ten Conference on information processing, motor control and learning, University of Wisconsin, April, 1977.
- Zelaznik, H., Shapiro, D. C., & Newell, K. M. On the generalizability of the response recognition schema. Paper presented at the Canadian Psychomotor Learning Symposium, Banff, Alberta, Canada, September, 1977.
- Hoshizaki, L., & Newell, K. M. Attention demands of movements as a function of their duration. Paper presented at the Canadian Psychomotor Learning Symposium, Banff, Alberta, Canada, September, 1977.
- Wade, M. G., Newell, K. M., & Wallace, S. A. Decision time and movement time as a function of response complexity in retarded persons. Paper presented at the Canadian Psychomotor Learning Symposium, Banff, Alberta, Canada, September, 1977.
- Wallace, S. A., & Newell, K. M. Fitts' Law and visual processing in discrete movements. Paper presented at the Canadian Psychomotor Learning Symposium, Banff, Alberta, Canada, September, 1977.
- Newell, K. M. Observation learning and information feedback: Applications for teaching and coaching. Paper presented at AAHPER, Kansas City, April, 1978.
- Newell, K. M. Movement time and velocity as determinants of movement accuracy. Paper presented at NASPSPA, Tallahassee, Florida, May, 1978.
- Hoshizaki, L. E. F., & Newell, K. M. Latency to move as a function of temporal duration and velocity. Paper presented at NASPSPA, Tallahassee, Florida, May, 1978.

- Carlton, M. J., & Newell, K. M. The relationship between response initiation and response outcome. Paper presented at the Canadian Psychomotor Learning Symposium, Toronto, November, 1978.
- Hoshizaki, L. E. F., Hoshizaki, T. B., & Newell, K. M. The programming of force. Paper presented at the Canadian Psychomotor Learning Symposium, Toronto, November, 1978.
- Newell, K. M., Wade, M. G., & Price, R. J. On the relationship of motor learning to adapted physical education. BEH Conference Project Infuse, University of Colorado, November, 1978.
- Newell, K. M., & Hoshizaki, L. E. F. Velocity as a factor in the programming of movements. Paper presented at the Psychonomic Society Meeting, San Antonio, November, 1978.
- Newell, K. M., & Barclay, C. R. Developing knowledge about action. Paper presented at the CIC Big Ten Conference on Motor Development, University of Iowa, Iowa City, April, 1979.
- Newell, K. M. Response complexity and the manual skills of the developmentally disabled. Paper presented at AAMD, Miami, Florida, May, 1979.
- Newell, K. M. Timing in fast and slow movements. Paper presented at the NATO Advanced Study Institute on Motor Learning and Control, Marseilles, France, June, 1979.
- Newell, K. M. Some aspects in the programming of movements. Paper presented at the Engineering Foundation Conference on the Biomechanics of Movement, Hennicker College, New Hampshire, June, 1979.
- Newell, K. M. Information processing in children's motor learning. Paper presented at the International Conference on Physical Education, Trois Rivieres, Canada, June, 1979.
- Carlton, M. J., & Newell, K. M. Movement outcomes as a function of response modification. Paper presented at the International Conference on Physical Education, Trois Rivieres, Canada, June, 1979.
- Wade, M. G., & Newell, K. M. Training or practice is there a difference? Paper presented at the International Symposium on Mental Retardation, Trois Rivieres, Canada, June, 1979.
- Newell, K. M. Timing fast and slow movements. Paper presented at Conference on Neural Bases of Motor Control, Teacher's College, Columbia, New York, March, 1980.
- Wade, M. G., Newell, K. M., & Hoover, J. H. Timing behavior in mentally handicapped workers. Paper presented at the 13th Gatlinburg Conference on Mental Retardation, Gatlinburg, TN, March, 1980.
- Hoover, J. H., Wade, M. G., & Newell, K. M. The trainability of RT and MT in adult moderately mentally handicapped workers. Paper presented at the 13th Gatlinburg Conference on Mental Retardation. Gatlinburg, TN, March, 1980.
- Carlton, M. J., Newell, K. M., Halbert, J. A., & Carlton, L. G. Velocity as a factor in movement timing accuracy. Paper presented at the National Convention of the American Alliance of Health, Physical Education, Recreation and Dance, Detroit, MI, April, 1980.
- Carlton, L. G., Pike, N. L., & Newell, K. M. Evaluation of kinesthetic sensory information: The relationship between physical distance and its perception. Paper presented at the American College of Sports Medicine (ACSM) Annual Meeting, Las Vegas, May, 1980.
- Hancock, P. A., & Newell, K. M. A space-time description of the speed accuracy trade-off. Paper presented at NASPSPA, Boulder, CO, May, 1980.
- Newell, K. M. Kinematic and kinetic parameters as information feedback in the acquisition of skill. Paper presented at APA, Montreal, Canada, September, 1980.

- Carlton, L. G., Carlton, M. J., & Newell, K. M. The measurement of response amendments. Paper presented at the Physical Education Measurement Symposium, Houston, TX, October, 1980.
- Newell, K. M., & Zelaznik, H. N. Is time a parameter of the motor program? Paper presented at the Psychonomic Society Meeting, St. Louis, MO, November, 1980.
- Newell, K. M., Wade, M. G., & Hoover, J. H. Contributions of perceptual and motor components to the choice reaction time of moderately mentally handicapped persons. Presented at the 14th Gatlinburg Conference on Research in MR/DO, Gatlinburg, TN, March, 1981.
- Wade, M. G., Newell, K. M., & Hoover, J. H. The training of reaction time and movement time during a ballistic aiming response in moderately and severely retarded persons. Paper presented at the 14th Gatlinburg Conference on Research in MR/DO, Gatlinburg, TN, March, 1981.
- Carlton, L. G., Carlton, M. J., & Newell, K. M. Timing fast and slow constant velocity movements. Paper presented at NASPSPA, Asilomar, May, 1981.
- Newell, K. M., & Hancock, P. A. Kinematic and kinetic parameters as information feedback in the acquisition of skill. Paper presented at Human Factors Society 25th Meeting, Rochester, NY, October, 1981.
- Newell, K. M., Carlton, L. G., & Carlton, M. J. The relationship of impulse to response timing error. Paper presented at the Psychonomic Society, Philadelphia, PA, November, 1981.
- Newell, K. M., Marcus, S. L., & Houk, J. C. Preload effects on compensatory responses to limb disturbances. Paper presented at the Chicago Chapter of the Neuroscience Society, Chicago, IL, May, 1982.
- Newell, K. M., Hancock, P. A., Carlton, L. G., & Zelaznik, H. N. Kinematics and kinetics of response variability. Symposium presented at NASPSPA, University of Maryland, May, 1982.
- Newell, K. M., Walter, C. B., Quinn, J. T., & Sparrow, W. A. Contrasting information feedback parameters for learning a simple rapid response. Paper presented at NASPSPA, University of Maryland, May, 1982.
- Newell, K. M. Comments on Ornstein's paper. Paper presented at NASPSPA, University of Maryland, May, 1982.
- McFarquhar, R. H., & Newell, K. M. Attentional strategies in programmed movements. Paper presented at NASPSPA, University of Maryland, May, 1982.
- Carlton, L. G., Carlton, M. J., & Newell, K. M. The relationship between individual trial characteristics and movement outcome. Paper presented at NASPSPA, University of Maryland, May, 1982.
- Carlton, L. G., & Newell, K. M. The relationship between force and force variability in timing responses. Paper presented at the Canadian Society for Psychomotor Learning and Sports Psychology, Edmonton, Alberta, Canada, October, 1982.
- Newell, K. M., Marcus, S. L., & Houk, J. C. Preload effects on compensatory responses to limb disturbances. Paper presented at Society for Neuroscience Meeting, Minneapolis, MN, November, 1982.
- Newell, K. M., & Hancock, P. A. Movement accuracy in space-time. Paper presented at Psychonomic Society, Minneapolis, MN, November, 1982.



- Newell, K. M. Coordination and skill: Concepts and problems. Paper presented at 16th Annual Gatlinburg Conference on Research in Mental Retardation. Gatlinburg, TN, March, 1983.
- Newell, K. M., Quinn, J. T., & Sparrow, W. A. Kinetic and kinematic information feedback for learning single degree of freedom tasks. Paper presented at NASPSPA, Michigan State University, May, 1983.
- Newell, K. M., & Hancock, P. A. Movement accuracy in space- time. Paper presented at International Conference on Psychology of Motor Behavior, University of Dortmund, Germany, March, 1983.
- Newell, K. M. Models of force production: Evidence from isometric tasks. Paper presented at Motor Control Conference, Madison, WI, November, 1983.
- Newell, K. M., & Carlton, L. G. On the force/force variability relationship. Paper presented at the Psychonomic Society Meeting, San Diego, CA, November, 1983.
- Newell, K. M., & Carlton, L. G. Reaction time and response parameters: The significance of rate of force production. Paper presented at the Experimental Psychology Society, London, England, January, 1984.
- Newell, K. M. Coordination, control and skill. Paper presented at the Interdisciplinary Conference, Jackson Hole, WY, January, 1984.
- Hancock, P. A., Carlton, L. G., & Newell, K. M. An analysis of kinetic response variability. Paper presented at the 20th Annual Conference on Manual Control, NASA-Ames Research Center, May, 1984.
- Newell, K. M. The development of coordination: The significance of task constraints. Paper presented at the American Association for the Advancement of Science, May, 1984.
- Newell, K. M., & Hancock, P. A. The movement speed-accuracy relationship in space-time. Paper presented at the Motor Skills Research Exchange Conference, Amsterdam, July, 1984.
- Newell, K. M. Coordination, control and skill. Paper presented at Motor Control Symposium, Simon Fraser University, Vancouver, Canada, July, 1984.
- Newell, K. M. Stages in the development of coordination: Perception of relative motion. Paper presented at the Olympic Scientific Congress, July, 1984.
- Carlton, M. J., Carlton, L. G., Robertson, R. N., & Newell, K. M. The structure of temporal parameters in simple timing responses. Paper presented at the Olympic Scientific Congress, July, 1984.
- Newell, K. M. Representation and action: Necessary and sufficient principles. Paper presented at the XXIII International Congress of Psychology, Acapulco, Mexico, September, 1984.
- Newell, K. M. Reaction to papers on coordination, control and skill. NIH Conference on Motor Skills and Mental Retardation. Washington, D.C., September, 1984.
- Carlton, L. G., & Newell, K. M. The role of impulse parameters in force variability. Paper presented at the 21st Annual Conference on Manual Control, Ohio State University, Columbus, OH, June, 1985.
- Newell, K. M. Topological characteristics of coordination: Principles of acquisition. Paper presented at the 3rd International Conference on Event Perception and Action. Uppsala University, Sweden, June, 1985.
- Newell, K. M. The development of coordination: Prescriptions vs constraints. Paper presented at NATO Conference on Motor Development. Maestricht, Holland, July, 1985.

- Newell, K. M. Acquisition of coordination. Paper presented at International Society for Ecological Psychology Meeting on Perception and Action, Lake Forest College, IL, May, 1986.
- Newell, K. M., & Carlton, M. J. Kinematic information and task constraints. Paper presented at NASPSPA, Phoenix, AZ, June, 1986.
- van Emmerik, R. E. A., & Newell, K. M. Topological characteristics of coordination: Principles of acquisition. Paper presented at NASPSPA, Phoenix, AZ, June, 1986.
- Newell, K. M., & Carlton, M. J. Kinematic information feedback and task constraints. Paper presented at Third Mid-Central Ergonomics/Human Factors Conference, Miami University, Oxford, OH, June, 1986.
- van Emmerik, R. E. A., & Newell, K. M. Topological characteristics of coordination: Principles of acquisition. Paper presented at Third Mid-Central Ergonomics/Human Factors Conference, Miami University, Oxford, OH, June, 1986.
- Newell, K. M. Acquisition of coordination. Paper presented at Loughborough International Conference, Loughborough, England, August, 1986.
- Newell, K. M. On psychophysiological measures of preparation. Psychophysiological Society Meeting, Montreal, Canada, October, 1986.
- Newell, K. M., Carlton, M. J., & Antoniou, A. Kinematic information feedback and two dimensional task constraints. Paper presented at NASPSPA, Vancouver, Canada, May, 1987.
- van Emmerik, R. E. A., & Newell, K. M. Phase transitions in intra-limb relative motion patterns in drawing. Paper presented at NASPSPA, Vancouver, Canada, May, 1987.
- McDonald, P. V., van Emmerik, R. E. A., & Newell, K. M. Biokinematic analysis of relative segmental motion in a projectile task. Paper presented at NASPSPA, Vancouver, Canada, May, 1987.
- Newell, K. M. Task constraints and skill acquisition. Paper presented to the 4th Mid-Central Ergonomics/Human Factors Conference, Champaign, IL, July, 1987.
- van Emmerik, R. E. A., & Newell, K. M. Effects of task constraints on inter-limb coordination patterns in a drawing task. Paper presented to the 4th Mid-Central Ergonomics/Human Factors Conference, Champaign, IL, July, 1987.
- Carlton, L. G., & Newell, K. M., & Carlton, M. J. Reaction time and response characteristics. Paper presented at the 4th Mid-Central Ergonomics/Human Factors Conference, Champaign, IL, July, 1987.
- van Emmerik, R. E. A., & Newell, K. M. The relationship between pen-point and joint dynamics in handwriting. Paper presented at the International Graphonomics Society, Montreal, Canada, July, 1987.
- Newell, K. M. Body scale and the development of prehension. Paper presented at the 4th International Conference on Event Perception and Action, Trieste, Italy, August, 1987.
- Newell, K. M. Body scale and the development of prehension. Paper presented at the Mid-West Motor Development Conference, Bloomington, IN, September, 1987.
- Newell, K. M., & Sprague, R. L. Tardive Dyskinesia and stereotypic movement disorders. 21st Gatlinburg Conference on Research and Theory in Mental Retardation and Developmental Disabilities. Gatlinburg, TN, March 1988.

- Kugler, P. N., Newell, K. M., Emmerik, R. E. A. van, & McDonald, P. V. Exploring the perceptual environment of biomechanical workspaces. Paper presented at the International Society for Ecological Psychology, Antioch, OH, May, 1988.
- Newell, K. M., & Rutter, B. G. An ecological approach to the study of prehension. Paper presented at NASPSPA, Knoxville, TN, June, 1988.
- Newell, K. M. Commentary on information and self-organization in biological workspaces. Paper presented at NASPSPA, Knoxville, TN, June, 1988.
- Kugler, P. N., Newell, K. M., Emmerik, R. E. A. van, & McDonald, P. V. Perceptually exploring biomechanical workspaces: Identifying search strategies. Paper presented at NASPSPA, Knoxville, TN, June, 1988.
- Kim, K. H., Newell, K. M., & Carlton, L. G. Impulse variability with changes in impulse shape. Paper presented at NASPSPA, Knoxville, TN, June, 1988.
- Kim, S., Carlton, L. G., & Newell, K. M. Peak force variability over a range of preloads, changes of force and times to peak force. Paper presented at NASPSPA, Knoxville, TN, June, 1988.
- Newell, K. M., Kim, Y-S., Carlton, L. G., & Golden, N. Response variability under changes of joint angles. Paper presented at NASPSPA, Knoxville, TN, June, 1988.
- Newell, K. M., Carlton, M. J., & Antoniou, A. The interaction of prior knowledge and feedback information in the learning of a two-dimensional drawing task. Paper presented at NASPSPA, Knoxville, TN, June, 1988.
- Carlton, L. G., Newell, K. M., Kim, Y-S., & Golden, N. Variability in isometric and anisometric force production with changes in joint angle. Paper presented at the American Society of Biomechanics Meeting, University of Illinois at Urbana-Champaign, September, 1988.
- Newell, K. M. Body scale and grasping in infants: The link between perceiving and acting. Paper presented at the Motor Development Conference, University of Illinois, September, 1988.
- Newell, K. M. Plans and constraints in the control of action. Paper presented at the Pre-Neuroscience Conference on Motor Control, Collingwood, Ontario, Canada, November, 1988.
- van Emmerik, R. E. A., & Newell, K. M. The influence of task and organismic constraints on intra-limb kinematics in a drawing task. Paper presented at Neuroscience Conference, Toronto, Canada, November, 1988.
- Sprague, R. L., van Emmerik, R. E.A., & Newell, K. M. Stereotypic facial movements of tardive dyskinesia patients. Paper presented at the American College of Neuropsychopharmacology Meeting, San Juan, December, 1988.
- Newell, K. M. Motor tasks to assess abnormal stereotypic movements. Paper presented at the 22nd Annual Gatlinburg Conference on Research and Theory in Mental Retardation/Developmental Disabilities, Gatlinburg, TN, March, 1989.
- Newell, K. M. Motor tasks to assess abnormal involuntary movements. Paper presented at the American Association of Mental Retardation, Chicago, IL, May, 1989.
- Newell, K. M., Carlton, L. G., Kim, S., & Chung, C. Movement accuracy in space-time. Paper presented at NASPSPA, Kent State University, OH, June, 1989.
- McDonald, P. V., van Emmerik, R. E. A., & Newell, K. M. The effects of practice on limb kinematics in a throwing task. Paper presented at NASPSPA, Kent State University, OH, June, 1989.

- Kim, C., Kim, Y., Carlton, L. G., & Newell, K. M. Movement accuracy in space-time. VII World Congress in Sport Psychology, Singapore, August, 1989.
- Newell, K. M. The development of prehension in infants. Paper presented at the NATO Conference on Sensory-Motor Organization and Development in Infancy, de Rosay, Normandy, France, July, 1989.
- Newell, K. M., Scully, D. M., McDonald, P. V., & Baillargeon, R. Task constraints and infant grip configurations. Paper presented at the International Conference on Perception and Action, Miami, OH, July, 1989.
- Newell, K. M. Augmented information and the acquisition of skill. Paper presented at the Motor Learning and Training of Sport Skills Conference, University of Saarbrucken, W. Germany, September, 1989.
- Newell, K. M. Motor control and Downs Syndrome. Paper presented at the Motor Control and Downs Syndrome Conference, Rush Presbyterian Medical School, Chicago, IL, October, 1989.
- Newell, K. M. Assessing the dynamics of abnormal stereotypic movements. Paper presented at the American Academy of Child and Adolescent Psychiatry, NY, October, 1989.
- van Emmerik, R. E. A., Sprague, R. L., & Newell, K. M. Kinematic analysis of stereotypic facial movements in tardive dyskinesia. Paper presented at the Annual Neuroscience Society Meeting, Phoenix, AZ, November, 1989.
- Sprague, R. L., van Emmerik, R. E. A., Newell, K. M. Finger tremor and tardive dyskinesia. Paper presented at the 23rd Gatlinburg Conference on Research and Theory in Mental Retardation and Developmental Disabilities. Brainerd, MN, March, 1990.
- Newell, K. M., van Emmerik, R. E. A., & Sprague, R. L. Finger tremor and tardive dyskinesia. Paper presented at the 1st International Congress of Movement Disorders, Washington, D.C., April, 1990.
- Newell, K. M., Scully, D. M., McDonald, P. V., & Baillargeon, R. Task constraints and infant grip configurations. Paper presented at 7th International Conference on Infant Studies, Montreal, Canada, April, 1990.
- Newell, K. M. Augmented information and motor skill acquisition. Paper presented at NASPSPA, Houston, TX, May, 1990.
- Newell, K. M. Dynamical systems and movement disorders. Paper presented at NASPSPA, Houston, TX, May, 1990.
- Newell, K. M., McDonald, P. V., & Kugler, P. N. Search strategies and the acquisition of skill. Paper presented at NATO Conference on Motor Neuroscience, Corsica, France, September, 1990.
- Newell, K. M., Carlton, L. G., & Kim, S. The speed accuracy trade-off in space-time. Paper presented at the Psychonomic Society, New Orleans, LA, November, 1990.
- Newell, K. M. Skill, stereotypy, and variability. Paper presented at the Variability and Motor Control Conference, Chicago, IL, April, 1991.
- Newell, K. M., & McDonald, P. V. Exploratory behavior in skill learning. Paper presented at NASPSPA, Asilomar, CA, June, 1991.
- Newell, K. M. Constraints on young children's tool behavior. Paper presented at ISSBD, Minneapolis, MN, July, 1991.

- Newell, K. M., & McDonald, P.V. Search strategies in learning to map perception and action. Paper presented at the International Conference on Event Perception and Action. Amsterdam, Holland, August, 1991.
- McDonald, P. V., & Newell, K. M. Learning as exploratory behavior I: Task Constraints. Paper presented at the International Conference on Event Perception and Action. Amsterdam, Holland, August, 1991.
- McDonald, P. V., Oliver, S. K., & Newell, K. M. Learning as exploratory behavior II: Anatomical constraints. Paper presented at the International Conference on Event Perception and Action. Amsterdam, Holland, August, 1991.
- Sprague, R. L., van Emmerik, R. E. A., & Newell, K. M. Dual and opposing effects of neuroleptic medication on arm tremor in the developmentally disabled. Paper presented at the 25th Gatlinburg Conference on Research and Theory in Mental Retardation and Developmental Disabilities. Gatlinburg, TN, March 18-21, 1992.
- Newell, K. M., Ko. Y., van Emmerik, R. E. A., & Sprague, R. L. The effects of neuroleptic medication on postural stability in the developmentally disabled. Paper presented at the 25th Gatlinburg Conference on Research and Theory in Mental Retardation and Developmental Disabilities. Gatlinburg, TN, March 18-21, 1992.
- Newell, K. M. New methods for assessing stereotypic and abnormal movements. Behavioral Analysis Society of Illinois Spring Conference, Shelbyville, IL, May, 1992.
- Newell, K. M. The acquisition of coordination. Paper presented at Workshop on Dynamics of Complex Systems, Florida Atlantic University, April, 1992.
- van Emmerik, R. E. A., Sprague, R. L., & Newell, K. M. Assessment of postural dynamics in tardive dyskinesia and developmental disability: Sway profile orientation and stereotypy. Paper presented at XIth International Symposium on Posture and Gait: Control Mechanisms, Portland, OR, May, 1992.
- Korach, M. S., Sprague, R. L., & Newell, K. M. Instrumental activity and postural stability as a function of developmental disability, tardive dyskinesia and age. Paper presented at XIth International Symposium on Posture and Gait: Control Mechanisms, Portland, OR, May, 1992.
- Newell, K. M., van Emmerik, R. E. A., Sprague, R. L. On postural stability and variability. Paper presented at XIth International Symposium on Posture and Gait: Control Mechanisms, Portland, OR, May, 1992.
- Newell, K. M. Learning to coordinate redundant biomechanical degrees of freedom. Paper presented at Conference on the Control and Modulation of Patterns of Inter-limb Coordination, Lueven, Belgium, June, 1992.
- Blackwell, J. R., & Newell, K. M. Assessing the role of knowledge of results with time series analysis. Paper presented at NASPSPA, Pittsburgh, PA, June, 1992.
- Newell, K. M., van Emmerik, R. E. A., & Sprague, R. L. Postural stability and variability in tardive dyskinesia. Paper presented at 2nd International Congress of Movement Disorders, Munich, Germany, June, 1992.
- Carlton, L. G., Liu, Y-T., & Newell, K. M. Variability in force output with variations in characteristics of force production. Paper presented at the 2nd North American Congress on Biomechanics, Chicago, IL, August, 1992.

- Sprague, R. L., Korach, M. S., van Emmerik, R. E. A., & Newell, K. M. Correlation of rating scales and physical movements in tardive dyskinesia. Poster presented at American Psychological Society, San Diego, CA, June 22, 1992.
- Sprague, R. L., Newell, K. M., Korach, M. S., & van Emmerik, R. E. A. Development of abnormal movements in mentally handicapped people. In A. Vermeer (Chair), Physical and motor developments/adapted physical activity and sport. Symposium conducted at the meeting of the International Association for the Scientific Study of Mental Deficiency, Brisbane, Australia, July, 1992.
- Newell, K. M., & McDonald, P. V. Search strategies and perceptual-motor learning. Paper presented at the Psychonomic Society, St. Louis, MO, November, 1992.
- Newell, K. M., van Emmerik, R. E. A., & Sprague, R. L. Postural stability and variability in tardive dyskinesia. Paper presented at the Society for Neuroscience, Anaheim, CA, November, 1992.
- Newell, K. M. The dynamics of tardive dyskinesic movements. Paper presented at the American College of Neuropsychopharmacology, San Juan, December, 1992.
- Newell, K. M., & McDonald, P. V. Body scale and infant grip configurations. Paper presented at the Society for Research in Child Development, New Orleans, LA, March, 1993.
- Slobounov, S., & Newell, K. M. Dynamics of upright stance in 3- and 5-year-old children. Paper presented at the Society for Research in Child Development, New Orleans, LA, March, 1993.
- Newell, K. M. The dynamics of motor skill acquisition. Paper presented at the motor control symposium, Columbia University, April, 1993.
- Newell, K. M. Down syndrome and coordination, control and skill. Paper presented at NASPSPA, Brainerd, MN, May, 1993.
- Slobounov, S., & Newell, K. M. Postural stability as a function of task constraints and skill level. Paper presented at NASPSPA, Brainerd, MN, May, 1993.
- Newell, K. M. On affordances and tasks. Paper presented at the 6th Event Perception and Action Conference, Vancouver, Canada, August, 1993.
- van Emmerik, R. E. A., Newell, K. M., & Sprague, R. L. The structure of postural dynamics in tardive dyskinesia. Paper presented at the VIIth International Conference on Event Perception and Action, Vancouver, Canada, August, 1993.
- Newell, K. M., McDonald, V., Baillargeon, R., & Whyte, V. Affordances for prehension in young infants. Paper presented at the VIIth International Conference on Event Perception and Action. Vancouver, Canada, August, 1993.
- Sprague, R. L., & Newell, K. M. The structure of movement variability in tardive dyskinesia. Paper presented at the American College of Neuropsychopharmacology Meeting, Honolulu, HI, December, 1993.
- Newell, K. M. The development of prehension. Paper presented at the Mackeitt Lectures Royal Medical Society Meeting on the Development of Posture and Movement, London, January, 1994.
- Newell, K. M. & Sprague, R. L. The dynamics of tardive dyskinesia. Paper presented at the NATO Conference on Dynamical Disease, Montreal, Canada, February, 1994.

- Sprague, R. L., van Emmerik, R. E. A., Slobounov, S. M., & Newell, K. M. Invariance and variance of developmentally disabled tardive dyskinesic stereotypies. Paper presented at the 24th Gatlinburg Conference on Research and Theory in Mental Retardation and Developmental Disabilities, Gatlinburg, TN, March, 1994.
- Newell, K. M., van Emmerik, R. E. A., & Sprague, R. L. The dynamical structure of tardive dyskinesia in developmentally disabled subjects. Paper presented at the 24th Gatlinburg Conference on Research and Theory in Mental Retardation and Developmental Disabilities, Gatlinburg, TN, March, 1994.
- Newell, K. M. A dynamical approach to the acquisition of motor skill. An invited address to the French Sports Psychology Society, Poitiers, France, September, 1994.
- Newell, K. M. Commentaries on 4 papers in changing perspectives to ecological aspects of development. Papers presented at the Changing Ecological Psychology Conference, Storrs, CT, September, 1994.
- Sprague, R. L., & Newell, K. M. The dynamical structure of tardive dyskinesia. Paper presented at the Annual Neuroscience Society Meeting, Miami, November, 1994.
- Newell, K. M., & Sprague, R. L. Tardive dyskinesia and constraints in inter-limb postural tasks. Paper presented at the 28th Gatlinburg Conference on Research and Theory in Mental Retardation and Developmental Disabilities. Gatlinburg, TN, March, 1995.
- Bodfish, J. W., Harper, V. N., Newell, K. M., Sprague, R. L., & Lewis, M. H. Dyskinesia, akathisia and stereotypy: Misdiagnosis or increased risk? Paper presented at the 28th Gatlinburg Conference on Research and Theory in Mental Retardation and Developmental Disabilities. Gatlinburg, TN, March, 1995.
- Newell, K. M. Movement and skill: Learning, retention and transfer. Paper presented at the Conference on Brain and Movement in Dance and Sport. Sponsored by the Foundation for Human Potential and held at the Art Institute, Chicago, IL, April, 1995.
- Morrison, S. M., & Newell, K. M. Inter- and intra-limb coordination during a pointing task. Paper presented at the Conference on Multi-segmental Motor Control: Interface of biomechanical, neural and behavioral approaches. New Hampshire School, NH, August, 1995.
- Newell, K. M. The nature of movement variability. Paper presented at the 3rd Biennial Motor Control Conference, Perth, Australia, December, 1995.
- Newell, K. M. Issues in the ecological approach to perception and action. Paper presented at the 3rd Biennial Motor Control Conference, Perth, Australia, December, 1995.
- Newell, K. M., & Sprague, R. L. Tardive dyskinesia and coupling constraints in inter-limb tremor. Paper presented at the 4th International Congress of Movement Disorders, Vienna, Austria, June 1996.
- Slifkin, A. B., & Newell, K. M. The structure of force variability. Paper presented at the Conference on Bernstein's Traditions in Motor Control, State College, PA, August, 1996.
- Morrison, S., & Newell, K. M. Compensatory synergies in a postural pointing task. Paper presented at the Conference on Bernstein's Traditions in Motor Control, State College, PA, August, 1996.
- Broderick, M. P., & Newell, K. M. What is a "degree of freedom" in human movement and perception, and what is the problem? Paper presented at the Conference on Bernstein's Traditions in Motor Control, State College, PA, August, 1996.

- Slifkin, A. B., & Newell, K. M. Are the concepts of motor output variability and noise synonymous? Paper presented at the Psychonomics Society Meeting, Chicago, IL, November, 1996
- Slifkin, A. B., & Newell, K. M. The contribution of stochastic processes to variability in continuous force production. Paper presented at the Neuroscience Society Meeting, Washington, D.C., November, 1996.
- Morrison, S. M., & Newell, K. M. Inter- and intra-limb coordination in arm tremor. Paper presented at the Neuroscience Society Meeting, Washington, D.C., November, 1996.
- Sprague, R. L., Newell, K. M., Kalachnik, J. E., & Lobel, E. Effects of anticholinergic medication on subsequent symptoms of tardive dyskinesia in developmentally disabled people. Paper presented at the Gatlinburg Conference on Research and Theory in Mental Retardation and Developmental Disabilities, Riverside, CA, March 1997.
- Bodfish, J. W., Newell, K. M., Parker, D. E., & Lewis, M. H. Motor control/postural stability and stereotyped behavior in individuals with mental retardation. Paper presented at the Gatlinburg Conference on Research and Theory in Mental Retardation and Developmental Disabilities. Riverside, CA, March, 1997.
- Newell, K. M., Liu, Y-T., & Mayer-Kress, G. Modeling the sequential structure of movement outcome. Paper presented at Conference on Complexity, Synergetics, and Autonomous Agents, Gstaad, Switzerland, February, 1997.
- Molenaar, P. M. C. & Newell, K. M. Direct fit of the Schoner-Haken-Kelso model to oscillating finger motions. Paper presented at Conference on Complexity, Synergetics, and Autonomous Agents, Gstaad, Switzerland, February, 1997.
- Slifkin, A. B., & Newell, K. M. Noise in continuous force production. Paper presented at Annual meeting of ACSM, Denver, CO, May, 1997.
- Slifkin, A. B., & Newell, K. M. Information, complexity, and continuous force production. Paper presented at NASPSPA, Denver, CO, May 1997.
- Broderick, M. P., & Newell, K. M. Frames of reference for viewing coordination change. Paper presented at NASPSPA, Denver, CO, May 1997.
- Sternad, D., Lelivelt, A., & Newell, K. M. Force and time variability in rhythmic tapping. Paper presented at NASPSPA, Denver, CO, May 1997.
- Liu, Y-T., Mayer-Kress, G., & Newell, K. M. A map model for the discrete timing task variability. Paper presented at NASPSPA, Denver, CO, May 1997.
- Morrison, S., & Newell, K. M. Re-organization of postural tremor in the upper limb due to splinting. Paper presented at the International meeting on Tremor: Basic mechanisms and clinical aspects, Kiel, Germany, July 1997.
- Newell, K. M., Morrison, S., & Sprague, R. L. Reduced complexity in tardive dyskinesia tremor. Paper presented at the International Meeting on Tremor: Basic mechanisms and clinical aspects, Kiel, Germany, July 1997.
- Newell, K. M., Tsai, D., & Broderick, M. P. Nonstationarity in one- and two-legged upright stances. Paper presented at the International Society for Posture and Gait Research, Paris, France, June 1997.



- Newell, K. M. Issues in degrees of freedom and the learning of coordination dynamics. International Conference on Event Perception and Action, Toronto, Canada, July, 1997.
- Morrison, S., & Newell, K. M. Reorganization of compensatory postural arm synergies due to joint splinting. Paper presented at the Neuroscience Society Meeting, New Orleans, LA, October, 1997.
- Slifkin, A. B., & Newell, K. M. Information, noise and complexity in isometric force control. Paper presented at the Neuroscience Society Meeting, New Orleans, LA, October, 1997.
- Bodfish, J. W., Voegeli, C., Newell, K. M., & Sprague, R. L. Neuroleptic-induced dyskinesia, akathisia & dysphoria: Longitudinal assessment following neuroleptic reduction and withdrawal. Paper presented at the Gatlinburg Conference on Research and Theory in Mental Retardation, Charleston, SC, March, 1998.
- Sprague, R. L. Newell, K. M., & Meinhold, P. Dynamics of self-injurious behaviors: Is the blow to the head as fast as a fighter's jab? Paper presented at the Gatlinburg Conference on Research and Theory in Mental Retardation, Charleston, SC, March, 1998.
- Liu, Y-T., Kim, S., Carlton, L. G., & Newell, K. M. Impulse and movement space-time variability. Paper presented at NASPSPA, Chicago, IL, June, 1998.
- Sprague, R. L., & Newell, K. M. Stereotypies, tardive dyskinesia, and mental retardation. Lincoln Developmental Center, Lincoln, IL, June, 1998.
- Rubley, M. D., Denegar, C. D., Buckley, W. E., & Newell, K. M. Cryotherapy, sensation and isometric force variability. Poster presented at NATA annual meeting and Clinical Symposia, Baltimore, MD, June, 1998.
- Newell, K. M., & Broderick, M. P. On change in the number of degrees of freedom regulated in motor learning and development. Paper presented at the Jacques Monod Conference on Plasticity and Adaptation in Motor Control: Ontogenesis, Motor Learning, and Recovery of Function, Aussois, France, September, 1998.
- Bodfish, J. W., Sprague, R. L., & Newell, K. M. Dyskinesia, akathisia, and dysphoria following neuroleptic withdrawal. Paper presented at the 5<sup>th</sup> International Congress of Parkinson's Disease and Movement Disorders, New York, NY, October, 1998.
- Bodfish, J. W., Sprague, R. L., & Newell, K. M. Posture differentiates ideopathic and drug induced stereotypies. Paper presented at the 5<sup>th</sup> International Congress of Parkinson's Disease and Movement Disorders, October, 1998.
- Mayer-Kress, G. J., Newell, K. M., & Liu, Y-T. What can we learn from learning curves? Paper presented at the Complex Systems Conference, Boston, MA, October, 1998.
- Bodfish, J. W., Sprague, R. L., & Newell, K. M. Dyskinesia, akathisia, and dysphoria following neuroleptic reduction and withdrawal. Paper presented at the 28<sup>th</sup> Annual Meeting of the Society for Neuroscience, Los Angeles, CA, November, 1998.
- Slifkin, A. B., Vaillancourt, D. E., & Newell, K. M. Variation of display-to-control gain and changes in the dynamics of continuous force production. Paper presented at the 28<sup>th</sup> Annual Meeting of the Society for Neuroscience, Los Angeles, CA, November, 1998.
- Newell, K. M., & Slifkin, A. B. The influence of task-related perceptual information on continuous force production. Paper presented at the Psychonomics Society Meeting, Dallas, TX, November, 1998.

- Newell, K. M. Objective measures of variability and regularity: How invariant is stereotypic body rocking? Paper presented at the Gatlinburg Conference on Research and Theory in Mental Retardation, Charleston, SC, March, 1999.
- Sprague, R. L., Lobel, E., Kalchnik, J. E., & Newell, K. M. Longitudinal analyses of tardive dyskinesic symptoms in three groups of developmental disabled people. Paper presented at the Gatlinburg Conference on Research and Theory in Mental Retardation, Charleston, SC, March 1999.
- Liu, Y-T., Mayer-Kress, G., & Newell, K. M. A piecewise linear, stochastic map model exhibiting multiple timescales in discrete timing tasks". Paper presented at NASPSPA, Clearwater, FL, June, 1999.
- Newell, K. M., Mayer-Kress, G., Penn State; & Liu, Y-T. Time scales in motor learning and development. Paper presented at NASPSPA, Clearwater, FL, June, 1999.
- Vaillancourt, D. E., Newell, K. M., & Sprague, R. L. Complexity of tremor variability differentiates levels of tardive dyskinesia in individuals with mental retardation. Paper presented at NASPSPA, Clearwater, FL, June, 1999.
- Slifkin, A. B., Vaillancourt, D. E., & Newell, K. M. Intermittency in the control of continuous force production. Paper presented at NASPSPA, Clearwater, FL, June, 1999.
- Deutsch, K. M., Morrison, S., & Newell, K. M. On learning to move randomly. Paper presented at NASPSPA, Clearwater, FL, June, 1999.
- Cesari, P., & Newell, K. M. Body-scaling information and human grip configurations. Paper presented at NASPSPA, Clearwater, FL, June, 1999.
- Cesari, P., & Newell, K. M. Information for scaling human grip configurations. Paper presented at the International Society for Event Perception and Action, Edinburgh, July, 1999.
- Cesari, P., & Newell, K. M. The scaling in human grip configurations. Paper presented at the 2<sup>nd</sup> Bernstein Conference, State College, PA, August, 1999.
- Vaillancourt, D. E., & Newell, K. M. Finger tremor and the mechanical-reflex hypothesis. Paper presented at Progress in Motor Control II, State College, PA, August, 1999
- Newell, K. M., Bodfish, J. W., & Sprague, R. L. Dynamics of lip dyskinesia associated with neuroleptic withdrawal. Poster presented at 13<sup>th</sup> Annual Symposia on Etiology, Pathogenesis and Treatment of Parkinson's Disease and Other Movement Disorders, Seattle, WA, October 10, 1999.
- Newell, K. M., Bodfish, J. W., & Sprague, R. L. Changes in organization of lip dynamics in tardive dyskinesia. Poster presented at Society for Neuroscience, Miami Beach, FL, October 23-28, 1999.
- Bodfish, J. W., Parker, D. E., Sprague, R. L., Newell, K. M., & Lewis, M. H. Postural stability and stereo-typed behavior: comparisons with drug induced repetitive movement disorders. Poster presented at Society for Neuroscience, Miami Beach, FL, October 23-28, 1999.
- Sprague, R. L., Newell, K. M., Pary, R., Feldheim, D. & Ippensen, L. Videotaping may offer a sensitive measure of medication effects. Invited presentation at Behavior Analysis Society Annual Meeting, Matteson, IL, October 29, 1999.
- Vaillancourt, D. E., Newell, K. M., & Latash, M. L. Neuromuscular entertainment and the mechanical-reflex hypothesis of finger tremor. Poster presented at Society for Neuroscience, Miami Beach, FL, October 23-28, 1999.

- Newell, K. M. Changing degrees of freedom in motor learning. Paper presented at the 5<sup>th</sup> Biannual Motor Control Conference, Gold Coast, Queensland, Australia, January, 2000.
- Newell, K. M., & Sprague, R. L. Stereotypic movements: From topographic to topological. Paper presented at Gatlinburg Conference on Research and Theory in Mental Retardation, San Diego, CA, March 15, 2000.
- Bodfish, J., Lewis, M., & Newell, K. An introduction to dynamical diseases: Data-based findings from clinical science. Paper presented at Gatlinburg Conference on Research and Theory in Mental Retardation, San Diego, CA, March 17, 2000.
- Lewis, M., Yang, M., Newell, K., & Bodfish, J. Stereotyped movement disorder: Behavioral manifestations of a dynamical disease? Paper presented at Gatlinburg Conference on Research and Theory in Mental Retardation, San Diego, CA, March 17, 2000.
- Newell, K., Sprague, R., & Bodfish, J. Tardive dyskinesia: Motor manifestations of a dynamical disease? Paper presented at Gatlinburg Conference on Research and Theory in Mental Retardation, San Diego, CA, March 17, 2000.
- Bodfish, J., Mahorney, S., Symons, F., Newell, K., & Lewis, M. Dynamical analysis of stereotypy and self-injury: Is there a lawful relationship between variability, complexity, and resistance to change? Paper presented at Gatlinburg Conference on Research and Theory in Mental Retardation, San Diego, CA, March 17, 2000.
- Newell, K. M. Constraints on the development of coordination, revisited. Invited talk at NASPSPA, San Diego, CA, June 9, 2000.
- Vaillancourt, D. E., & Newell, K. M. Dynamics of tremor regularity in Parkinson's disease. Talk presented at NASPSPA, San Diego, CA, June 8, 2000.
- Cesari, P., & Newell, K. M. Scaling of grasping and reaching in prehension. Poster presented at NASPSPA, San Diego, CA, June 9, 2000.
- Vaillancourt, D. E., & Newell, K. M. 8-12 Hz and 20-25 Hz oscillations in human physiological tremor. Poster presented at NASPSPA, San Diego, CA, June 9, 2000.
- Vaillancourt, D. E., Slifkin, A. B., & Newell, K. M. Force tremor regularity in Parkinson's disease: Relation to UPDRS. Poster presented at Sixth Internat. Congress of Parkinson's Disease and Movement Disorders, Barcelona, Spain, June 11-15, 2000.
- Newell, K. M., Vaillancourt, D. E., Bodfish, J. W., & Sprague, R. L. Changes in the dynamic patterns of lip dyskinesia with neuroleptic withdrawal. Poster presented at Sixth International Congress of Parkinson's Disease and Movement Disorders, Barcelona, Spain, June 11-15, 2000.
- Vaillancourt, D. E., & Newell, K. M. Postural and resting tremor regularity in Parkinson's disease. Poster presented at Sixth Internat. Congress of Parkinson's Disease and Movement Disorders, Barcelona, Spain, June 11-15, 2000.
- Slifkin, A. B., Vaillancourt, D. E., & Newell, K. M. Variations in the scale of visual information and the control of continuous force production. Poster presented at From Basic Motor Control to Function Recovery II, Varna, Bulgaria, July, 2000.

- Boros, R. L., Bodfish, J. W., Newell, K. M., & Challis, J. H. Mechanics of self injurious behavior in profoundly retarded adults. Paper presented at the American Society of Biomechanics. Chicago, IL, July, 2000.
- Vaillancourt, D. E., & Newell, K. M. Resting and postural tremor in Parkinson's disease: Time and frequency regularity. Society for Chaos in Psychology and Life Sciences, Philadelphia, PA, July, 2000.
- Newell, K. M. The nature of movement variability. Conference on Movement Variability, Manchester Metropolitan University, England, October, 2000.
- Vaillancourt, D. E., Slifkin, A. B., & Newell, K. M. Force tremor regularity in Parkinson's disease. Gerontological Society of America, Washington, D.C., November, 2000.
- Vaillancourt, D. E., Slifkin, A. B. & Newell, K. M. Effects of visual intermittency on continuous force output in Parkinson's disease. 30<sup>th</sup> Annual Meeting of Neuroscience, New Orleans, LA, November, 2000.
- Slifkin, A. B., Vaillancourt, D. E., & Newell, K. M. Effects of visual intermittency on continuous force output. 30<sup>th</sup> Annual Meeting of Neuroscience, New Orleans, LA, November, 2000.
- Hurley, W.L., Newell, K.M., & Buckley, W.E. Intervention Strategies in Athletic Training Clinical Skill Development. Presentation at the Athletic Training Educators' Conference, Fort Worth, TX, January, 2001.
- Hurley, W.L., Newell, K.M., & Buckley, W.E. Intervention Strategies in Athletic Training Clinical Skill Development. Presentation at the Athletic Training Educators' Conference, Fort Worth, TX, January 2001.
- Newell, K. M., Wszola, B., Sprague, R. L., Mahorney, S. L. & Bodfish, J. W. The changing effector pattern of tardive dyskinesia during the course of neuroleptic withdrawal. Paper presented at the 34<sup>th</sup> Gatlinburg Conference on Research & Theory in Developmental Disabilities, Charleston, SC, March, 2001.
- Newell, K. M. Constraints on the emergence of infant prehension. Paper presented at Motor Development and Learning in Infancy: Behavioural, Neurological and Modeling issues. Amsterdam, June 2001.
- Newell, K. M. Schema: Symbols and dynamics. Paper presented at The Annual Meeting of NASPSPA, St. Louis, June 2001.
- Deutsch, K. M., & Newell, K. M. Noise and variability of isometric force production in children. Paper presented at The Annual Meeting of NASPSPA, St. Louis, June 2001.
- Newell, K. M. A motor learning and control perspective on practice for physical education and sport. Paper presented at AISEP (Association Internationale des Ecoles Superieures d'Education Physique) International Conference, Taipei, Taiwan, June 2001.
- Newell, K. M. The dual control problem in motor skill acquisition. Paper presented at the British Association for Science and Education in Sport, Newport, Wales, September 2001.
- Vaillancourt, D. E., Slifkin, A. B., & Newell, K. M. Visual control of isometric force output in Parkinson's disease. Paper presented at the 31<sup>st</sup> Annual Meeting of Neuroscience, San Diego, CA, November, 2001.

- Deutsch, K. D., & Newell, K. M. Noise and variability in children's isometric force production. Paper presented at the 31<sup>st</sup> Annual Meeting of Neuroscience, San Diego, CA, November, 2001.
- Newell, K. M. Constraints on the development of coordination. Paper presented at the Korea Society of Sport Psychology, Daejeon City, S. Korea. February 2002.
- Newell, K. M. The dynamics of motor learning. Paper presented at the Korea Society of Sport Psychology, Daejeon City, S. Korea. February 2002.
- Ko, Y., Challis, J. H., & Newell, K. M. Organization of compensatory postural coordination patterns. Paper presented at the Korea Society of Sport Psychology, Daejeon City, S. Korea. February 2002.
- Ko, Y., & Newell, K. M. Learning to coordinate redundant degrees of freedom in a dynamic balance task. Paper presented at the Korea Society of Sport Psychology, Daejeon City, S. Korea. February 2002.
- Hurley W. L, Boros R. L, & Newell K. M. Influence of clinician hand placement on the Lachman Test. Paper presented at NASPSPA, Baltimore, June 2002.
- Newell, K. M. Superior psychomotor performance. Paper presented at NASPSPA, Baltimore, June 2002.
- Broderick, M. & Newell, K. M. Essential variables and skill acquisition in a ball-bouncing task. Paper presented at NASPSPA, Baltimore, June 2002.
- Sosnoff, J.J., Vaillancourt, D.E., Larson, L., & Newell, K.M. Rhythmic force output and the frequency structure of motor unit discharge patterns and EMG activity. Paper presented at NASPSPA, Baltimore, June 2002.
- Liu, Y.Y., Newell, K.M., & Mayer-Kress, G. Exponential and power law performance curves in motor learning. Paper presented at NASPSPA, Baltimore, June 2002.
- Haibach, P.S., Daniels, G., & Newell, K.M. Coordination mode changes occurring in 3-ball cascade juggling. Paper presented at NASPSPA, Baltimore, June 2002.
- Ko, Y-G. & Newell, K.M. Learning to coordinate redundant degrees of freedom in a dynamic balance task. Paper presented at NASPSPA, Baltimore, June 2002.
- Jordan, K. & Newell, K.M. Task goals and grip force dynamics. Paper presented at NASPSPA, Baltimore, June 2002.
- Chen, S.H., Liu, Y-T., Mayer-Kress, G., & Newell, K.M. The process of learning a whole-body coordination movement. Paper presented at NASPSPA, Baltimore, June 2002.
- Deutsch, K.M., & Newell, K. M. Children's force variability in a pinch grip task. Paper presented at NASPSPA, Baltimore, June 2002.
- Newell, K. M., & Vaillancourt, D. E. Screening human movement disorders: use of dynamical analyses in distinguishing aging and disease. Paper presented at the Society of Engineering Science meeting, University Park, PA, October 2002.
- Sosnoff, J. J., Vaillancourt, D. E., Larsson, L., & Newell, K. M. Rhythmical force production and the frequency structure of intramuscular EMG and motor unit discharge patterns. Paper presented at the 31<sup>st</sup> Annual Meeting of Neuroscience, Orland, Florida. November, 2002.
- Deutsch, K. M., & Newell, K. M. The dynamic structure of age-related force variability. Paper presented at the 31<sup>st</sup> Annual Meeting of Neuroscience, Orland, Florida. November, 2002.

- Newell, K. M., Bodfish, J. W., Mahorney, S. L., & Breese, G. R. Switching from typical neuroleptics to olanzapine for the treatment of stereotyped movement disorder: Acute and long-term effects. Paper presented at the Movement Disorders Society, Miami, Florida, November 2002.
- Sosnoff, J. J., Vaillancourt, D. E., & Newell, K. M. Age related changes in the frequency structure of intramuscular EMG during rhythmical force production. Paper presented at the Gerontological Society of America, Boston, November 2002.
- Daniels, G., & Newell, K. M. Perceived task expectations and the walk - run gait transition. Paper presented at the 23<sup>rd</sup> Army Science Conference, Orlando, Florida, December, 2002.
- Newell, K. M. From learning to move to learning to learn: the role of information in motor learning and development. Paper presented at the Conference on Learning, brain and movement, Paris, France, December 2002.
- Mayer-Kress, G., & Newell, K. M. Time scales in stochastic map models of chaos in isometric force production. Paper presented at the International Nonlinear Sciences Conference: Research and Applications in the Life Sciences, Vienna, Austria, February, 2003
- Newell, K. M. Change in motor learning: A coordination and control perspective. National Physical Education Conference of Brazil, Rio Claro, Brazil, May 2003.
- Deutsch, K. M., & Newell, K. M. Practice and developmental changes in the structure of isometric force production. Paper presented at NASPSPA, Savannah, June 2003.
- Jordan, K. M., & Newell, K. M. Grip width and the organization of precision grasping. Paper presented at NASPSPA, Savannah, June 2003.
- Sosnoff, J. J., & Newell, K. M. Intermittent control of continuous isometric force output across sub-maximal force levels. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Savannah, GA. June 2003.
- Sosnoff, J. J., & Newell, K. M. Intermittent control of continuous isometric force output across sub-maximal force levels. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Savannah, GA, June 2003.
- Lai, S-H., Sosnoff, J. J., Mayer-Kress, G., & Newell, K. M. Examination of entropy algorithms in the analysis of discrete aiming movements. Paper presented at NASPSPA, Savannah, June 2003.
- Jordan, K. J., & Newell, K. M. The influence of grip width and joint angle on force production during precision grasping. Paper presented at the International Society for Biomechanics. Dunedin, New Zealand. July 2003.
- Liu, Y-T., Mayer-Kress, G., & Newell, K. M. Qualitative and quantitative change in motor learning. Paper presented at the Chaos Theory in Psychology and Life Sciences Society, Boston, August 2003
- Slobounov, S, M., Hallett, M., & Newell, K. M. Perceived effort in force production: EEG study. Paper presented at the International Federation of Clinical Neurophysiology, San Francisco, September 2003.
- Newell, K. M. Augmented information for learning and optimizing sports performance. Paper presented at the German National Conference on Physical Activity. Munster, Germany, September 2003.

- Deutsch, K. M., & Newell, K. M. Practice modulates age differences in the structure of children's isometric force variability. Paper presented at the Society for Neuroscience, New Orleans, November 2003.
- Jordan, J. J., & Newell, K. M. Grip width and force production. Paper presented at the Society for Neuroscience, New Orleans, November 2003.
- Sosnoff, J. J., & Newell, K. M. Intermittency in the control of rhythmic force production. Paper presented at the Society for Neuroscience, New Orleans, November, 2003.
- Vaillancourt, D. E., Sosnoff, J. J., & Newell, K. M. The effects of aging on the complexity of motor output: A multiscale entropy analysis. Paper presented at the Satellite Conference on Variability, Society for Neuroscience, New Orleans, November, 2003.
- Ford, M. P., Wagenaar, R. C., & Newell, K. M. Effects of auditory rhythms and instruction on walking post-CVA. Paper presented at the American Physical Therapy Association, Nashville TN. February 2004.
- Mayer-Kress, G., & Newell, K. M. Multiple time-scale landscape models of motor learning. Paper presented at the International Conference on Complex System, Boston, May 2004.
- Haibach, P. S., Slobounov, S. M., Slobounova, E. S., & Newell, K. M. Virtual time-to-contact of stability boundaries and human postural control. Paper presented at NASPSPA, Vancouver, Canada, June 2004.
- Lai, S-C., Mayer-Kress, G., Sosnoff, J. J., & Newell, K. M. The non-normality examination of discrete aiming movements. Paper presented at NASPSPA, Vancouver, Canada, June 2004.
- Russell, D. M., & Newell, K. M. Contextual interference. Paper presented at NASPSPA, Vancouver, Canada, June 2004.
- Sosnoff, J., Jordan, K., & Newell, K. M. Control of force output as a function of grip configuration, force magnitude and intermittent visual feedback. Paper presented at NASPSPA, Vancouver, Canada, June 2004.
- Chen, H-H., Liu, Y-T., Mayer-Kress, G., & Newell, K. M. Learning the Pedalo locomotion task. Paper presented at NASPSPA, Vancouver, Canada, June 2004.
- Russell, D. M., & Newell, K. M. How persistent and general is the contextual interference effect? Paper presented at NASPSPA, Vancouver, Canada, June 2004.
- Ford, M. P., Wagenaar, R. C., & Newell, K. M. Arm constraints and inter-limb coordination during walking in healthy adults. Paper presented at the American Society for Biomechanics, Portland, September, 2004.
- Sosnoff, J. J., & Newell, K. M. Visual information scale, aging and the control of isometric force output. Paper presented at Society for Neuroscience, San Diego, CA. October 2004.
- Haibach, P. S. & Newell, K. M. "Visual proprioception in the elderly" Paper presented at the Society for Neuroscience Conference, San Diego, CA. October 2004.
- Newell, K. M., & Bodfish, J. W. The dynamical origins of body rocking. Paper presented at the Gatlinburg Conference, Annapolis, MD. March 2005.

- Newell, K. M., Jordan, K. J. & Bodfish, J. W. Sitting dynamics as the basis for body rocking stereotypes. Paper presented at the International Society for Postural and Gait Research, Marseille, France. May 2005.
- Sosnoff, J. J., Carter, R. M., & Newell, K. M. Cognitive constraints and the stability of postural control in older adults. Paper presented at NASPSPA, Florida, June 2005.
- Jordan, J. K., Challis, J. H. & Newell, K. M. Variability of the inter-stride interval during running. Paper presented at NASPSPA, Florida, June 2005.
- Sosnoff, J. J., & Newell, K. M. Bringing down the noise: A test of the neural noise hypothesis of aging. Paper presented at NASPSPA, Florida, June 2005.
- Hong, S. L., & Newell, K. M. Recruitment and suppression of dynamical and mechanical degrees of freedom. Paper presented at NASPSPA, Florida, June 2005.
- Valantine, A. D., Sosnoff, J. J., & Newell, K. M. The invariance of force variability at low force levels. Paper presented at NASPSPA, Florida, June 2005.
- Newell, K. M. Time scales in learning and development. Paper presented at the NSF Connectionist and Dynamical Systems Theories to Learning and Development. Iowa City. June 2005.
- Hong, S. L., Sosnoff, J. J., & Newell, K. M. Complexity and stability in isometric force production. Paper presented at the VIIth International Conference on Event Perception and Action. Asilomar, CA, August, July 2005.
- Hong, S. L., & Newell, K. M. Reorganizing motor behavior through practice. System Dynamics Conference. Boston, July 2005.
- Newell, K. M. Change in motor learning. A coordination and control perspective. Paper presented at ISSP 11<sup>th</sup> World Congress of Sport Psychology, Sydney, Australia, August 2005.
- Jordan, K., Challis, J. H., Newell, K. M. Self similarity in the variability of the gait cycle. Paper presented at Progress in Motor Control V, Penn State Univ, August 2005.
- Sosnoff, J. J. & Newell, K. M. Aging, visual motor processing and deficits in isometric force output. Paper presented at the annual meeting of Progress in Motor Control V, University Park, PA., August 2005.
- Valantine, A. D., Sosnoff, J. J., & Newell, K.M. The control of force production at low force levels. Poster presented at the annual meeting of Progress in Motor Control V, University Park, PA., August 2005.
- Haibach, P. S., Slobounov, S. M., Slobounova, E. S., & Newell, K. M. Time-to-stability following a visual perturbation. Paper presented at Progress of Motor Control Conference V, University Park, PA. August. 2005.
- Hong, L. S., Bodfish, J. W., & Newell, K. M. Power-law scaling for coupling strength and complexity in human movement and posture: Evidence from stereotypic disordered and healthy adults. Applications of methods of stochastic systems and statistical physics in biology. Paper presented at Notre Dame University, October 2005.
- Sosnoff, J. J., Valantine, A. D., & Newell, K. M. Force magnitude does not influence force irregularity at low force levels. Paper presented at the Society for Neuroscience, Washington, D.C., November, 2005.



- Deutsch, K. M., & Newell, K. M. Age-related changes in the frequency profile of children's finger tremor. Paper presented at the Society for Neuroscience, Washington, D.C., November, 2005.
- Jordan, K. J., Challis, J. H., & Newell, K. M. Long range correlations in the stride interval and stride length of running. Paper presented at the Society for Neuroscience, Washington, D.C., November, 2005.
- Haibach, P. M., & Newell, K. M. Optical flow and retinal location on egomotion in young and older adults. Paper presented at the Canadian Psychomotor Learning and Sport Psychology Meeting, Brock, Canada, November 2005.
- Newell, K. M. Aging and the structure of variability. Paper presented at the Meeting of the Gerontological Society of America, Orlando, Florida, November 2005.
- Newell, K. M., Hong, S. L., & Bodfish, J. W. Dynamical origins of stereotypy: Relation of postural movements during sitting to stereotyped movements during body rocking. Paper presented at the 39th Annual Gatlinburg Conference on Research and Theory in Intellectual and Developmental Disabilities, San Diego, March 2006.
- Sosnoff, J. J., & Newell, K. M. Aging: Loss of complexity or loss of adaptability. Paper presented at the Understanding Complex Systems Meeting, Urbana, IL: May 2006.
- Sosnoff, J. J., & Newell, K. M. Aging and intra-individual variability in motor performance. Paper presented at NASPSA, Denver, June 2006.
- Deutsch, K. M., & Newell, K. M. The frequency profile of children's finger tremor. Paper presented at NASPSA, Denver, June 2006.
- Haibach, P. S., & Slobounov, S. M., & Newell, K. M. The potential applications of a virtual moving environment for assessing falls in elderly adults. Paper presented at NASPSA, Denver, June 2006.
- Liu, Y-T., Chiang, H-Y., Yen, Y. T., Mayer-Kress, G. J., & Newell, K. M. Effect of a weighted feedback on learning a star tracing task. Paper presented at NASPSA, Denver, June 2006.
- Sosnoff, J. J., & Newell, K. M. Aging, muscle weakness and low force production. Paper presented at the American College of Sports Medicine, Denver, June 2006.
- Newell, K. M. Individual trajectories in learning and development: Comments on Molenaar presentation. Ninth International Institute on Developmental Science. The Pennsylvania State University, University Park, PA. June 2006.
- Lee, M. H., Liu, Y-T., & Newell, K. M. Longitudinal expressions of infant's prehension as a function of object properties. Ninth International Institute on Developmental Science. The Pennsylvania State University, University Park, PA. June 2006.
- Hong, S.L., Bodfish, J.W., & Newell, K.M. Power law scaling for structural and functional complexity in human movement and posture. Paper presented at the 16<sup>th</sup> International Conference, Society for Chaos Theory in Psychology and Life Sciences. Baltimore, MD. July 2006.
- Sosnoff, J. J., Valentine, A. D., & Newell, K. M. The adaptive range of fractal force production. Paper presented at the Society for Chaos Theory in Psychology and Life Sciences. Baltimore, MD. August 2006.

- Stitt, J. P., & Newell, K. M. A nonlinear system model of isometric force. Paper presented at the 28th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, New York. August 2006.
- Hong, S.L., Bodfish, J.W., & Newell, K.M. Complexity and coupling of center of pressure dynamics in stereotypic and intentional postures and movements. 36th Annual Meeting for the Society for Neuroscience, Atlanta, GA, October 2006.
- Deutsch, K. M., Sprague, R. L., & Newell, K. M. The organization of finger tremor changes as a function of level of mental retardation. Paper presented at the Motor Development Research Consortium, Texas Tech, November 2006.
- Hong, S.L., Brown, A.J., & Newell, K.M. Compensatory properties of visual information in isometric force control. Psychonomic Society Annual Meeting, Houston, Texas, November 2006.
- Lee, M-H., Hong, S. L., & Newell, K. M. Complexity trade-offs in force output across force dimensions in isometric tasks. Paper presented at the 36<sup>th</sup> Annual Meeting of the Society for Neuroscience, Atlanta, GA., October 2006.
- Deutsch, K. M., Sprague, R. L., & Newell, K. M. Change in finger tremor organization as a function of level of mental retardation. Paper presented at the 36<sup>th</sup> Annual Meeting of the Society for Neuroscience, Atlanta, GA., October 2006.
- Jordan, K. J., Challis, J. H., & Newell, K. M. Influence of walking speed on gait cycle fluctuations. Paper presented at the 36<sup>th</sup> Annual Meeting of the Society for Neuroscience, Atlanta, GA., October 2006.
- Newell, K. M. Landscapes beyond the horizon the HKB model. Paper presented at the Coordination Dynamics Conference, Boca Raton, Florida, February 2007.
- Ranganathan, R., & Newell, K. M. Across trial and within trial compensation in isometric force production.. Paper presented at the Coordination Dynamics Conference, Boca Raton, Florida, February 2007.
- Newell, K. M., Costigan, F. A., & Bodfish, J. W. Lip dynamics and stereotypic movement disorders. Paper presented at the Gatlinburgh Conference, Annapolis, MD, March 2007.
- Mayer-Kress, G., Newell, K. M., & Liu, Y-T. Non-linear stochastic map models of motor learning. Paper presented at the European Workshop on Movement Science, Amsterdam, June 2007.
- Newell, K. M., Mayer-Kress, G., & Liu, Y-T. System identification strategies and time scales in motor learning. Paper presented at the European Workshop on Movement Science, Amsterdam, June 2007.
- Sosnoff, J. J., Valentine, A. D., & Newell, K. M. Aging: Loss of complexity or loss of adaptation? Paper presented at NASPSPA, San Diego, June 2007.
- Liu, Y-T., Mayer-Kress, G., & Newell, K. M. Self-organized criticality predicts success rates in a self-paced motor learning task. Paper presented at NASPSPA, San Diego, June 2007.
- Tsung Yu, H., Liu, Y-T., Mayer-Kress, G., & Newell, K. M. The effect of task constraints on performance distribution. Paper presented at NASPSPA, San Diego, June 2007.
- Ranganathan, R., & Newell, K. M. Influence of feedback on degrees of freedom. Paper presented at NASPSPA, San Diego, June 2007.

- James, E. G., Hong, S. L., Newell, K. M. Aging alters coupling and irregularity in finger posture and movement. Paper presented at NASPSPA, San Diego, June 2007.
- Deutsch, K. M., Sprague, R. L., & Newell, K. M. Finger tremor characteristics depend on the level of metal retardation. Paper presented at NASPSPA, San Diego, June 2007.
- Hong, S. L., & Newell, K. M. Entropy conservation in the dynamics of human action. Paper presented at the Society for Chaos Theory in Psychology and Life Sciences, Orange, CA., July, 2007.
- Stitt, J. P., & Newell, K. M. Modeling isometric force response using fuzzy set theory. . Paper presented at the 28th Annual International Conference of the IEEE Engineering in Medicine and Biology Society. Lyon, France. August 2007.
- Mayer-Kress, G., Newell, K. M., & Liu, Y-T. Time scales of performance levels during training of complex tasks. Paper presented at the International Conference on Applied Nonlinear Dynamics (ICAND), Kauai, 24-28 September 2007
- Newell, K. M. Time scales of practice schedules and motor skill acquisition. Taitung University International Conference on Physical Education. Taitung University, Taiwan, October 2007.
- Mayer-Kress, G., Liu, Y-T., & Newell, K. M. Multiple time scale model of self-organized criticality in human motor learning. Paper presented at the International Conference on Complex Systems, Boston, MA., November 2007.
- James, E. G., Hong, S. L., & Newell, K. M. Distinct timescale changes in postural dynamics across the lifespan. Paper presented at the Society for Neuroscience Annual Conference, San Diego, CA. November 2007.
- Ranganathan, R., & Newell, K. M. Feedback and learning strategies: influence of concurrent and outcome feedback. Paper presented at the 37th Annual Meeting of the Society for Neuroscience, San Diego, CA. November 2007.
- Lee, M-H, Newell, K.M. & Bodfish, J.W. Low dimensional organization of natural eye blinks in stereotypic movement disorders. Paper presented at the 37th Annual Meeting for the Society for Neuroscience, San Diego, CA, November 2007.
- Newell, K. M., Lee, M-H., & Bodfish, J.W. Low dimensional organization of natural eye blinks in developmental disorders. Paper presented at the Gatlinburgh Conference, San Diego, CA, March 2008.
- Newell, K. M., Lee, M-H., & Bodfish, J.W. Organization of natural eye blinks and dopaminergic function. Paper presented at the 12<sup>th</sup> International Congress of Parkinson's Disease and Movement, Chicago, Ill., June 2008.
- Lee, M-H., & Newell, K. M. The development of visually guided reaching during infancy. Paper presented at NASPSPA, Niagra Falls, Canada, June 2008.
- James, E. G., Hong, L., & Newell, K. M. Change in the complexity of low frequency postural dynamics with aging. Paper presented at NASPSPA, Niagra Falls, Canada, June 2008.
- Lai, S-C., & Newell, K. M. The spatiotemporal entropy analysis of discrete aiming movements. Paper presented at NASPSPA, Niagra Falls, Canada, June 2008.

- Liu, Y-T., Yen, Y-T., Mayer-Kress, G. J., & Newell, K. M. Dominant vs non-dominant differences in learning a tracking task with weighted feedback function. Paper presented at NASPSPA, Niagra Falls, Canada, June 2008.
- Ranganathan, R., & Newell, K. M. Concurrent feedback and learning: Insights from variability of degrees of freedom. Paper presented at NASPSPA, Niagra Falls, Canada, June 2008.
- Newell, K. M. Aging and time scales of within-subject variability. Paper presented at the Conference Intra-Individual Variability and Aging: Theoretical, Methodological, & Empirical Challenges. Max Plack Institute on Human Development, Berlin, Germany, July 2008.
- Stitt, J. P., & Newell, K. M. Non-linear modeling of the steady-state disturbance term in isometric force. Paper presented at the 29th Annual International Conference of the IEEE Engineering in Medicine and Biology Society. Vancouver, Canada. August 2008.
- Newell, K. M. Decomposing the dynamics of performance change through time scales. Paper presented at the Individual Pathway of Change in Learning and Development Conference, Penn State Univ, State College, PA. September 2008.
- Costigan, F.A., & Newell, K.M. Motor constraints on access to augmentative and alternative communication for individuals with cerebral palsy. Paper presented at 31st Annual Pennsylvania Occupational Therapy Association Conference, Valley Forge, PA. October 2008.
- Newell, K. M. Motor control, motor development, and motor learning (with reference to Kinesiology). Paper presented at the Asian-CIC Kinesiology Summit, Shanghai University of Sport, Shanghai, China, October 2008.
- Lee, M-H., & Newell, K.M. Characteristics of the transition from spontaneous to reaching movements in infancy. 2nd International Congress of Complex Systems in Sport (2nd ICCSS) & 10th European Workshop of Ecological Psychology, Madeira, Portugal. November 2008.
- Ranganathan, R., & Newell, K.M. Learning a redundant task: Practicing single versus redundant solutions. Paper presented at the Society for Neuroscience, Washington, D.C. November 2008.
- James, E.G., & Newell, K. M. Human coordination variability and postural task performance. Paper presented at the Society for Neuroscience, Washington, D.C. November 2008.
- Lee, M-H., & Newell, K.M. Characteristics of the change from spontaneous to reaching movements in infancy. Paper presented at the Society for Neuroscience, Washington, D.C. November 2008.
- Sosnoff, J. J., & Newell, K. M. Intentional fractal movement. Paper presented at the Psychonomic Society Annual Meeting. Chicago, Illinois, November 2008.
- Lee, M-H., & Newell, K. M. The development of visually guided prehension during infancy. Paper presented at Society for Research on Child Development. Denver, CO. April 2009.
- Newell, K. M., & Ranganathan, R. Intervention induced variability and motor learning. Paper presented at the European Workshop on Movement Science, Lisbon, Portugal. June 2009.
- Hsieh, T-S., Liu, Y-T., Mayer-Kress, G., & Newell, K. M. The movement speed-accuracy relation in space-time. Paper presented at the European Workshop on Movement Science, Lisbon, Portugal. June 2009.
- Ranganathan, R., & Newell, K. M. Influence of constant and variable practice on spatial variability. Paper presented at NASPSPA, Austin, Texas. June 2009.

- King, A. C., & Newell, K. M. Approach strategies influence pathways of change in a speed-accuracy trade-off task. Paper presented at NASPSPA, Austin, Texas. June 2009.
- Lee, M-H., & Newell, K. M. Visual information and the transition from spontaneous movements to goal directed reaching in infants. Paper presented at NASPSPA, Austin, Texas. June 2009.
- Liu, Y-T., Mayer-Kress, G., & Newell, K. M. Time scales of changes of motor performance specify different sources of performance variability. Paper presented at NASPSPA, Austin, Texas. June 2009.
- Hsieh, T-S., Liu, Y-T., Mayer-Kress, G., Newell, K. M. Spatial/temporal constraints on task performance and distribution. Paper presented at NASPSPA, Austin, Texas. June 2009.
- Slobounov, S., Cao, C., Jaiswal, N., & Newell, K. M. Neural basis of postural instability identified by VTC and EEG. Paper presented at ISPGR XIX Satellite PreConference on Basic Mechanisms Underlying Balance Control Under Static and Dynamic Conditions. Pavia, Italy. June 2009.
- Newell, K. M. Variability and coordination in posture and locomotion across the life-span. Paper presented at the International Society for Gait & Posture, Bologna, Italy. June 2009.
- Newell, K. M. Movement stereotypy and variability in developmental disabilities. International Conference on Perception and Action XV, Minneapolis, MN. July 2009.
- Ranganathan, R., & Newell, K.M. Utilizing redundant solutions in motor learning. Paper presented at the International Congress of Motor Control, Marseilles, France. July 2009.
- Hu, X., & Newell, K. M. Modulation of force structure via frequency selective visual scaling. Paper presented at the American Society of Biomechanics Society, State College, PA. August 2009.
- Stitt, J. P., & Newell, K. M. Modeling of the steady-state disturbance term in isometric force components of the power spectrum. Paper presented at the 32nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Minneapolis, MN. September 2009.
- Kerr, G., Morrison, S., Newell, K. M., & Silburn, P. Changes in movement coupling & complexity in ageing & neurological disease. Paper presented at the Society for Neuroscience, Chicago, IL. November 2009.
- Hu, X & Newell, K.M. Adaptation to selective visual scaling of fast time scale processes in isometric force. Paper presented at the Society for Neuroscience, Chicago, USA. November 2009.
- King, A & Newell, K.M. Dimensional learning of an integrated space-time function. Paper presented at the Society for Neuroscience, Chicago, USA. November 2009.
- Lee, M-H & Newell, K.M. Longitudinal expressions of infant's prehension as a function of task goal. Paper presented at the Society for Neuroscience, Chicago, USA. November 2009.
- Ranganathan, R & Newell, K.M. Influence of inducing variability in motor learning: Optimization and flexibility. Paper at the Society for Neuroscience, Chicago, USA. November 2009.
- Hsieh, T-Y., Liu, Y-T., Mayer-Kress, G., and Newell, K.M. The speed-accuracy relation in space-time. Paper presented at the Canadian Society for Psychomotor Learning and Sport Psychology meeting, Toronto, November 2009.

- Lee, M-H., & Newell, K. M. Variability in the development of prehension in infancy. Paper presented at the Canadian Society for Psychomotor Learning and Sport Psychology meeting, Toronto, November 2009.
- Lee, M-H., & Newell, K. M. Characteristics of the transition from spontaneous arm movements to goal-directed reaching in infancy. Conference on Impact of Intervention, Groningen, The Netherlands, April 2010.
- Wang, Z., Jordan, K., & Newell, K. M. Coordination patterns of foot dynamics in the control of upright standing. Paper presented at NASPSPA, Tucson, Az. June 2010.
- Lee, M-H., & Newell, K. M. The transition of infant spontaneous arm movements to goal-directed reaching. Paper presented at NASPSPA, Tucson, Az. June 2010.
- Ranganathan, R., & Newell, K. M. Is reduction in movement variability a sign of optimization? Paper presented at NASPSPA, Tucson, Az. June 2010.
- King, A., & Newell, K. M. Practice schedules and time scales of motor learning. Paper presented at NASPSPA, Tucson, Az. June 2010.
- Liu, Y-T., & Newell, K. M. Exploring sources of different timescale dynamics from the spatial-temporal task constraints. Paper presented at NASPSPA, Tucson, Az. June 2010.
- Newell, K. M. Time scales in motor learning and development. Brazilian Motor Behavior Conference, Londrina, Brazil. July 2010.
- Hu, X., & Newell, K. M. Motor unit pool properties contribute to continuous and discrete force variability. Paper presented at the American Society of Biomechanics, Providence, RI. August 2010.
- Liu, Y-T., Luo, Z-Y., Mayer-Kress, G., & Newell, K. M. Self-organized criticality and learning a new coordination task. Paper presented at SCAPPS, Ottawa, Canada, October 2010.
- Lee, M-H., & Newell, K. M. Development of movement prehension infancy. Paper presented at the Society for Neuroscience, San Diego, CA. November 2010.
- Rothenberg-Cunningham, A., & Newell, K. M. Age and gender related differences to varying velocity and trajectory conditions in a coincidence-anticipation task. Paper presented at the Society for Neuroscience, San Diego, CA. November 2010.
- Hsieh, T-Y., Liu, Y-T., & Newell, K. M. The movement speed-accuracy relation in a line drawing task. Paper presented at the Society for Neuroscience, San Diego, CA. November 2010.
- Hu, X., & Newell, K. M. Asymmetrical interference on task demand and hand dominance in bimanual isometric force. Paper presented at the Society for Neuroscience, San Diego, CA. November 2010.
- Wang, Z., & Newell, K. M. Coordination patterns of foot dynamics in the control of upright standing. Paper presented at the Society for Neuroscience, San Diego, CA. November 2010.
- Morrison, S. M., & Newell, K. M. Biological differences between physiological and simulated tremor. Paper presented at the Society for Neuroscience, San Diego, CA. November 2010.
- King, A., Challis, J. H., Bartok, C. J., Costigan, A., & Newell, K. M. Obesity and strength influences on postural control in the adolescent growth spurt. Paper presented at the Penn State Diabetes and Obesity Conference, State College, PA. March 2011.

- Newell, K. M. Motor development and learning: A lifespan perspective. Paper presented at the American Association for Health, Physical Education, Recreation and Dance. San Diego, Ca. March 2011.
- Newell, K. M., Challis, J. H., Bartok, C. J., Costigan, A., & King, A. Growth and obesity during adolescence: Inertial constraints on physical activity. Paper presented at American Association for Health, Physical Education, Recreation and Dance. San Diego, Ca. April 2011.
- Lee, M-H., & Newell, K. M. Influence of auditory feedback on the development of prehension. Paper presented at the Society for Research in Child Development. Montreal, Canada. April 2011.
- Stitt, J. P., & Newell, K. M. Classifying age-related differences of steady-state variability in isometric force using parameters generated by empirical mode decomposition. Paper presented at the 15<sup>th</sup> International Congress of Parkinson's Disease and Movement Disorders. Toronto, Canada. June 2011.
- Newell, K. M. Movement coordination in Developmental Coordination Disorder. Paper presented at Developmental Coordination Disorder International Conference, DCD IX. Lausanne, Switzerland. June 2011.
- King, A. C., Costigan, A., Challis, J. H., Bartok, C. J., & Newell, K. M. Obesity mediates strength and physical parameters factors of postural control. Paper presented at NASPSPA, Burlington, VT. June 2011.
- Lee, M. H., & Newell, K. M. Influence of auditory feedback on the development of reaching in infancy. Paper presented at NASPSPA, Burlington, VT. June 2011.
- Ko, J. H., Wang, Z., & Newell, K. M. Stability of foot dynamics in bipedal postural stances. Paper presented at NASPSPA, Burlington, VT. June 2011.
- Hsieh, T. Y., Liu, Y. T., Mayer-Kress, G., & Newell, K. M. The speed-accuracy trade-off in space-time. Paper presented at NASPSPA, Burlington, VT, June 2011.
- Wang, Z., Jordan, K., & Newell, K. M. Coordination patterns of foot dynamics in the control of upright standing. International Conference on Motor Control, Cincinnati, OH, July 2011.
- King, A., Wang, Z., & Newell, K. M. Recurrence analysis of COP<sub>left</sub>, COP<sub>right</sub>, and COP<sub>net</sub> trajectories as a function of posture and visual information. International Conference on Motor Control, Cincinnati, OH, July 2011.
- Williams, G., Irwin, G., Kerwin, D. G., & Newell, K. M. The influence of experience on kinetic characteristics of the looped longswing. International Society of Sports Biomechanics, Porto, Portugal, July 2011.
- Stitt, J. P., & Newell, K. M. (2011). Classifying features of the intrinsic mode functions generated by empirical mode decomposition of isometric force response using a fuzzy classifier. Proceedings of the 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society,
- Slobounov, S., Sebastianelli, W., & Newell, K. M. (2011). Incorporating virtual reality graphics with brain imaging for assessment of sport-related concussions. Proceedings of the 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society,
- Newell, K. M. Time scales in motor learning and development. Paper presented at the Inductive Developmental Systems Theory Conference, The Pennsylvania State University, PA. October 2011.

- Newell, K. M., Mayer-Kress, G., & Liu, Y-T. Toward a theory of practice. Paper presented at the 6<sup>th</sup> Asian South Pacific Association of Sport Psychology International Congress, Taipei, Taiwan. November 2011.
- Morrison, S., Cortes, N., Newell, K M, Silburn, P. A. S, & Kerr, G. Regularity analysis distinguishes between pathological and voluntary tremulous motion. 41st Annual Society for Neuroscience meeting, Washington, DC. November 2011.
- Newell, K. M. Aging, complexity and sensori-motor performance. Cognitive Aging Conference, Atlanta, GA. April 2012.
- Studenka, B. E., & Newell, K. M. Prospective control of force output to 1/f-like isometric force goals. Paper presented at NASPSPA, Honolulu, Hawaii. June 2012.
- Kilby, M. C., & Newell, K. M. Adaptability of intra- and inter-foot coordination to altered footwear and posture conditions in upright stance. Paper presented at Gait & Posture, Trondheim, Norway, June 2012.
- Stitt, J. P., & Newell, K. M. Empirical mode decomposition of the steady-state variability in isometric force and fuzzy set classification among age category. Paper presented at the 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, San Diego, CA. August 2012.
- Kilby, M. C., Slobounov, S. M., & Newell, K. M. Virtual-time-to-contact with stability boundary and the control of upright stance: Vision and skill level effects. Paper presented at the Society for Neuroscience Meeting, New Orleans, MO. October 2012.
- Wang, A., & Newell, K. M. Asymmetry of foot position and weight distribution channels the inter-leg coordination dynamics of standing. Paper presented at the Society for Neuroscience Meeting, New Orleans, MO. October 2012.
- Ko, Ji-Hyun., & Newell, K. M. Postural coordination patterns as a function of rhythmical dynamics of the surface of support. Paper presented at the Society for Neuroscience Meeting, New Orleans, MO. October 2012.
- King, A. C., & Newell, K. M. Specific and variable practice differentially influences the time scales of learning force targets. Paper presented at the Society for Neuroscience Meeting, New Orleans, MO. October 2012.
- Newell, K. M. Aging and movement complexity. Paper presented at the Gerontological Society of America Meeting, San Diego, CA. November 2012.
- Newell, K. M. Williams (1932) Education of and through the physical: A perspective for contemporary physical education? Paper presented at the Taiwan Body Culture Society. Taipei, Taiwan. December 2012.
- Newell, K. M. Coordination, control and skill across the lifespan. Alliance Scholar talk. AAHPERD. Charlotte, N.C. April 2013.
- Newell, K. M. Coordination, control and skill across the lifespan. California AAHPERD. San Francisco, CA. April 2013.
- Liu, Y.-T., & Newell, K. M. Exploring the S-shape motor learning curve with phase transition. Paper presented at the European College of Sports Medicine, Barcelona, Spain. June 2013.



- Morrison, S., Newell, K. M., Silburn, P. A., & Kerr, G. Tremor increases with standing in Parkinson's disease. Paper presented at the Movement Disorder Society Meeting, Sydney, Australia. June 2013.
- Kerr, G., Morrison, S., Newell, K. M., & Silburn, P. A. Increased tremor contributes to postural instability and prospective falls in people with Parkinson's disease. Paper presented at the Movement Disorder Society Meeting, Sydney, Australia. June 2013.
- Liu, Y-T., & Newell, K. M. Exploring the source of individual difference in learning movement coordination from the perspective of task difficulty and the intrinsic dynamics of the learner. Paper presented at NASPSPA, New Orleans, LA. June 2013.
- Studenka, B., & Newell, K. M. Constant and variable practice of tracking irregular target-paths: support for a global schema. Paper presented at NASPSPA, New Orleans, LA. June 2013.
- Studenka, B., Mazich, M., & Newell, K. M. Visual-motor tracking depends on the temporal location of visual information about properties of the target path and the target path regularity. Paper presented at the Motor Control Conference, Montreal, Canada. July 2013.
- Kilby, M. C., Slobounov, S. M., & Newell, K. M. Spatial-temporal distributional patterns for virtually contacting the stability boundary in human stance. Paper presented at the 19th Congress of the European Society of Biomechanics. Patras, Greece. August 2013.
- Rothenberg-Cunningham, A., & Newell, K. M. Children's mapping of time-to-contact and time to peak effector velocity to intercept moving targets. Paper presented at the Motor Development Research Consortium, Temple University, Philadelphia, PA. September 2013.
- Wang, Z., Molenaar, P. C. M., & Newell, K. M. Inter- and intra-foot coordination when standing on balance boards – a frequency domain PCA study. Paper presented at the Society for Neuroscience, San Diego, CA. November 2013.
- Lai, S. C., Hsieh, T. Y., & Newell, K. M. Entropy of movement outcome in space-time. Paper presented at the Society for Neuroscience, San Diego, CA. November 2013.
- Ko, J-H., Challis, J. H., & Newell, K. M. Postural coordination pattern as a function of scaling the surface of support dynamics. Paper presented at the Society for Neuroscience, San Diego, CA. November 2013.
- Dutt-Mazumder, A., & Newell, K. M. Is phase-transition a pivotal indicator for capturing human behaviour stabilization? Paper presented at the Society for Neuroscience, San Diego, CA. November 2013.
- Jordan, K., Wang, Z., Okita, N., Challis, J. H., & Newell, K. M. A multi-level analysis of the regularity of standing posture. Paper presented at the Society for Neuroscience, San Diego, CA. November 2013.
- Newell, K. M. Principles of learning and motor (re-) learning in rehabilitation. 5<sup>th</sup> Congress on Rehabilitation: Mobility, Exercise & Sports. Groningen, The Netherlands, April 2014.
- Liu, Y-T., & Newell, K. M. S-shaped motor learning and coordination mode transition. Paper presented at NASPSPA, Minneapolis, MN. June 2014.
- Wilkes, B., Carson, T. B., Ko, J. H., Bodfish, J. W., Newell, K. M., & Lewis, M. H. Abnormal vestibulo-ocular reflexes in autism spectrum disorders. Paper presented at International Society for Autism Research, Atlanta, GA. May 2014.

- Jordan, K., & Newell, K. M. Postural task difficulty decreases the regularity of center of pressure. Paper presented at Society for Gait & Posture, Vancouver, Canada. July 2014.
- Newell, K. M. Development of patterns of coordination across the lifespan: Principles of learning and teaching. Society for Sport and Exercise Psychology of Taiwan, Taipei, Taiwan. December 2014.
- Newell, K. M. Defining time scales in motor learning. Conference on Developmental Coordination Disorders. Oxford, UK. June 2015.
- Liu, Y-T., Chuang, K-L., & Newell, K. M. Examining the intrinsic dynamics: Influence of basketball expertise in learning novel throw task compared to roller ball task. Paper presented at NASPSPA, Portland, OR. June 2015.
- Ko, J-H., & Newell, K. M. Collective variable of a postural control system in a dynamic balance task. Paper presented at NASPSPA, Portland, OR. June 2015.
- Dutt-Mazunder, A., & Newell, K. M. Critical fluctuations of postural stability as a function of oscillation platform movement. Paper presented at the International Society for Biomechanics, Glasgow, Scotland. July 2015.
- Newell, K. M., & Morrison, S. The evolving dynamical landscape for action: A degrees of freedom perspective. Paper presented at the National Academy of Kinesiology, Philadelphia, PA. September 2015.
- Newell, K. M. Revisiting the bi-directionality hypothesis for the change in motor complexity. Paper presented at the meeting on Motor Control in Health and Disease: From Brain to Muscle, University of Georgia, September, 2015.
- Newell, K. M. The acquisition of coordination in sport skills. Paper presented at the conference on Moving Minds and Crossing Boundaries in Sport Science. Mainz, Germany, October, 2015.
- Newell, K. M., & Morrison, S. Aging and motor abilities. Paper presented at the Society for Cognitive Aging, Atlanta, April, 2016.
- Morrison, S., Newell, K. M., & Kavanagh, J. Fatiguing a single limb leads to bilateral changes in postural tremor and forearm muscle activity. Paper presented at the American College of Sports medicine, Boston, MA, May, 2016.
- Hsieh, T. Y., Liu, Y-T., Lin, B-C., & Newell, K. M. Identifying units of movement in discrete movement trajectories. Paper presented at the North American Society for the Psychology of Sport and Physical Activity Annual Conference, Montreal, Canada. May 2016.
- Liu, Y-T., Chuang, K-L., & Newell, K. M. Influences of prior practice experiences: Movement outcomes, movement dynamics, and learning dynamics. Paper presented at the North American Society for the Psychology of Sport and Physical Activity Annual Conference, Montreal, Canada. May 2016.
- Pacheco, M. M., Hsieh, Y-T., & Newell, K. M. Discovering task dynamics: Variability affording perception. Paper presented at the International Society for Ecological Society, Clemson, TN. June 2016.
- Dutt-Mazumder, A., Slobounov, S. M., Challis, J. H., & Newell, K. M. Postural stability margins as a function of support surface slopes. Paper presented at the Society for Neuroscience, San Diego, November 2016.

- Verhoeven, F. M., & Newell, K. M. Decomposing the coordination of the basketball free-throw shot. Paper presented at the British Association of Sport and Exercise Sciences, Nottingham, UK. November 2016.
- Professional Annual Meetings and Invited Addresses on Professional Issues*
- Newell, K. M. On masters and apprentices in physical education. Paper presented at AAPHERD, Cincinnati, OH, April, 1986.
- Newell, K. M. Kinesiology. Paper presented at the Big 10 Conference on Physical Education, Chicago, IL, December, 1988.
- Newell, K. M. Reaction to papers on putting the whole person back into physical education scholarship. Paper presented at NAPEHE, San Antonio, TX, January, 1989.
- Newell, K. M. Undergraduate education in Kinesiology. Paper presented at the American Academy of Physical Education Meeting, Boston, MA, April, 1989.
- Newell, K. M. Critical problems in Kinesiology. Purdue University, Lafayette, IN, November, 1989.
- Newell, K. M. Kinesiology: The field of study. Free University, Amsterdam, December, 1991.
- Newell, K. M. Kinesiology: Movement science into the next century. University of Colorado, Boulder, CO, April 1993.
- Newell, K. M. Kinesiology: Movement in context. University of Michigan, Ann Arbor, MI, March, 1995.
- Newell, K. M. Kinesiology in Academe. Paper presented at the American Academy of Kinesiology and Physical Education Meeting, Chicago, IL, September, 1997.
- Newell, K. M. Kinesiology in Context. Taiwan Normal University, April, 1999.
- Newell, K. M. Kinesiology as a field of study. Taiwan Normal University, April, 2000.
- Newell, K. M. Kinesiology as a field of study. University of Pittsburgh, Governor's School, Pittsburgh, PA, July, 2000.
- Newell, K. M. Current and future issues in kinesiology. Chungnam National University, Daejeon City, S. Korea. February, 2002.
- Newell, K. M. Kinesiology: Challenges of Multiple Agendas. AAKPE, Tucson, Az. Sept 2006.
- Newell, K. M. Vision for the School of Physical Education. School of Physical Education, University of Otago, New Zealand, October 2006.
- Newell, K. M. Kinesiology at Penn State. Paper presented at the Asian-CIC Kinesiology Summit, Jianjin University of Sport, Tianjin, China, October 2008.
- Newell, K. M. Kinesiology: The field of study. Paper presented at the Asian-CIC Kinesiology Summit, Beijing Sport University, China, October 2008.
- Newell, K. M. Kinesiology at Penn State. Paper presented at the Asian-CIC Kinesiology Summit, Beijing Sport University, Beijing, China, October 2008.
- Newell, K. M. Kinesiology at Penn State. Paper presented at the Asian-CIC Kinesiology Summit, East China Normal University, Shanghai, China, October 2008.

- Newell, K. M. Kinesiology at Penn State. Paper presented at the Asian-CIC Kinesiology Summit, Shanghai University of Sport, Shanghai, China, October 2008.
- Newell, K. M. Budget cuts and the changing face of Kinesiology. Paper presented at the American Kinesiology Association, Dallas, Texas. February 2010.
- Newell, K. M. Kinesiology: The field of study. University of Londrina, Londrina, Brazil. July 2010.
- Newell, K. M. Kinesiology: Challenges and opportunities. California State University East Bay, San Francisco CA. April 2013.

*Conferences Organized*

- Illinois Motor Control Conference, September, 1987.
- Mid-West Motor Development Conference, Urbana-Champaign, IL, September, 1988.
- Variability and Motor Control Conference, Chicago, IL, April, 1991. (with D. Corcos)
- Stereotypies: Brain-Behavior Relationships, Urbana-Champaign, IL, October, 1992. (with R. L. Sprague)
- Dynamical Systems in Development, State College, October, 1994.
- North American Society for the Psychology of Sport and Physical Activity, Ontario, Canada, June, 1996. (with Janet Starkes, McMaster University)
- Bernstein's Traditions in Motor Control. Penn State University, August 1996 (with M. Latash, Chair, D. Rosenbaum, D. Sternad, & V. Zatsiorsky)
- Bernstein's Traditions in Motor Control. Penn State University, August 1998 (with M. Latash, Chair, D. Rosenbaum, D. Sternad, & V. Zatsiorsky)
- Individual Pathways of Change in Learning and Development, State College, PA, September, 2008. (P. C. M. Molenaar and K. M. Newell: Sponsored by the Scientific Directorate of the American Psychological Association)
- Developmental systems theory and methodology, State College, PA, November 2011. P. C. M. Molenaar, R. Lerner, & K. M. Newell: (Sponsored by Guilford Publications)

*Symposia Organized*

I have organized symposia at the following meetings:

- NASPSPA, Knoxville, TN, June, 1988.
- Gatlinburg Conference on Research and Theory in Mental Retardation, March, 1989.
- American Association of Mental Retardation, Chicago, May, 1989.
- American Academy of Child and Adolescent Psychiatry, New York, October, 1989.
- International Conference on Perception and Action, Toronto, July, 1997

*B. Invited Addresses*

- The University of Michigan, Faculty of Physical Education, "Motor learning--An overview of the domain," February, 1975.

- The University of Waterloo, Ontario, Canada, Faculty of Kinesiology, "On the role of recognition in motor learning," April, 1975.
- The University of Southern California, Department of Physical Education, "On the role of recognition in motor learning," May, 1975.
- The University of Wisconsin at Madison, Department of Physical Education, "Coordination of kinesthetic and visual information," June, 1976.
- The University of Southern California, Department of Physical Education, "Coordination of visual and kinesthetic information," March, 1977.
- The University of California, Los Angeles, Department of Kinesiology, "Coordination of visual and kinesthetic information," April, 1977.
- The Pennsylvania State University, "Coordination of visual and kinesthetic information," May, 1977.
- The University of Southern California, Department of Physical Education, "On the accuracy of movement," January, 1978.
- The University of California, Davis, Department of Physical Education, "On the accuracy of movement," January, 1978.
- The Ohio State University, Department of Psychology, "Issues in the programming of movements," December, 1978.
- The Brain Research Laboratory, Fox Chase Cancer Center, Philadelphia, "Timing fast and slow movements," November, 1979.
- Northwestern University, Department of Physiology, "Amending ongoing movements," December, 1980.
- University of Minnesota, Center for Research on Human Learning, "The accuracy of voluntary movement," March, 1981.
- The University of Washington, Seattle, Department of Kinesiology, "The accuracy of voluntary movement," April, 1981.
- The University of California, Davis, Department of Psychology, "Information feedback in skill acquisition," April, 1981.
- The University of California, Los Angeles, Department of Kinesiology, "Kinematic and kinetic parameters as information feedback in skill acquisition," April, 1981.
- The Rehabilitation Institute of Chicago, "Analysis of movement skills: Implications for theory and practice," August, 1981.
- The University of California, Berkeley, "A space-time theory of movement accuracy," March, 1982.
- The Rehabilitation Institute of Chicago, "Human performance and rehabilitation," May, 1982.
- The Rehabilitation Institute of Chicago, "Kinematic information feedback and skilled performance," June, 1982.
- University of Wisconsin, Madison, Department of Physical Education and Dance, "A space-time theory of movement accuracy," July, 1982.

- University of Wisconsin, Madison, Department of Physical Education and Dance, "Augmented information feedback and skill learning," July, 1982.
- University of Iowa, Iowa City, Department of Physical Education for Men, "Coordination, control and skill," December, 1982.
- University of Iowa, Iowa City, Department of Physical Education for Men, "Augmented information feedback for optimizing skilled performance," December, 1982.
- University of Wisconsin, Madison, Department of Physical Education and Dance, "Coordination, control and skill," March, 1983.
- Southern Illinois University, Department of Physical Education, "Coordination, control and skill," May, 1983.
- San Diego State University, Department of Physical Education, "Coordination, control and skill," November, 1983.
- University of Illinois at Chicago, Department of Psychology, "Movement accuracy in space-time," February, 1984.
- University of Waterloo, Ontario, Canada, Department of Kinesiology, "Movement accuracy in space-time," November, 1984.
- University of Illinois at Urbana-Champaign, Department of Human Development and Family Ecology, "The development of coordination." May, 1985.
- University of Illinois, Phi Kappa Phi Honors Society. "Coordination, control and skill." April, 1986.
- Purdue University, Department of Physical Education. "Response dynamics and reaction time." April, 1986.
- McGill University, Department of Physical Education. "Coordination, control and skill." October, 1986.
- University of Denver, Department of Psychology. "Coordination, control and skill: Developmental implications." February, 1987.
- University of Colorado at Boulder, Department of Kinesiology. "Development of Prehension." February, 1987.
- University of Minnesota, Center for Research on Human Development. "Toward an ecological model of prehension." April, 1988.
- Rush Presbyterian Medical School, Chicago. "Variability of response dynamics." May, 1988.
- The Pennsylvania State University, Department of Exercise and Sport Science. "Acquisition of skill." February, 1989.
- Arizona State University, Phoenix, Department of Exercise and Sport Science. "Information and the acquisition of skill." March, 1989.
- Purdue University, Lafayette, Department of Physical Education. "The acquisition of skill." November, 1989.
- Free University, Amsterdam, Holland, Faculty of Human Movement Sciences. "Development of children's grip configurations." December, 1991.

- The Pennsylvania State University, Department of Exercise and Sport Science. "Coordination, control and skill in physical activity." July, 1992.
- The University of California, Riverside, Department of Psychology. "Development of prehension." October, 1992.
- Southern Illinois University Medical School. "The dynamics of tremor." November, 1992.
- State University of New York: Stony Brook, Department of Psychology. "The nature of movement variability." April, 1995.
- Deakin University, Australia, Department for the Study of Disabilities. "Change in movement and skill." December, 1995.
- Deakin University, Australia, Perception and Action Group. "The development of prehension." December, 1995.
- La Trobe University, Australia, Department of Physical Therapy. "Issues in Motor learning and Control." December, 1995.
- University of Illinois at Urbana-Champaign, Department of Kinesiology. "The invariance of movement variance." October, 1997.
- Hanneman Medical School, Philadelphia. "Information for the relearning of physical activities." October, 1997.
- Universite of Marseille-Mediteraneane, France, Movement and Perception Group. "The nature of movement variability." December, 1998.
- Arizona State University, Department of Exercise and Sport Science. "The nature of movement variability." March, 1999.
- Taiwan Normal University, Taiwan, University Hospital. "The dynamics of stereotypies." April, 1999.
- Roverto University, Roverto, Italy. "The nature of movement variability." September, 1999.
- Griffith University, Queensland, Australia, School of Physiotherapy & Exercise Science. "Movement disorders in children and the elderly: Is there order in disorder?" February, 2000.
- National Taiwan Normal University, Taipei, Taiwan. "The movement speed accuracy trade-off." April, 2000.
- Boston University, Sargent College of Health and Rehabilitation Sciences. "Intervention as a constraint in the learning and relearning of motor skills." May, 2000.
- University of Maryland, Department of Kinesiology. "Noise, irregularity and motor control." April, 2002.
- University of North Carolina, Chapel Hill. "The Structure of Movement Variability: Theoretical and Clinical Considerations". October 2002.
- University of Rio Claro, Rio Claro, Brazil. "Constraints on the development of coordination". May 2003.
- University of Massachusetts, Department of Exercise Science, Amherst, MA. Time scales in motor learning and development. November 2003

- Taipei Municipal Teachers College, Taipei, Taiwan. "The dynamics of motor learning". December 2003.
- Manchester Metropolitan University, Manchester, England. "Time scales in motor learning and development". October 2004.
- National Taiwan Normal University, Taipei, Taiwan. "Toward a theory of practice in physical activity", December, 2005.
- National Taipei College of Nursing, Taipei, Taiwan. "Aging, complexity and human performance". December 2005.
- School of Physical Education, University of Otago, New Zealand. "Time scales in motor learning and development." October, 2006.
- National Taiwan Normal University, Taipei, Taiwan. "Motor skill acquisition: Toward a theory of practice in physical activity". December, 2006.
- University of Florida, Gainesville, FL. "The invariance of movement variance". April 2007
- National Taiwan Normal University, Taipei, Taiwan. "Time scales and practice schedules in motor learning". December 2007.
- Max Planck Institute on Human Development, Berlin, Germany. "Intra-individual variability and aging: Clues from the motor system". February 2008.
- University of Verona, Italy. "Verona Lectures – Motor Skill Acquisition". May 2008.
- University of North Carolina, Chapel Hill, N.C. Department of Psychology. Decomposing the performance dynamics of learning through time scales. January 2009.
- University of Illinois at Chicago, Chicago, Ill. Department of Kinesiology. Aging, time scales and variability. February 2009.
- University of Illinois at Urbana-Champaign, Ill. Department of Kinesiology. Unraveling the processes of change in performance dynamics. April 2009.
- The Pennsylvania State University, Univ Park, PA. Beyond the hills of Edinburgh: Aging, complexity and dynamics. Paper presented at the Festschrift honoring Gerald E. McClearn, Behavior, genetics and aging: A lifetime perspective. May 2009.
- University of Verona, Verona, Italy. The movement speed-accuracy relation in space-time. June 2009.
- SUNY College at Brockport, Department of Kinesiology, Sport Studies, & PE. Motor skill acquisition and instructional strategies with reference to practice schedules. October 2009.
- Movement accuracy in space and time. Facoltà di Scienze Motorie. University of Verona, Verona, Italy. June 2009.
- Entropy and variability in motor control. Graduate Institute of Exercise and Sport Science. National Taiwan Normal University, Taipei, Taiwan. December 2009.
- Dimension and degrees of freedom in motor control. Department of Physical Education. Dong Hua University, Hua Lian City, Taiwan. December 2009.
- Constraints on the learning and development of movement patterns. Department of Physical Education. Dong Hua University, Hua Lian City, Taiwan. December 2009.



- Time scales in motor learning and development. Department of Movement Science. Trondheim University, Norway. May 2010.
- Theoretical perspectives on movement variability. Department of Movement Science. Trondheim University, Norway. May 2010.
- Methods for decomposing movement variability. Department of Movement Science. Trondheim University, Norway. May 2010.
- Movement variability and clinical implications. Department of Movement Science. Trondheim University, Norway. May 2010.
- Issues in motor learning. Department of Physical Education, University of Londrina, Londrina, Brazil. July 2010.
- Variability and coordination in posture and locomotion across the life-span. Department of Physical Therapy, Old Dominion University, Norfolk, VA. September 2010.
- Motor behavior in Kinesiology and Physical Education. Department of Physical Education. Dong Hwa University, Hualien City, Taiwan. December 2010.
- Motor behavior in Kinesiology and Physical Education. Graduate Institute of Exercise and Sport Science. National Taiwan Normal University, Taipei, Taiwan. December 2010.
- Dynamics of motor skill acquisition. Department of Health and Kinesiology. Purdue University, West Lafayette, Ind. March 2011.
- Skill development: Enhancing the learning environment. Australia Institute of Sport, Canberra, Australia. May 2011.
- Motor Skill Acquisition: Theoretical perspectives. Australia Institute of Sport, Canberra, Australia. May 2011.
- Motor skill acquisition: Decomposing learning curves. Australia Institute of Sport, Canberra, Australia. May 2011.
- Motor skill acquisition: Measurement issues. Australian Institute of Sport, Canberra, Australia. May 2011.
- Movement in action: Learning and relearning. Burwood Hospital, Christchurch, New Zealand. May 2011.
- The dynamics of learning and relearning motor skills. The Geraldine Pellecchia Memorial Lecture, Center for the Ecological Study of Perception and Action. Department of Psychology, University of Connecticut, Storrs, Conn. October 2011
- Variability and motor control. Nebraska Biomechanics Core Facility, University of Nebraska at Omaha, January 2012.
- Dimensions of change in motor learning and control. Department of Psychology, New York University. New York, NY. May 2012.
- Movement Speed and Accuracy in Space-Time. Department of Psychology, Central Florida University, Orlando, Fl. November 2012.

- Aging and the loss of movement complexity. Department of Kinesiology Action Club, State College, PA. November 2012.
- Physical Education: Fitness and skill over the life span of the individual. Department of Physical Education and Kinesiology. Dong Hwa University, Hualien City, Taiwan. December 2012.
- Aging, movement dynamics, and the loss of complexity hypothesis. Department of Exercise Science and Health. Colorado State University, Co. February 2013.
- Aging, movement dynamics, and the loss of complexity hypothesis. Department of Kinesiology, University of Georgia, Athens, GA. April 2013.
- Coordination, control and skill: Toward a lifespan perspective. California State University, East Bay, San Francisco, CA. April 2013.
- Times scales in motor learning and development. Department of Human Kinetics. Technical University of Lisbon, Portugal. July 2013.
- Variability and motor control. Department of Human Kinetics. Technical University of Lisbon, Portugal. July 2013.
- Task-induced variability and motor learning. Department of Human Kinetics. Technical University of Lisbon, Portugal. July 2013.
- Variability in motor learning and control. Department of Human Kinetics. Technical University of Lisbon, Portugal. July 2013.
- Aging, movement dynamics, and the loss of complexity hypothesis. Department of Kinesiology, The Pennsylvania State University, State College, PA. October 2013.
- Movement speed and accuracy in space and time. Department of Kinesiology, The Pennsylvania State University, State College, PA. October 2013.
- Department of Athletic Performance, National Taiwan Normal University, Taipei, Taiwan. “The acquisition of coordination.” December, 2013.
- University of Groningen, Medical School. “Time scales in motor learning and development”. April 2014.
- The University of Nebraska, Omaha. Center for Research on Human Movement Variability. “Movement variability”. May 2015.
- Department of Athletic Performance, National Taiwan Normal University, Taipei, Taiwan. “Collective variables and motor learning.” December, 2015.
- Department of Physical Education and Athletic Training, University of South Carolina, SC. “The speed-accuracy trade-off”. February, 2016.
- Department of Physical Education and Athletic Training, University of South Carolina, SC. “Dynamics of motor learning and development across the lifespan”. February, 2016.
- Embodied Design Research Laboratory, University of California, Berkeley. “Issues in the learning sciences”. April, 2016.
- Department of Kinesiology, Georgia Southern University, Statesboro, GA. “Timescales of the slowing neuro-motor processes in aging.” September, 2016.

Department of Kinesiology, Georgia Southern University, Statesboro, GA. "The acquisition of coordination in motor skills." September, 2016.

Biomechanics Research Group, Cardiff University, UK. "Coordination, control and skill. December, 2016.

## **X. Supervision of Student Research**

### *A. Master's Thesis*

I have served or am currently serving as Director of Research for:

C. B. Walter, Physical Education, graduated May, 1981. "Contrasting information feedback parameters for learning a simple rapid response."

D. M. Scully, Physical Education, graduated February, 1984. "Visual perception of the aesthetic quality of biological motion."

R. D. Stuart, Physical Education, graduated October, 1985. "Postural coordination of standing balance."

S. Kim, Kinesiology, graduated May, 1988. "Isometric force variability."

Y-S. Kim, Kinesiology, graduated February, 1989.

P. V. McDonald, Kinesiology, graduated January, 1990. "On dimensional reconstruction in the perception-action system."

M. Broderick, Kinesiology, graduated May, 1994. "Understanding the performance of a task with respect to the logic of knowing how and knowing that."

V. Whyte, Kinesiology, graduated February, 1995. "Object properties, grip configurations and infant prehension."

### *B. Doctoral Dissertation*

University of Illinois at Urbana-Champaign

I have served on the doctoral committee for:

C. R. Barclay, Educational Psychology, graduated, 1976

D. Gould, Physical Education, graduated, 1977

T. M. McLaughlin, Physical Education, graduated, 1978

R. Shapiro, Physical Education, graduated, 1978

J. Simon, Physical Education, graduated, 1977

P. S-P. Tsang, Psychology, graduated, 1983

P. D. Milburn, Physical Education, graduated, 1984

A. M. Mane, Psychology, graduated, 1985

G. Dirken, Leisure Studies, graduated, 1985

J. D. St. James, Psychology, graduated, 1988

S. Todd, Psychology, graduated, 1993

I have served or am currently serving as Director of Research for:

L. G. Carlton, Physical Education, graduated May, 1979. "The role of vision for the control of aiming movement"

- M. G. Carlton, Physical Education, graduated May, 1981. "Amending limb movements to mechanical disturbances"
- L. E. Falkenberg, Physical Education, graduated January, 1982. "The initiation of visual corrections within the acceleration and deceleration phases of movement"
- A. M. Pelligrini, Physical Education, graduated October, 1982. "Development of dual task performance"
- P. A. Hancock, Physical Education, graduated May, 1983. "An endogenous metric for the perception of short temporal intervals"
- R. H. McFarquhar, Physical Education, graduated February, 1985. "Attention and Motor Skills."
- R. N. Robertson, Physical Education, graduated May, 1985. "Human muscular contraction: Role of the mechanical components."
- W. A. Sparrow, Physical Education, graduated October, 1985. "Efficiency and motor skill learning"
- B. G. Rutter, Kinesiology, graduated October, 1987. "Towards an ecological model of prehension"
- D. M. Scully, Kinesiology, graduated October, 1987. "Perception of biological motion"
- R. E. A. van Emmerik, Kinesiology, graduated May, 1990. "Stability and instability in the coordination of multijoint limb movements"
- S. Kim, Kinesiology, graduated January, 1992. "Speed and accuracy in movement timing"
- A. Antoniou, Kinesiology, graduated January, 1992. "Visual perception of moving objects: Effects of velocity and direction"
- P. V. McDonald, Kinesiology, graduated May, 1992. "Exploration and the acquisition of skill"
- S. M. Slobonouv, Kinesiology, graduated May, 1994. "Dynamic strategies of human postural control"

I have served as chairperson for:

- M. D. Grabiner, Physical Education, graduated October, 1985  
P. M. McGinnis, Physical Education, graduated October, 1984  
M. Kernodle, Kinesiology, graduated May, 1988  
K. Kim, Kinesiology, graduated May, 1992

The Pennsylvania State University

I have served or am currently serving as Director of Research for:

**Schreyer Honors College:**

- R. L. Morgan, Kinesiology, graduated May, 2004. "Cognitive constraints and the stability of postural control in older adults"
- M. Joseph, Kinesiology, graduated May, 2011. "Task difficulty and the time scales of motor learning."
- M. Loncharich, Kinesiology, graduated May, 2011. Augmented visual information and tremor.
- M. Mazich, Kinesiology, graduated December, 2012. Visual information about past, current and future properties of irregular target paths in isometric force tracking.

A. Anders, Kinesiology, graduated May, 2014. Stability of standing on an unstable surface.

**Master's Degree Students:**

G. Daniels, Exercise and Sport Science, graduated May, 1994. "Learning to juggle: An investigation of the acquisition of a novel coordination pattern"

S. Richardson, Exercise and Sport Science, graduated August, 1995. "Aging and postural stability"

W. Sharp, Exercise and Sport Science, graduated January, 1996. "Interdigit coordination in force production"

D. B. Tsai, Kinesiology, Kinesiology, graduated December, 1997. "Infant postural stability"

D. Vaillancourt, Kinesiology, graduated May, 1999. "Neural and mechanical components of finger tremor"

S. Challis, Kinesiology, graduated May, 1999. "Mechanical variables in limbs movements"

B. Wszola, Kinesiology, graduated May, 2000. "Risk factors for tardive dyskinesia in children, adults, and older individuals"

S. Stratton, Kinesiology, graduated August, 2001. "Exponential and power law motor learning"

K. Jordan, Kinesiology, graduated December, 2001. "Task goals and grip force dynamics"

J. Sosnoff, Kinesiology, graduated May 2002. "Aging and the frequency structure of intramuscular EMG and single motor unit discharge patterns"

P. Haibach, Kinesiology, graduated May 2002. "Learning to juggle"

A. King, Kinesiology, graduated May 2010. "Practice schedules, time scales and motor learning"

W. T. Tseng, Kinesiology, graduated Aug 2010. "Postural control of ballet poses"

A. Rothenberg-Cunningham, Kinesiology, graduated May 2011. "Children's age-related performance in striking moving targets"

P. Yu, Kinesiology, graduated May 2012. "Dynamics of digit tremor within and between hands"

A. Valentine, Kinesiology, graduated May 2014. "Transfer of mirror handwriting in left and right handers"

C. W. Lafe, Kinesiology, graduated August 2014. "Visual information and multiple timescales of isometric force control"

**Doctoral Degree Students:**

J. Valvano, Exercise and Sport Science, graduated January, 1996. "Force production in children with cerebral palsy"

M. Rice, Exercise and Sport Science, graduated May, 1996. "Inter-limb coupling and left hemiplegia"

S. Morrison, Kinesiology, graduated December, 1997. "Compensatory strategies and postural tremor"

P. Cesari, Kinesiology, graduated August, 1999. "The scaling of human grip configurations"

- C. Johnson, Kinesiology, graduated August, 1999. "Aging and postural control"
- M. P. Broderick, Kinesiology, graduated May, 2000. "Coordination changes in learning to bounce a ball"
- Y. Ko, Kinesiology, graduated August, 2000. "Organization of compensatory postural coordination"
- D. E. Vaillancourt, Kinesiology, graduated May 2001. "Tremor and force output in Parkinson's disease"
- G. Daniels, Kinesiology, Kinesiology, graduated May 2002. "Human walking and running: Energetics and information"
- M. Ford, Kinesiology, Kinesiology, graduated August 2003. "Arm movement dynamics and walking in individuals with CVA"
- K. M. Deutsch, Kinesiology, graduated December 2003. "Sensori-motor noise and the structure of children's isometric force variability"
- S.-C. Lai, Kinesiology, Graduated August 2005. "Information theory, entropy, and movement variability"
- J. J. Sosnoff, Kinesiology, Graduated August 2005. "Aging, noise and visual motor processing"
- P. Haibach, Kinesiology, Graduated December 2005. "Optical flow and postural control in young and elderly adults using virtual reality"
- K. Jordan, Kinesiology, Graduated August 2006. "Variability and long range correlations in human walking and running"
- S. L. Hong, Kinesiology, Graduated May 2007. "Entropy compensation in human motor adaptation"
- E. James, Kinesiology, Graduated August 2009. "Coordination dynamics in redundant and non-redundant coordination tasks"
- R. Ranganathan, Kinesiology, Graduated December 2009. "Utilization of redundancy in motor learning"
- M. Lee, Kinesiology, Graduated May 2011. "The development of reaching movements in infancy"
- X. Hu, Kinesiology, Graduated August 2011. "Constraints, redundancy, and patterns of force coordination"
- A. C. King, Kinesiology, Graduated August 2013. "Motor learning and force output dynamics"
- Z. Wang, Kinesiology, Graduated August 2013. "Inter- and intra-foot coordination dynamics of quiet standing postures"
- J-H. Ko, Kinesiology, Graduated August 2014. "Postural coordination patterns and surface of support dynamics"
- Alek Rothenberg-Cunningham, Kinesiology, Graduated December 2014. "Perception-action coupling in interception tasks"
- Tsung-Yu Hsieh, Kinesiology, Graduated July 2015. "Entropy of speed and accuracy trade-off in space-time"

A. Dutt-Mazumder, Kinesiology, Graduated December 2015. “Collective variables in dynamic postural stability”

I have served or am currently serving on the committee for:

**Doctoral Degree Students:**

T.R. Goudy, Exercise and Sport Science, graduated May, 1994  
J. Shin, Psychology, graduated December, 1997  
B. Xia, Exercise and Sport Science, graduated December, 1997  
R. van Duerson, Kinesiology, graduated December, 1997  
T. West, Kinesiology, graduated May, 1998  
J. Dingwell, Kinesiology, graduated December, 1998  
E. M. Rantanen, Psychology, graduated August, 1999  
D. Russell, Kinesiology, graduated May, 2000  
M. Rearick, Kinesiology, graduated December, 2000  
T. Shiratori, Kinesiology, graduated December, 2000  
W. Hurley, Kinesiology, graduated August, 2001  
J. Henley, Exercise and Sport Science, graduated May, 2002  
S. Li, Kinesiology, graduated August, 2002  
J. Johnston, Kinesiology, graduated August, 2003  
Huai-Hsiao Hudson Chiang, Kinesiology, graduated December, 2003  
S. Hale, Kinesiology, Kinesiology, graduated August 2004  
H. Yu, Kinesiology, Kinesiology, graduated August 2005  
J. Metzler, Kinesiology, graduated August 2007  
J. John, Engineering Science and Mechanics, graduated August 2009  
H. Olafsdottir, Kinesiology, graduated December 2007  
J. W. G. Thompson, Kinesiology, graduated May 2007  
S. Scheafer, Kinesiology, graduated August 2008  
C. Cao, Kinesiology, graduated August 2009  
S. Lee, Computer Science and Engineering, graduated May 2010  
A. Costigan, Communication Sciences and Disorders, graduated May 2010  
S. Yang, Kinesiology, graduated December 2012  
M. Gay, Kinesiology, graduated May 2013  
B. Johnson, Kinesiology, graduated May 2013  
K. Zhang, Kinesiology, graduated May 2014  
Yen-Hsun Wu, Kinesiology, graduated May 2014

**Master's Degree Students:**

R. Simon, Kinesiology, graduated July, 1996  
A. Wolstenhome, Kinesiology, graduated July, 1996  
L. Fox, Kinesiology, graduated July, 1997  
M. Rearick, Kinesiology, graduated May, 1998  
W. J. Dean, Kinesiology, graduated May, 1998  
J. Johnston, Kinesiology, graduated May, 2000  
J. W. G. Thompson, Kinesiology, graduated May, 2004  
R. Cohen, Psychology, Psychology, graduated August, 2005  
S. Singer, Neuroscience, graduated May 2006  
X. Hu, Kinesiology, graduated May 2008  
N. Jaiswal, Kinesiology, graduated December 2009  
B. Johnson, Kinesiology, graduated August 2011  
S. L. Rosenthal, Kinesiology, graduated May, 2014

The University of Georgia, Athens

**Doctoral Degree Students**

I have served or am currently serving as Director of Research for:

Melissa C. Kilby, Kinesiology, Graduated December 2015. “The degrees of freedom problem in postural control: Collective variables and redundancy.”

Charley W. Lafe, Kinesiology

Martijn Verhoeven, Kinesiology

E. J. I-Chieh, Kinesiology

Matheus M. Pacheco, Kinesiology

Thomas Novak, Kinesiology

**Master’s Degree Students:**

Thomas Novak, Kinesiology, Graduated August 2016. “The role of physiological tremor in isometric force production.”

I have served or am currently serving on the committee for:

**Doctoral Degree Students:**

Madhur Mangalam, Psychology

Christine O. Samson, Kinesiology

**Master's Degree Students:**

Caroline E. Jones, Psychology, graduated December, 2016

**XI. Administrative Services to the University**

a) *University of Illinois at Urbana-Champaign*

Department of Kinesiology Committees

1977-80 Educational Policy (elected)  
1980-81 Academic Structure  
1980-85 Department Computer  
1981-82 Promotion and Tenure (elected)  
1981-85 Equipment  
1982-83 Long Range Planning  
1982-85 Advisory (elected)  
1985-92 Advisory (Chair)  
1985-92 Educational Policy Committee (Chair)

Institute for Child Behavior and Development Committees

1976-85 Advisory

College of Applied Life Studies Committees

1979-80 Capricious Grading  
1981-83 International Affairs  
1985 Chairperson, Search Committee for Director of Institute for Child Behavior and Development  
1986 Institute for Child Behavior and Development Committee  
1985-92 Administrative Committee  
1990-91 Chair, King McCristal Distinguished Scholar Committee



University Committees

1979-80 IRB  
1981-83 IRB  
1983-85 IRB Chairperson  
1986-87 North Campus Planning Committee

b) *The Pennsylvania State University*

Department of Kinesiology Committees

1992-93 Activity Program Committee  
1993-95 Curriculum Committee (chair)  
1993-01 Advisory Committee (chair)  
2007-12 Advisory Committee (chair)  
2013-14 Promotion and tenure Committee

College of Health and Human Development

1993-94 Strategic Planning Committee  
1993-Present Executive Committee  
1994-95 General Education Committee  
1995-96 Committee to Review the Head of Nutrition  
1995-96 Noll Endowed Professorship Search  
1995-97 Noll Clinical Project Review Committee  
1997-98 Freshman Seminar Committee  
1997-98 Supplementary Contract Committee  
1997- 99 Interdisciplinary Training in Gerontology Committee  
2001-02 Noll Delta Committee

University Committees

1994-95 Recreation Building Space Committee  
1996-99 Life Sciences Consortium Steering Committee  
1999-14 Schreyer Honors College Faculty Mentor  
2000-01 Exercise and Sport Activity (ESACT) Committee  
2000-07 University Research Council  
2000-07 University Graduate College Committee  
2001-07 Social Science Research Committee  
2000-08 University Tobacco Review Committee  
2003-04 University Faculty Scholars Medal Committee  
2004-05 IBIOS Futures Committee  
2004-05 Homeland Security Council

c) *The University of Georgia*

Department of Kinesiology Committees

College of Education

2014 - Dean's Cabinet Committee

University Committees

2015-16 Awards Review Committee

2015-16 Sarah Moss Fellowship Committee

## **XII. Courses Taught**

### University of Illinois at Urbana-Champaign

KINES 161	Principles of Motor Skill Acquisition
KINES 357	Motor Learning
KINES 394	Motor Impairment
KINES 394	Movement Disorders
KINES 457	Sensori-Motor Development
KINES 494	Planning and Executive Control of Movement
KINES 490	Seminar in Motor Learning and Control

### The Pennsylvania State University

KINES 463	Motor Skill Acquisition
KINES 483	Motor Patterns of Children
KINES 562	Motor Control
KINES 563	Motor Learning
KINES 590	Colloquium
KINES 597A	Proseminar

### The University of Georgia

08/03/2016