

## CURRICULUM VITAE

### 1. Contact Information, Specialization, and Education

Name Bradley Douglas Hatfield

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**Statement of Purpose:** My research efforts address behavioral issues in the discipline of kinesiology from a biopsychological perspective. Specifically, these issues are (1) the influence of physical activity on brain processes and cognitive function, with emphasis on delay of dementia and symptoms of Alzheimer's disease as well as (2) the role of brain processes in skilled motor behavior. The emphasis of the former is on exercise and the aging brain, with particular interest in populations who are genetically susceptible to dementia. The emphasis of the latter area of interest is on the dynamics of brain processes as related to motor skill learning and performance with consideration of the influence of emotion and psychological stress on these processes. The measurement approach typically involves neuroimaging tools including, EEG, MEG, and MRI. These research foci (and the related classes that I offer) address exercise and sport psychology-related questions, respectively, from cognitive and affective neuroscience perspectives.

#### Degrees:

Ph.D.	Kinesiology - The Pennsylvania State University, University Park, Pennsylvania	1982
M.S.A.	Administration - Ohio University, Athens, Ohio	1983
M.S.	Kinesiology - The Pennsylvania State University, University Park, Pennsylvania	1976
B.A.	Psychology - University of New Brunswick, Fredericton, New Brunswick, Canada	1975
B.P.E.	Physical Education - University of New Brunswick, Fredericton, New Brunswick, Canada	1974

### 2. Employment History:

- 1975-76 Teaching Assistant, College of Health, Physical Education and Recreation, The Pennsylvania State University, University Park, PA.
- 1976 Instructor, College of Health, Physical Education and Recreation, The Pennsylvania State University.
- 1976-78 Director of Athletics, Teacher of Biology, Coach - Rothesay Collegiate School for Boys, Saint John, New Brunswick, Canada.
- 1978-80 Teaching Assistant, College of Health, Physical Education and Recreation, Pennsylvania State University.
- 1979 United States Olympic Training Center, Colorado Springs, Colorado - Assistant Camp Director for Junior Olympic Development Program.
- 1980 Instructor, College of Health, Physical Education and Recreation, The Pennsylvania State University.
- 1980 Research Assistant, College of Health, Physical Education and Recreation, The Pennsylvania State University.
- 1980-81 Doctoral Fellow, The Pennsylvania State University, sponsored by National Research Council of Canada (Social Sciences and Humanities Division).
- 1981-82 Graduate assistant football coach, Department of Intercollegiate Athletics - Ohio University, Athens, Ohio.
- 1982 Intern, Baltimore Colts Football Club of the National Football League
- 1982-88 Assistant Professor, Department of Kinesiology, University of Maryland, College Park (appointed regular member of Graduate Faculty - September 1987).
- 1986-89 Research Associate, Naval Medical Research Institute, U.S. Naval Hospital, Naval Medical Command of National Capitol Region, Bethesda, Maryland.
- 1988-2003 Associate Professor, Department of Kinesiology, University of Maryland, College Park.
- 1992-present Regular Faculty, Neural and Cognitive Sciences Program, University of Maryland, College Park.
- 1997-present Regular Faculty, Center on Aging, Department of Health Services Administration, University of Maryland, College Park.

2003-present Professor, Department of Kinesiology, School of Public Health,  
University of Maryland, College Park.

### 3. Research, Scholarly, and Creative Activities: \* refereed + invited

#### Books

##### **Books Authored:**

Iso-Ahola, S.E., & **Hatfield, B.** (1986). Psychology of Sports: A Social Psychological Perspective. Dubuque, Iowa: William C. Brown Co. (original edition).

**Hatfield B. D.** (in preparation). A neuroscience perspective on exercise and sport psychology. Lippincott, Williams & Wilkins, Baltimore, MD.

##### **Chapters in Books:**

**Hatfield, B.D.** (1984). Psychological knowledge and its emerging role in the physical education curriculum. Proceedings of the National Association for Physical Education in Higher Education, Champaign, Illinois: Human Kinetics Publishers, pp. 60-68.

Ingram, A., **Hatfield, B.**, & Vaccaro, P. (1986). Sport survey of participation attitudes reported by sex. Proceedings of the Physical Education, Recreation and Sport: Lifelong Participation Proceedings of the International Association of Physical Education and Sport for Girls & Women, Tenth Congress, Oxford, England: Joshua Associates Limited, pp. 243-256.

**Hatfield, B.D.**, & Sullivan, K.T. (1987). The business of sport and the athlete. In J.R. May and M.J. Asken (Eds.), Sport Psychology: The Psychological Health of the Athlete. Great Neck, New York: PMA Publishing Corporation, pp. 231-253.

**Hatfield, B.D.** (1991). Exercise and mental health: The mechanisms of exercise-induced psychological states. In L. Diamant (Ed.) Psychology of Sports, Exercise and Fitness: Social and Personal Issues. Washington, D.C.: Hemisphere Publishing Co., pp. 17-50.

**Hatfield, B.D.**, & Brody, E.B. (1994). The psychology of athletic preparation and performance: The mental management of physical resources. In T. Baechle (Ed.), Essentials of Strength Training Principles. Champaign, IL: Human Kinetics Publishers, pp. 163-187.

**Hatfield, B.D.**, & Brody, E.B. (2000). The psychology of athletic preparation and performance: The mental management of physical resources. In T. Baechle (Ed.), Essentials of Strength Training Principles. Champaign, IL: Human Kinetics

Publishers (Second edition), pp. 187-208.

**Hatfield, B.D.** & Hillman, C.H. (2001). The psychophysiology of sport: A mechanistic understanding of the psychology of superior performance. In R.N. Singer, H. A. Hausenblas, & C. M. Janelle (Eds.), Handbook of Sport Psychology (2<sup>nd</sup> ed.). New York: John Wiley & Sons, pp. 362-388.

**Hatfield, B.D.** & Kaplan, P. (2004). Exercise psychology. In T. Baechle & R. Earle (Eds.), The Essentials of Personal Training. Champaign, IL: Human Kinetics Publishers, pp. 141-158.

**Hatfield, B.D.**, Haufler, A.J., & Spalding, T.W. (2006). A cognitive neuroscience perspective on sport performance. In E.O. Acevedo & P. Ekkekakis (Eds.), Psychobiology of Physical Activity. Champaign, IL: Human Kinetics Publishers, pp. 221-240.

**Hatfield, B.D.** & Kerick, S.E. (2007). The psychology of superior sport performance: A cognitive and affective neuroscience perspective. In G. Tenenbaum & R. C. Eklund (Eds.) Handbook of Sport Psychology - 3rd edition. J.C. Wiley Publishers, pp. 84-109.

**Hatfield, B. D.** (2007). Cognitive neuroscience aspects of sport psychology: Brain mechanisms underlying performance. In T. Morris, P. Terry, & S. Gordon (Eds.) Sport and Exercise Psychology: International Perspectives. Fitness Information Technology Press, Morgantown, West Virginia, pp. 121-137.

**Hatfield, B.D.**, & Brody, E. B. (2008). Psychology of athletic preparation and performance: The mental management of physical resources. In National Strength and Conditioning Association (Ed.). Essentials of Strength Training and Conditioning, Third Edition. Human Kinetics Publishers: Champaign, IL.

Tenenbaum, G., **Hatfield, B.**, Janelle, C., Land, W., Camielo, L., & Schack, T. (in press). A conceptual framework for studying emotions-cognitions-performance linkage under conditions which vary in perceived pressure. Mind and Motion: The Bidirectional Link between Thought and Action - Progress in Brain Research (Vol. 174)

**Hatfield, B.D.**, & Haufler, A. J. (in preparation). Psychophysiology. In T. Morris and P. Terry (Eds.). Sport and Exercise Psychology: The Cutting Edge.

**Hatfield, B.D.** (in revision). Exercise psychology. In T. Baechle & R. Earle (Eds.), The Essentials of Personal Training. Champaign, IL: Human Kinetics Publishers.

**Hatfield, B.D.**, & Haufler, A. (in press). Brain processes during expert cognitive-motor

performance: The impact of mental stress and emotion regulation. In S Kornguth and T. Thomas (Eds.) Proceedings of the Second Annual Conference on Sustaining Performance Under Stress. Ashgate Publishers.

Rodolphe J. Gentili, Hyuk Oh, Trent J. Bradberry, **Bradley D. Hatfield**, Jose L. Contreras-Vidal (submitted) Signal processing for non-invasive brain biomarkers of sensorimotor performance and brain monitoring.

### Articles in Refereed Journals

(\* designates refereed manuscript, + designates invited manuscript. Note: last listed position in the author order designates the senior role)

\***Hatfield, B.D.**, & Landers, D.M. (1978). Observer expectancy effects upon appraisal of gross motor performance. Research Quarterly, 49, (1), 53-61.

Landers, D.M. Christina, R.W., **Hatfield, B.D.**, Daniels, F.S., Wilkinson, M.O., & Doyle, L.A. (1980). Moving competitive shooting into the scientist's lab. The American Rifleman, 128 (4), 36-27, 76-77.

\*Daniels, F.S., & **Hatfield, B.** (1981). Biofeedback. Motor Skills: Theory Into Practice, 6, 69-72.

\***Hatfield, B.**, & Daniels, F.S. (1981). The use of hypnosis as a stress management technique. Motor Skills: Theory Into Practice, 5, 62-68.

**Hatfield, B.D.**, Landers, D.M., Ray, W.J., & Daniels, F.S. (February 1982). An electroencephalographic study of elite rifle shooters. The American Marksman, 7, 6-8.

\*Landers, D.M., Wilkinson, M.O., **Hatfield, B.D.**, & Barber, H. (1982). Causality and the cohesion-performance relationship. Journal of Sport Psychology, 4, 170-183.

\***Hatfield, B.D.** & Landers, D. M. (1983). Psychophysiology – A new direction for sport psychology. Journal of Sport Psychology, 5, 243-259.

\***Hatfield, B.D.**, Landers, D.M., & Ray, W.J. (1984). Cognitive processes during self-paced motor performance: An electroencephalographic profile of skilled marksmen. Journal of Sport Psychology, 6, 42-59.

\*Benedict, G., Vaccaro, P., & **Hatfield, B.D.** (1985). Physiological effects of an eight week precision jump rope program in children. American Corrective Therapy Journal, 39, 108-111.

\***Hatfield, B.D.**, Vaccaro, P., & Benedict, G.J., (1985). Self-concept responses of

children to participation in an eight-week precision jump-rope program. Perceptual and Motor Skills, 61 (3), 1275-1279.

- \*Moore, T.J., SantaMaria, D.L., **Hatfield, B.D.**, Ryder, M.N., & Weiner, L.B. (1986). The mandibular orthopedic repositioning appliance and its effect on power production in conditioned athletes. The Physician and Sports Medicine, 14 (12), 137-145.
- \***Hatfield, B.D.**, Wrenn, J.P., & Bretting, M.M. (1987). Comparison of job responsibilities of intercollegiate athletic directors and professional sport general managers. Journal of Sport Management, 1, 129-145.
- \***Hatfield, B.D.**, & Walford, G.A. (1987). Understanding anxiety: implications for sport performance. National Strength and Conditioning Association Journal, 9 (2), 58-65.
- \*Goldfarb, A.H., **Hatfield, B.D.**, Sforzo, G.A., & Flynn, M.G. (1987). Serum beta-endorphin levels during a graded exercise test to exhaustion. Medicine and Science in Sports and Exercise, 19 (2), 78-82.
- \***Hatfield, B.D.**, Goldfarb, A.H., Sforzo, G.A., & Flynn, M.G. (1987). Serum beta-endorphin and affective responses to graded exercise in young and elderly men. Journal of Gerontology, 42 (4), 429-431.
- \***Hatfield, B.D.**, Landers, D.M., & Ray, W.J. (1987). Cardiovascular-CNS interactions during a self-paced, intentional attentive state: elite marksmanship performance. Psychophysiology, 24 (5), 542-549.
- \*+**Hatfield, B.D.**, & Landers, D.M. (1987). Psychophysiology in exercise and sport research: an overview. Exercise and Sport Sciences Reviews, 15, 351-387.
- \*Brody, E.B., **Hatfield, B.D.**, & Spalding, T.W. (1988). Generalization of self-efficacy to a continuum of stressors upon mastery of a high-risk sport skill. Journal of Sport and Exercise Psychology, 10 (1), 32-44.
- \*Goldfarb, A.H., **Hatfield, B.D.**, Armstrong, D., & Potts, J. (1990). Plasma beta-endorphin concentration: response to intensity and duration of exercise. Medicine and Science in Sports and Exercise, 22 (2), 241-244.
- \*Petruzzello, S.J. Landers, D.M., **Hatfield, B.D.**, Kubitz, K., & Salazar, W. (1991). A meta-analysis on the anxiety-reducing effects of acute and chronic exercise: Outcomes and mechanisms. Sports Medicine, 11 (3), 143-182.
- \*Goldfarb, A.H., **Hatfield, B.D.**, Potts, J. & Armstrong, D. (1991). Beta-endorphin time-course response to intensity of exercise: effect of training status. International

Journal of Sports Medicine, 12, (3), 264-268.

- \***Hatfield, B.D.**, Spalding, T.W., Mahon, A.D., Slater, B.A., Brody, E.B., & Vaccaro, P. (1992). The effect of psychological strategies upon cardiorespiratory and muscular activity during treadmill running. Medicine and Science in Sports and Exercise, 24, (2), 218-225.
- \*Lawton, G.W., Hung, T.M., Saarela, P., & **Hatfield, B.D.** (1998). Electroencephalography and mental states associated with elite performance. Journal of Sport and Exercise Psychology, 20, 35-53.
- \***Hatfield, B.D.**, Spalding, T.W., Santa Maria, D.L., Porges, S.W., Potts, J.T., Byrne, E.A., Brody, E.B., & Mahon, A.D. (1998). Respiratory sinus arrhythmia during exercise in aerobically trained and untrained men. Medicine and Science in Sports and Exercise, 30 (2), 206-214.
- \*Bond, V. Jr., Mills, R.M., Caprarola, M., Vaccaro, P., Adams, R.G., Blakely, R., Roltsch, M., **Hatfield, B.**, Davis, G.C., Franks, B.D., Fairfax, J., & Banks, M. (1999). Aerobic exercise attenuates blood pressure reactivity to cold pressor test in normotensive, young adult African-American women. Ethnicity and Disease, 9 (1), 104-110.
- \*Bond, V. Jr., Vaccaro, P., Caprarola, M., Mills, R.M., Blakely, R., Wood, R., Roltsch, M., Fairfax, J., **Hatfield, B.**, Franks, D., Williams, D., Davis, G., & Adams, R.G. (2000). Blood pressure reactivity to mental stress and aerobic fitness in normotensive young African-American males with parental history of hypertension. Stress Medicine, 16, 219-227.
- \*Spalding, T.W., Jeffers, L.S., Porges, S.W., & **Hatfield, B.D.** (2000). Vagal and cardiac reactivity to psychological stressors in trained and untrained men. Medicine and Science in Sports and Exercise, 32, (3), 581-591.
- \*Brody, E.B., **Hatfield, B.D.**, Spalding, T.W., Frazer, M.B., & Caherty, F.J. (2000). The effect of a psyching strategy on neuromuscular activation and force production in strength-trained men. Research Quarterly for Exercise and Sport, 71 (2), 162-170.
- \*Kerick, S.E., Iso-Ahola, S.E., & **Hatfield, B.D.** (2000). Psychological momentum in target shooting: Cortical, cognitive-affective and behavioral responses. Journal of Sport and Exercise Psychology, 22, 1-20.
- \*Janelle, C.M., Hillman, C.H., Apparies, R.J., Murray, N.P., Meili, L., Fallon, E.A., & **Hatfield, B.D.** (2000). Expertise differences in cortical activation and gaze behavior during rifle shooting. Journal of Sport and Exercise Psychology, 22 (2), 167-182.

- \*Hillman, C.H., Apparies, R.J., Janelle, C.M., & **Hatfield, B.D.** (2000). An electrocortical comparison of executed and rejected shots in skilled marksmen. Biological Psychology, *52* (1), 71-83.
- \*Haufler, A.J., Spalding, T.W., Santa Maria, D.L., & **Hatfield, B.D.** (2000). Neuro-cognitive activity during a self-paced visuospatial task: comparative EEG profiles in marksmen and novice shooters. Biological Psychology, *53*, (2-3), 131-160.
- \*Hillman, C.H., Apparies, R.J., & **Hatfield, B.D.** (2000). Motor and nonmotor event-related potentials during a complex processing task. Psychophysiology, *37* (6), 731-736.
- \*Janelle, C.M., Hillman, C.H., Apparies, R.J., & **Hatfield, B.D.** (2000). Concurrent measurement of electroencephalographic and ocular indices of attention during rifle shooting: An exploratory case study. International Journal of Sports Vision, *6*, 21-29.
- \*Bixby, W.R., Spalding, T.W., & **Hatfield, B.D.** (2001). Temporal dynamics and dimensional specificity of the affective response to exercise of varying intensity: Differing pathways to a common outcome. Journal of Sport and Exercise Psychology, *23*, 171-190.
- \*Kerick, S.E., McDowell, K., Hung, T.M., Santa Maria, D.L., Spalding, T.W., & **Hatfield, B.D.** (2001). The role of the left temporal region under the cognitive motor demands of shooting in skilled marksmen. Biological Psychology, *58* (3), 263-277.
- \*Haufler, A.J., Spalding, T.W., SantaMaria, D.L., **Hatfield, B.D.** (2002). Erratum to “Neuro-cognitive activity during a self-paced visuospatial task: comparative EEG profiles in marksmen and novice shooters. Biological Psychology, *59* (1), 87-88.
- \*Hillman, C.H., Weiss, E.P., Hagberg, J.M., & **Hatfield, B.D.** (2002). The relationship of age and cardiovascular fitness to cognitive and motor processes. Psychophysiology, *39* (3), 303-312.
- \*McDowell, K., Jeka, J.J., Schoner, G., & **Hatfield, B.D.** (2002). Behavioral and electrocortical evidence of an interaction between probability and task metrics in movement preparation. Experimental Brain Research, *144* (3), 303-313.
- \*Deeny, S.P., Hillman, C.H., Janelle, C.M., & **Hatfield, B.D.** (2003). Cortico-cortical communication and superior performance in skilled marksmen: An EEG coherence analysis. Journal of Sport and Exercise Psychology, *25*, 188-204.
- \*McDowell, K., Kerick, S.E., Santa Maria, D.L. & **Hatfield, B.D.** (2003). Aging,

physical activity, and cognitive processing: an examination of P300. Neurobiology of Aging, 24 (4), 597-606.

- \***Hatfield, B.D.**, Spalding, T.W., Haufler, A.J., SantaMaria, D.L., & Apparies, R.J. (2003). The relationship of physical activity history to pattern reversal evoked potential components in young and older men and women. Journal of Aging and Physical Activity, 11, 167-188.
- \*Spalding, T.W., Schleifer, L.M., **Hatfield, B.D.**, Kerick, S., & Cram, J.R. (2003). Removing the influence of the heart from surface-recorded EMG. Biofeedback, 31, 6-10.
- \*Kerick, S.E., Douglass, L.W., & **Hatfield, B.D.** (2004). Cerebral cortical adaptations associated with visuomotor practice. Medicine and Science in Sports and Exercise, 36 (1), 118-129.
- \*Hung T.M., Spalding, T.W., Santa Maria, D.L., & **Hatfield, B.D.** (2004). Attentional processes and reactive motor performance: An electroencephalographic profile of skilled table tennis players. Journal of Sport and Exercise Psychology, 26, 317-337.
- \*Spalding, T.W., Lyon, L.A., Steel, D.H. & **Hatfield, B.D.** (2004). Aerobic exercise training and cardiovascular reactivity to psychological stress in sedentary young normotensive men and women. Psychophysiology, 41 (4), 552-562.
- \*+**Hatfield, B.D.**, Haufler, A.J., Hung, T.M., & Spalding, T.W. (2004). Electroencephalographic studies of skilled psychomotor performance. Journal of Clinical Neurophysiology, 21 (3), 144-156.
- \*+Tomporowski, P., & **Hatfield, B.D.** (2005). Effects of exercise on neurocognitive functions. International Journal of Sport and Exercise Psychology, 3, 263-279.
- \*Armstrong, D.W. & **Hatfield, B.D.** (2006). Hormonal responses to opioid receptor blockade: during rest and exercise in cold and hot environments. European Journal of Applied Physiology, 97 (1), 43-51
- \*Kerick, S.E., **Hatfield, B.D.**, & Allendar, L.E. (2007). Event-related cortical dynamics of soldiers during shooting as a function of varied task demand. Aviation, Space, and Environmental Medicine, 78 (5), Section II, B153-164.
- \*Bixby, W., Spalding, T.W., Haufler, A.J., Deeny, S.P., Mahlow, P. T., Zimmerman, J. & **Hatfield, B.D.** (2007). The unique relation of physical activity to executive function in older men and women. Medicine and Science in Sport and Exercise, 39 (8), 1408-16.

- Bixby, W., Spalding, T.W., Haufler, A.J., Deeny, S.P., Mahlow, P. T., Zimmerman, J. & **Hatfield, B.D.** (2007). Erratum to the unique relation of physical activity to executive function in older men and women. Medicine and Science in Sport and Exercise, 39 (11), 2093.
- \*+**Hatfield, B.D.**, (2008). E Pluribus Unum – From DNA to social systems: Understanding physical activity through an integrated perspective. Quest, 60, 154-177.
- \*+Janelle, C.M. & **Hatfield, B.D.** (2008). Visual attention and brain processes that underlie expert performance: Implications for sport and military psychology. Military Psychology, 20 (Suppl.), S1-S31.
- \*Deeny, S.P., Poeppel, D., Zimmerman, J.B., Roth, S.M., Brandauer, J., Witkowski, S., Hearn, J.W., Ludlow, A.T., Contreras-Vidal, J.L., Brandt, J., & **Hatfield, B.D.** (2008). Exercise, APOE, and working memory: MEG and behavioral evidence for benefit of exercise in epsilon4 carriers. Biological Psychology, 78 (2), 179-187.
- \*Schleifer, L.M., Spalding, T. W., Kerick, S. E., Cram, J.R., & **Hatfield, B.** (2008). Mental stress and trapezius muscle activation under psychomotor challenge: a focus on EMG gaps during computer work. Psychophysiology, 45 (3), 356-365.
- \*Hung, T.M., Haufler, A.J., Lo, L., Mayer-Kress, G., & **Hatfield, B.D.** (2008). Visuomotor expertise and dimensional complexity of cerebral cortical activity. Medicine and Science in Sports and Exercise, 40 (4), 752-759.
- \*Ludlow, A.T., Zimmerman, J.B., Witkowski, S., Hearn, J.W., **Hatfield, B.D.**, & Roth S.M. (2008). Relationship between physical activity level, telomere length, and telomerase activity. Medicine and Science in Sports and Exercise, 40 (10), 1764-1771.
- \*Woo, M., Kim, S., Kim, J., Petruzzello, S.J., & **Hatfield, B.D.** (2009). Examining the exercise-affect dose-response relationship: does duration influence frontal EEG asymmetry? International Journal of Psychophysiology, 72, (2) 166-172. (Epub 2008 Dec 10) – PMID: 19110012
- \*Deeny, S., Haufler, A. J., Saffer, M. & **Hatfield, B. D.** (2009). Electroencephalographic coherence during visuomotor performance: a comparison of cortico-cortical communication in experts and novices. Journal of Motor Behavior, 41 (2), 106-116.
- \*Tenenbaum, G., **Hatfield, B.D.**, Eklund, R.C., Land, W. M., Calmeiro, L., Razon, S., & Schack, T. (2009). A conceptual framework for studying emotions-cognitions-performance linkage under conditions that vary in perceived pressure. Progress in Brain Research, 174, 159-178.

- \*Goodman, S., Haufler, A. J., Shim, J. & **Hatfield, B. D.** (in press). Regular and random components in aiming point trajectory during rifle aiming and shooting. Journal of Motor Behavior.
- \*Woo, M., Kim, S., Kim, J., & **Hatfield, B.D.** (in press). The influence of exercise intensity on frontal electroencephalographic (EEG) asymmetry and self-reported affect. Research Quarterly for Exercise and Sport.
- \*Gentili R, Bradberry T J, **Hatfield B D**, Contreras-Vidal J L (2008). A new generation of non-invasive biomarkers of cognitive-motor states with application to smart Brain Computer Interfaces. Proceedings of the 16th European Signal Processing Conference (EUSIPCO-2008), EURASIP Society, 2008, August 25-29, Lausanne, Switzerland. EURASIP Open Library (<http://www.urasip.org/Proceedings/Eusipco/Eusipco2008/papers/1569105504.pdf>)
- +\***Hatfield, B.D.**, Haufler, A. J., & Contreras-Vidal, J. (in press). Brain processes and neurofeedback for performance enhancement of precision motor behavior. Conference proceedings of the 13th International Conference on Human-Computer Interaction, Meeting to be held July, 2009 - San Diego, CA.
- \*Pangelinan, M., Kagerer, F., Momen, B., **Hatfield, B.D.**, & Clark, J. (in revision). Electro cortical dynamics reflect age-related differences in movement kinematics in children and adults. Cerebral Cortex.
- \*Woo, M., Polich, J., Roth, S, Polich, J., & **Hatfield, B.** (submitted). The interactive effect of cardiovascular fitness and genotype on frontal cerebral cortical responses during executive challenge in young adults. Psychophysiology.
- \*Gentili, R., Bradberry, T.J., **Hatfield, B.D.**, & Contreras-Vidal, J.L. (submitted). Decoding the acquisition state of the internal model of a new tool from brain activity. Psychophysiology.
- \*Rietschel, J.C., Goodman, R.N., Lo, L-C., Contreras-Vidal, J.L., & **Hatfield, B.D.** (submitted). The effect of competition-induced arousal on cerebral cortical dynamics and quality of visuo-motor behavior. Psychophysiology.
- Gentili, R.J. ; Bradberry T.J. ; **Hatfield, B.D.** & Contreras-Vidal, J.L. Brain Biomarkers of Motor Adaptation Using Phase Synchronization. Accepted for the Proceedings of the 31th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS 2009), September, 2-6, 2009, Minneapolis, Minnesota, USA.

**In preparation (intended journal listed):**

**Hatfield, B. D.**, Zimmerman, J., Rietschel, J., McDonald, C., Haufler, A., Mahlow, P.,

Deeny, S., Stover, H., & Bixby, W. Cerebral cortical responses to executive challenge in older men and women varying in physical activity history: An ERP study. Neurobiology of Aging.

**Hatfield, B.D.**, Zimmerman, J., Hearn, J., Deeny, S., & Roth, S. Task specificity and genetic influence (APOE) in the relationship between physical activity and cognition. Journal of Gerontology: Biological Sciences

Lockwood, P., Haufler, A.J., Petruzzello, S.J., Spalding, T.W. & **Hatfield, B.D.** Thirty minutes of cycling EEG frontal asymmetry in non-depressed individuals. Medicine and Science in Sports and Exercise.

McAllister, L.D., & **Hatfield, B.D.** Attentional processes and psychomotor expertise: An event-related potential study. International Journal of Psychophysiology.

Hung, Woo, M., T.M., Lo, L., Haufler, A., & **Hatfield, B.D.** The influence of anxiety on brain processes and visuo-motor performance: The mediating role of cortico-cortical communication. Journal of Sport and Exercise Psychology.

Hung, T.M., Woo, M., Lo, L., Haufler, A., & **Hatfield, B.D.** The influence of EEG neurofeedback on brain processes and quality of visuo-motor performance. Journal of Sport and Exercise Psychology.

Walters, R. S., Haufler, A. J., Lockwood, P., & **Hatfield, B. D.** Exercise-induced exhaustion and the brain: a study of elite cyclists. Medicine, Science, Sports and Exercise.

### **Book Reviews, Other Articles, Notes:**

**Hatfield B. D.**, & Haufler, A.J. (2009). A Neuroscience Roadmap to Optimize Human Performance. Technical Report to: Army Research Office, Department of the Army, Department of Defense.

**Hatfield, B. D.**, & Haufler, A.J. (2009). Individual Differences in Cerebral Cortical Activity During Stress: Understanding and Intervention to Enhance Shooting Performance. Technical Report to: Army Research Office, Department of the Army, Department of Defense (Final report for grant # 48665L).

**Hatfield, B.**, (1986). The measurement of cohesion in team sports: The group environment questionnaire by Widmeyer, W.N., Brawley, L.R. and Carron, A.V., Research Quarterly for Exercise and Sport, 57, 347-349.

**Hatfield, B.D.** (1986). Sporting body, sporting mind, by Syer, J. and Connolly, C., Journal of Sport Psychology, 8, 250-251.

**Hatfield, B.D.** (1990). Advances in pediatric sport sciences (vol. 2). Behavioral issues, by Gould, D. and Weiss, M., Pediatric Exercise Science, 2, 83-84.

Haufler, A.J., **Hatfield, B.D.**, & SantaMaria, D.L. (1997). The psychology of expert performance: Comparative brain activation profiles in marksmen and novice shooters. (Technical report submitted October, 1997 to the Research and Advanced Concepts Office, Army Research Institute for the Behavioral and Social Sciences).

Daniels, F.S., Landers, D.M., Wilkinson, M.O., & **Hatfield, B.D.** Heart rate and its effect on performance. (Available from D.M. Landers, PEBW, Arizona State University, Tempe, AZ 85287.)

Landers, D.M., **Hatfield, B.D.**, McGovern, L., & Tooman, M.E. EEG patterning among women basketball players. (Available from D.M. Landers, PEBW, Arizona State University, Tempe, AZ 85287.)

### **Grants – Sponsorship of Research Activities:**

#### **Current Support:**

(1) ARMY. W911NF0810314

Role: **Principal Investigator**

Title: Workshop on Research Efforts and Future Directions in Neuroergonomics & Neuromorphics

Funding source: Department of Defense, Army Research Office, U.S. Army Research, Development and Engineering Command, Research Triangle Park, NC

Project Location: University of Maryland

Total Award: \$47,957.00

Start Date: July 14, 2008

End Date: January 30 2009

The goal of this program is to provide reports of scientific studies of relevance to human factors and to identify future research directions of value to the U.S. Department of Defense.

(2) R21 AG025505

Role: **Principal Investigator**

Title: Age, Physical Activity, Genotype and Cognitive Function

Funding source: National Institutes of Health

Project Location: University of Maryland

Total Award: \$429,362.00

Start Date: September 1, 2006

End Date: August 31, 2008, extended to Aug 31, 2009.

The goal of this project is to examine the interactive effects of physical activity and

APOE e4 genotype on cerebral cortical processes during memory challenge to determine if the neurobiological benefits of exercise slow neurodegenerative processes in middle-aged men and women.

(3) ARMY.W911NF0510538

Role: **Principal Investigator**

Title: Brain Processes and Precision Psychomotor Performance under Stress

Funding source: Department of Defense, Army Research Office, U.S. Army Research, Development and Engineering Command, Research Triangle Park, NC

Project Location: University of Maryland

Total Award: \$377,375.00

Start Date: October 1, 2005

End Date: September 30, 2008, extended to March 30, 2009.

Person months: 7.0

The goal of this project is to determine cerebral cortical activity during skilled motor performance under conditions of psychological stress and to determine appropriate intervention strategies to attenuate the stress-induced alterations in brain activity

(4) Cooperative Research and Development Agreement (CRADA)

Cognitive Neuroscience Investigations of Human Performance

(Co-Directors) **B. Hatfield**/ J. Clark/ J. Contreras-Vidal Period: 2004 - open

Army Research Laboratory (ARL) - Human Research and Engineering Directorate (HRED)

The purpose of this agreement is to facilitate the exchange of personnel and equipment for research in the cognitive neuroscience of skilled movement control with special emphasis on brain processes related to cognitive load and psychological stress.

(5) School of Public Health SEED grant

University of Maryland, College Park MD USA

Role: **Co-investigator**

Title: Motor ability and the developing brain: Examination of neural tissue density employing the National institutes of Health (NIH) magnetic resonance imaging (MRI) normal brain development database

Project Location: University of Maryland

Project duration: July 2008 – June, 2009

Description: The purpose of this project is to examine the relationship between the quality of motor behavior/coordination in children and magnetic resonance image (MRI)-derived tissue density of key regions of interest in the brain including the motor cortex and cerebellar cortex.

**Pending Support:**

(1) United States Government Public Health Service RC-1 submission

Role: Co-Investigator

Title: BDNF val66met Genotype and Age: Impact on Biomarkers and Exercise-based

## Treatment

Funding Source: National Institutes of Health

Project Location: University of Maryland

Funding requested: \$300,000.00 (sub-award to UMD for project PI Terry Goldberg of Albert Einstein College of Medicine)

This proposal focuses on a novel method to understand individual differences in changes in cognition, brain structure, transcriptional profile, and behavioral response to an exercise based treatment. It does so by examining the effects of an interaction of a well characterized functional polymorphism in the BDNF gene, val66met, with aging, on each of these domains.

## (2) United States Department of Defense

Department of the Army – Army Research Laboratory (ARL) 2800 Powder Mill Road, Adelphi, MD 20783 Funding opportunity # W911NF-08-R-0014

Title: Cognition and Neuroergonomics (CAN) Collaborative Technology Alliance (**CAN-CTA**)

Role: **Principal Investigator** University of Maryland team in partnership with:

Alion Science and Technology (Industrial Lead partner)

George Mason University

SA Technologies

North Carolina Agricultural and Technological University (HBCU partner)

University of Central Florida

University of Iowa

SRI International

University of Michigan

University of California, Santa Barbara

Project Location:

Funding requested: \$25 million over 5-year period (U Maryland share - \$500 K for each of 5 years)

Funding period: Jan 1, 2010 – Dec 31, 2014.

The goal of this project is to assess the neural aspects of human performance as related to military tasks and battlefield scenarios. The areas of concern are transmission of information to the Soldier, the dynamics of decision-making by commanders, and the role of individual differences in brain processes and reactivity to mental stress. The proposal represents a partnership between the institutions cited above to conduct integrative studies both in the laboratory and in the field to address the role of these specific brain processes during military-relevant challenges.

## (3) United States Government Public Health Service

National Institutes of Public Health R01 AG033071-01

Role: **Principal Investigator**

Title: Exercise Training and Brain Activity During Memory Challenge in APOE e4 Carriers

Funding Source: National Institutes of Health (Alzheimer's disease pilot clinical trials program)

Project Location: University of Maryland

Funding requested: \$2,043,673.00

The goal of this project is to examine the impact of cardiovascular conditioning on hippocampal and other brain regional activation responses during episodic memory

challenge in middle-aged men and women who are at genetic risk for dementia and Alzheimer's disease.

(4) United States Government Public Health Service

National Institutes of Health R01 AG031740

Role: **Principal Investigator**

Title: Age, Physical Activity, Genotype, and Brain Function During Cognitive Challenge

Funding source: National Institutes of Health

Project Location: University of Maryland

Funding requested: \$1,773,760.00

The goal of this project is to address dementia, and in particular, Alzheimer's Disease (AD), which is a major public health problem in the United States. This study will address the relationship between cardiovascular fitness and brain activity in the hippocampus during memory challenge in middle-aged men and women (50-70 years), particularly in those who are genetically at risk for late-onset AD (i.e., carriers of the APOE e4 allele).

(5) Role: **Co-Principal Investigator**

Title: "Superior performance under pressure"

Funding source: Samuelli Institute for Integrative Medicine

1700 Diagonal Road, Suite 400, Alexandria VA 22314

Project Location: University of Maryland

Funding requested: \$134,675

Type: Basic Research Grant, Requested funding period – 15 months

The goal of this project is to examine brain processes during emotional challenge, using functional magnetic resonance imaging (fMRI), as a function of genotype and experience with psychological stress.

(6) Role: **Co-Investigator**

Title: Pervasive Brain Interaction and Monitoring (PERBRIM)

Funding source: National Institutes of Health

Project location: University of Maryland

Funding requested: \$275,000

Type: Basic research grant

(7) United States Government Department of Defense

Role: **Principal Investigator**

Title: The Impact of Team Cooperation on Brain Dynamics and Decision-Making Performance Under Conditions of Increasing Challenge

Funding Source: White Paper submitted to the Army Research Office Broad Agency Announcement W911NF-07-R-001

Neurophysiology and Cognitive Neuroscience section

Technical Point of Contact: Elmar T. Schmeisser, Ph.D.

(submitted June 23, 2008- invited for submission of full proposal)

The purpose of this proposal is to determine the impact of teamwork during a simulated military combat task (using virtual reality display) on brain dynamics. The major prediction is that performing within a group will reduce the load on the cerebral cortex relative to performing the task alone.

**Completed – Funded Research Projects:**

(1) Stuart K Wilson Research Fund (\$10,000)

Role: **Principal Investigator**

The purpose of this research was to examine the relationship between physical and cerebral cortical response, using magnetoencephalography (MEG), to memory challenge in carriers and non-carriers of the APOE e4 allele

(2) Visuo-motor learning in aging.

Co-Principal Investigators: Contreras-Vidal, J.L., & **Hatfield, B.D.**

Agency: Center for Neuroscience Research award, University of Maryland, College Park. \$6000.00.

Period: 2002

The purpose of this grant was to acquire equipment for monitoring of eye movement

(3) Exercise and the aging brain

Principal Investigator: Principal Investigator: **B. Hatfield**

Agency: The Erickson Foundation, Maiden Choice Lane, Baltimore, Maryland

Type: Basic Research Grant, Period: June 1, 2000 to June 1, 2002.

Total cost: \$50,000

The goal of this project was to determine the relationship of physical activity involvement in seniors to mental health and the integrity of cerebral cortical processes.

(4) Electromyographic activity, psychosocial factors, and musculoskeletal disorders in VDT-computer workers

Principal Investigator: L. Schleiffer,

Co-Investigators: **B. Hatfield**, & T. Spalding

Agency: Center for Information Technology and Health Research, School of Hygiene and Public Health, Johns Hopkins University

Type: Basic Research Grant, Period: June 1, 1999 to December 31, 2002

Total cost: \$200,000

The goal of this ergonomic project was to determine the role of psychological stress in the etiology of musculoskeletal disorders in the workplace.

(5) The psychophysiological correlates of elite performance

Principal Investigator: **B. Hatfield**

Co-Investigators: D.L. SantaMaria & G.Lawton

Agency: United States Army Research Institute for the Behavioral and Social Sciences, Fairfax, VA

Type: Research Contract, Period: September 1, 1995 to September 1, 1998

Total cost: \$60,000

Cooperative Research and Development Agreement between the Department of Kinesiology, University of Maryland, College Park, and the Director of the U.S. Army Research Institute for the Behavioral & Social Sciences, 5001 Eisenhower Avenue, Alexandria, VA 22333-5600. Sponsorship for 1996-1997: three pre-doctoral Fellows at approximately \$17,000 each. (Total: \$51,000 per annum). Contract MDA903-93-C-0054.

The goal of this project was to determine the cortical activation patterns during marksmanship in order to infer cognitive-affective states during superior psychomotor performance.

**The following list illustrates grant-related activity earlier in my career:**

**Funded:**

- 1995 Listed as a core faculty member in the training grant for Neural and Cognitive and Sciences Program headed by Dr. Avis H. Cohen, Director, Center for Neural and Cognitive Sciences, University of Maryland, College Park. This training grant was submitted to the National Institutes of Health, Department of Health and Human Services.
- 1994 **Hatfield, B.D.** Aerobic exercise, aging and biobehavioral change in males and females. College Research Committee, College of Health and Human Performance, University of Maryland. \$14,500.00.
- 1994 Bond, V., **Hatfield, B.**, Vaccaro, P., & Harell, J.P. Relationship between aerobic fitness, family history of hypertension and response to stressors in African-Americans. American Heart Association. \$60,000.
- Hatfield, B.D.** The effect of aerobic training status upon CNS activity in young and older men. National Institutes of Health and University of Maryland Research Board - Biomedical Research Support Grant. \$3,500.00
- 1987 **Hatfield, B.D.**, Goldfarb, A.H., & Mann, P. Exercise intensity and plasma Beta-endorphin response. Funded by the College of Physical Education, Recreation and Health, 1987. (\$500.00).
- 1986 **Hatfield, B.D.** Changes in cerebral hemispheric processes as a function of physical exercise. Division of Human and Community Resources, University of Maryland, 1986, \$640.00 (Division Faculty Development Coordinating Committee).
- 1985 **Hatfield, B.D.** Instructional improvement grant for PHED 455: Scientific Bases of Athletic Conditioning. Office of the Dean for Undergraduate Studies, \$1250.00, 1985-86.
- 1985 **Hatfield, B.D.** The relationship between electroencephalographic and peripheral

beta-endorphin response to an acute aerobic exercise stress. Funded by the Division of Human and Community Resources, University of Maryland 1985, \$650.00. (Division Faculty Development Coordinating Committee)

- 1984 **Hatfield, B.D.** Electrocortical (EEG) relaxation response in high and low cognitively anxious persons as a result of cardiovascular exercise stress. Biomedical Research Support Grant \$RR-07042 to the University of Maryland from the Division of Research Resources. National Institutes of Health, Public Health Service, 1984-1985, \$1,950.00.
- 1984 **Hatfield, B.D.** The role of cardiovascular exercise upon mental relaxation in different anxiety types. Division of Human and Community Resources, University of Maryland, 1984, \$500.00 (Division Faculty Development Coordinating Committee).
- 1983 **Hatfield, B.D.** The effects of prolonged exercise training in depressed populations:  
The role of plasma endorphins. General Research Board (Summer Research Award) of the Graduate School, University of Maryland, 1983, \$4,000.00.
- 1983 **Hatfield, B.D.** Role of exercise in moderating depression as related to plasma endorphin levels. Division of Human and Community Resources, University of Maryland, 1983, \$405.00.
- 1982 Landers, D.M., Daniels, F.S., & **Hatfield, B.D.** An electroencephalographic study of Left-handed rifle marksmen: A test of motoric involvement and temporal brainwave activity. Grant-in-Aid Committee of the National Rifle Association, Washington, D.C., 1982-1983, \$2,600.00.
- 1981 **Hatfield, B.D.** Dissertation research travel grant. National Research Council of Canada for the Social Sciences and Humanities, 1981, \$1,000.00.
- 1980 Landers, D.M., **Hatfield, B.D.**, Daniels, F.S., Wilkinson, M.O., & Feltz, D.L. A comparison of elite and subelite rifle, pistol, trap and skeet shooters and selected physical, psychological and psychophysiological tests. Funded by National Rifle Association Research Grant, Washington, D.D., 1980-1981, \$5,750.00.  
A practical conditioning program for rifle, shotgun and pistol shooters. National Rifle Association Research Grant, Washington, D.C. \$3,000.00.
- 1980 Landers, D.M., **Hatfield, B.D.**, Furst, D.M. & Daniels, F.S. An investigation of hand-eye dominance and performance in competitive riflery. National Rifle Association Research Grant, Washington, D.C. \$1,450.00.
- 1980 Daniels, F.S., Wilkinson, M.O., & **Hatfield, B.D.** The effect of selected biofeedback training versus traditional instruction upon performance scores and performance consistency in rifle shooters. National Rifle Association Research

Grant, Washington, D.C., \$2,400.00.

**Not funded:**

- 2009 W. M. Keck Foundation, 550 South Hope Street, Suite 2500. Los Angeles, CA 90071  
Role: **Co-investigator**  
Title: Decoding Human Action and Cognition  
Funding requested: \$2,000,000.00
- 2007 United States Government - Department of Defense  
Role: **Principal Investigator**  
Title: Neuro-Dynamic Regulation for Accelerated Learning  
Funding Source: Department of Defense, Defense Advanced Research Projects Agency (**DARPA**)  
Project Location: University of Maryland  
Funding requested: \$1.9 million (not funded)  
Type: Basic Research Grant, Requested funding period – 18 months  
The goal of this project is two-fold. The purpose of Phase 1 is to examine the brain responses of soldiers during emotional challenge (simulated urban warfare in a virtual reality environment) with particular emphasis on the role of the prefrontal cortex and the limbic system. The purpose of Phase 2 is to determine the effectiveness of neurofeedback and cognitive intervention to manage those brain responses and facilitate cognitive-motor performance (decision-making and shooting accuracy).
- 2002 Contreras-Vidal, J.L., **Hatfield, B.**, & Grassi, E. (Submitted April, 2002). CRCNS: Adaptive visuo-motor learning mechanisms in normal aging. National Science Foundation / National Institutes of Health. (No. 0218394) (\$1,459,823).
- 2001 Wallsten, S.M., **Hatfield, B.**, & Denman, D. (Submitted June, 2001). Tai chi and lower extremity function in older adults. National Institutes of Health, Bethesda, Maryland. \$1,169,141.00.
- 2000 Contreras-Vidal, J.L., & **Hatfield, B.D.** Abnormal action selection and gating in Parkinson's disease. National Institutes of Health, Bethesda, Maryland. \$1,258,000.00. (Submitted January, 2000, resubmitted November, 2000).
- 1999 Porges, S.W. (Submitted April, 1999). Center for mind/body interactions and health. National Institutes of Health, Bethesda, Maryland. (Listed as a Project Director). \$9,951,904.00.
- 1998 Hatfield, B.D., Hagberg, J.M., & Slobounov, S.M. (Submitted July, 1998). The brain, physical activity, and falls in the elderly. National Institutes of Aging Pilot Research Grant Program, (R03), NIH, Bethesda, Maryland (amount requested - \$75,000.00 for 1 year).

- 1998 Slobounov, S., & Hatfield, B.D. (Submitted January, 1998). Neurophysiological and behavioral mechanisms of falling in the elderly. American Federation of Aging Research; 1414 Avenue of the Americas, New York, NY 10019 (amount requested - \$40,000.00 for 1 year).
- 1998 Hillman, C., Janelle, C., Apparies, R., Murray, N., Hatfield, B., & Singer, R. (Submitted May, 1998). Visual search and electroencephalographic profiles of skilled marksmen. National Rifle Association Foundation; Fairfax, VA (amount requested - \$3,783.00 for 1 year).
- 1998 Brody, E.B., LaVigna, C., Teolis, C., & Hatfield, B.D. (Submitted January 12, 1998). Ambulatory psychophysiological operator state monitor/recorder for adaptive interface control. U.S. Department of Defense, Small Business Innovation Research Program (amount requested \$99,990.00 for 1 year).
- 1998 Brody, E.B., LaVigna, C., & Hatfield, B.D. (Submitted January 12, 1998). Enhanced aviator performance through psychological skills training. U.S. Department of Defense, Small Business Innovation Research Program (amount requested \$100,990.00 for 1 year).
- 1995 Hatfield, B., SantaMaria, D.L., Spalding, T., Haufler, A., & Donofrio, D. The relationship between cardiovascular health and central nervous system processing in older Americans: Implications for attention and motor performance. Submitted to the American Association of Retired Persons Andrus Foundation, 601 E Street, NW, Washington, D.C. 20049. \$78,000.00.
- Hagberg, J., Hatfield, B., Ward, V., Thomas, S., & Goldberg, A. The Effect of Low-intensity Exercise Training on Hypertensive 60-69 Year Old Black Men and Women. Funding Agency: Campus DRIF funds \$20,000.00
- 1988 Hatfield, B.D. The effects of chronic physical activity patterns upon neurological efficiency in the elderly. Submitted to the General Research Board of the Graduate School (Summer 1988 Research Award), University of Maryland at College Park, \$4,800.00.
- 1984 Hatfield, B.D., & Moore, T.J. Electroencephalographic (EEG) patterns of cognitive functions in (novice) marksmen. Submitted to the Grants-in-Aid Committee of the National Rifle Association, Washington, D.C., March, 1984. \$3,000.00.
- 1984 Hatfield, B.D., & SantaMaria, D.L. The role of high-velocity training in muscular power development. Submitted to Keiser Athletic Equipment Corporation,

Fresno, California, 1984.

- 1981 Hatfield, B.D. The effects of electroencephalographic (EEG) biofeedback upon psychological skills and odor performance in competitive marksmanship. Submitted to the Grant-in-Aid Committee of the National Rifle Association, Washington, D.C., June, 1981.

### **Professional Papers Presented:**

#### **Invited lectures:**

- Hatfield, B.D., (May, 1981). Programmatic psychophysiological research at the Motor Behavior Laboratory of The Pennsylvania State University. Invited paper presented to the Department of Kinesiology, Simon Fraser University, Vancouver, British Columbia, CANADA.
- Hatfield, B.D. (March, 1982). Central and autonomic nervous system involvement during marksmanship performance. Invited paper presented to the Department of Kinesiology, University of California, Los Angeles, California.
- Hatfield, B.D. (April, 1983). The importance of mental state and consistency to marksmanship performance as demonstrated by electroencephalographic activity. Paper presented to the Sport Medicine Symposium on Elite Shooter Training. Columbus, Georgia.
- Hatfield, B.D. (January, 1984). The role of cardiovascular exercise stress in promoting mental relaxation. Invited paper presented to the Department of Health Science and Physical Education, Arizona State University, Tempe, Arizona.
- Hatfield, B.D., (April, 1985). Electrocortical activity during skilled motor performance. Invited paper presented to the Department of Physical Education, York University, Toronto, CANADA.
- Hatfield, B.D. (April 1987). Slumps, staleness and burnout in competitive athletes: The opposite state of mental and physical economy. Paper presented to the American Alliance for Health, Physical Education, Recreation and Dance. Las Vegas, Nevada, (Sport Psychology Academy).
- Hatfield, B.D. (June, 1987). Motivation in the weight room. Paper presented to the National Strength and Conditioning Association. Las Vegas, Nevada.
- Hatfield, B.D., Rejeski, J.W., Hardy, C.J., & Boutcher, S.H. (June, 1988). Social psychophysiology in sport psychology. Invited symposium presented to the North American Society for the Psychology of Sport and Physical Activity. Knoxville, Tennessee.

- Hatfield, B.D. (June, 1988). Psychology of rehabilitation of the injured athlete. Paper presented to the National Athletic Trainers' Association Clinical Symposium and Workshop, Baltimore, Maryland.
- Hatfield, B.D. (June, 1988). Overview of sports psychology in athletic training. Paper presented to the National Athletic Trainers Association Clinical Symposium and Workshop, Baltimore, Maryland.
- Hatfield, B. (February, 1989). Neuropsychology and exercise performance. Paper presented at eleventh annual meeting of the Mid-Atlantic Regional Chapter of the American College of Sports Medicine. Geisinger Medical Center, Danville, Danville, PA,
- Hatfield, B., (November, 1996). The psychology of elite athletic performance. Paper presented to the Second Coaches' College, U.S.A. Shooting, United States Olympic Training Center, Colorado Springs, Colorado.
- Hatfield, B., (July, 1996). Toward a model of optimal performance in athletes: A proposal of efficient brain processes. Paper presented to I Forum Internacional de Educacao Fisica, Ribeirao Preto, BRAZIL.
- Hatfield, B. (July, 1996). Aerobic activity history and its effects upon neurocognitive efficiency in older individuals. Paper presented to I Forum Internacional Educacao Fisica, Ribeirao Preto, BRAZIL.
- Hatfield, B.D. (October, 1998) The psychology of skilled psychomotor performance: Electro-cortical activity patterns. Brain electrical activity during psychomotor performance: Clues about the psychological processes of experts. Paper presented to the Department of Kinesiology, The Pennsylvania State University, State College, Pennsylvania.
- Hatfield B.D. (March, 2000). The psychology of superior athletic performance: The concept of psychomotor efficiency. Paper presented to the Southeast Sport Psychology Conference, University of Virginia, Charlottesville, Virginia.
- Hatfield, B. (November, 2000). A neuroscience perspective on exercise and the aging brain. Paper presented to the Mid-Atlantic Chapter of the American College of Sports Medicine, Split Rock, Pennsylvania.
- Hatfield, B.D. (June, 2001). The psychology of superior performance – From brain activity to cognition. Tutorial lecture presented at the annual meeting of the American College of Sports Medicine, Baltimore, Maryland.
- Hatfield, B.D. & Kerick, S.E. (August, 2001). Sport psychology – Understanding elite

athletic performance. Paper presented to the First Annual Sports Medicine Conference, United States Naval Academy, Annapolis, MD (conference organizer – Dr. John Wilckens, director of sports medicine).

Hatfield, B.D. (November 2002). The psychology of superior psychomotor performance. Paper presented to the Mid-Atlantic Chapter of the American College of Sports Medicine, Fernwood, Pennsylvania.

Hatfield, B.D. (November 2002). Exercise and the successfully aging brain: From neuroscience to mental health (Knuttgen Lecture). Paper presented to the New England Chapter of the American College of Sports Medicine, Providence, Rhode Island.

Hatfield, B.D. (September, 2003). Keynote lecture - The psychology of superior sport performance: A cortical dynamics perspective. German society of sport sciences: Deutsche Vereinigung fuer Sportwissenschaft). Muenster, Germany.

Hatfield, B.D., (October, 2003). Invited symposium participant – Psychophysiology of Exercise and Sport, 7<sup>th</sup> International Olympic Committee World Congress, Athens, Greece.

Hatfield, B.D., (October, 2003). Physical activity and cognition – biological plausibility and mechanisms. The Cooper Institute Conference Series: Physical activity and mental health: A multidisciplinary approach – From molecular biology to clinical practice, Dallas, Texas.

Hatfield, B. D. (February 9, 2004). Exercise and the aging brain: A case for specificity. Paper presented to the Department of Medical and Clinical Psychology, Uniformed Services University of the Health Sciences (USUHS).

Hatfield, B. D. (April 27, 2004). Cerebral cortical activity during expert psychomotor performance. United States Department of Defense Army Research Office (ARO) sponsored meeting, Cashiers, North Carolina.

Hatfield, B. D. (May, 2005). Management of Stress-related neurobiological processes during stress. United States Department of Defense Army Research Office (ARO) sponsored meeting, Cashiers, North Carolina.

Hatfield, B.D. (July, 2005). Neurobiological processes associated with performance under stress. Department of Defense - Army Research Laboratory – Human Research and Engineering Directorate Professional Development Seminar and Lecture Series, Aberdeen Proving Ground, Aberdeen, MD.

Hatfield, B.D. (August, 2005). The psychology of elite athletic performance- A cognitive neuroscience perspective. International Society for Sport Psychology, Sydney,

Australia.

Hatfield, B.D. (September, 2005). Brain processes associated with elite performance in soldiers. Presentation provided to Brain Plasticity Workshop, Defense Advanced Research Projects Agency (DARPA), Arlington, VA.

Hatfield, B.D. (November, 2005). Brain processes underlying superior athletic performance. Keynote speaker at 2005 International Sport Psychology Conference, Taipei, Taiwan – Taipei College of Physical Education.

Hatfield, B.D. (November, 2005). Physical activity and the brain: The impact of exercise across the lifespan. Keynote speaker at 2005 International Sport Psychology Conference, Taipei, Taiwan – Taipei College of Physical Education.

Hatfield, B.D. (November, 2005). Exercise and the aging brain – a neurobiological perspective. Keynote address provided to Graduate School of Physical Education, Taipei Municipal University of Education.

Hatfield, B.D. (November, 2005). The importance of physical activity: From Genes to Behavior to Social Policy. University of Maryland – Children’s National Medical Center Symposium.

Hatfield, B.D. (April, 2006). Physical activity and cognitive function – evidence and brain mechanisms. International Congress on Physical Activity and Public Health (sponsored by the Centers for Disease Control), Atlanta, GA.

Hatfield, B.D. (June, 2006). The neurobiology of fear and courage: Emotional regulation and superior sport performance. Senior Lecture presented to the annual meeting of the North American Society of for the Psychology of Sport and Physical Activity, Denver, CO.

Hatfield, B. D (June, 2006). Keynote Speaker: Featured Science Session – The Psychophysiology of Emotion; Applications to Physical Activity. Lecture presented to the annual meeting of the American College of Sports Medicine, Denver, CO.

Hatfield, B.D. (October, 2006). Invited speaker. Special session on Adequacy of Evidence for Physical Activity Guidelines. National Academies of Science - Institute of Medicine (IOM). Washington, DC.

Hatfield, B.D. (November, 2006). Chair of invited symposium: Exercise and Sport Psychology: From Neuroscience to Professional Practice - What Happens in the Brain of the Elite Performer?. Presented to the annual meeting of the Mid-Atlantic Regional Chapter of the American College of Sports Medicine, Harrisburg, PA.

- Hatfield, B.D. (November, 2006). Chair of invited symposium: Exercise and Sport Psychology: From Neuroscience to Professional Practice – Exercise and the Aging Brain. Presented to the annual meeting of the Mid-Atlantic Regional Chapter of the American College of Sports Medicine, Harrisburg, PA.
- Hatfield BD (February, 2007). Exercise and the aging brain. Testimony provided to subcommittee of the Maryland State Legislature, Annapolis, MD.
- Hatfield, B.D. (April, 2007). Exercise and the Aging Brain – A Case for Task, Population, and Measurement Specificity. Presented to faculty and students of the University of Florida, Gainesville.
- Hatfield, B.D. (June, 2007). The role of brain processes in superior sport performers. Lecture given to visiting Chinese delegation of sport scientists and national coaches, University of Maryland, College Park.
- Hatfield, B.D. (September, 2007). E Pluribus Unum – From DNA to Social Systems: Understanding physical activity through an integrated perspective. Presented to the American Academy for Kinesiology and Physical Education (AAKPE), Savannah, GA.
- Hatfield, B.D.& Haufler, A. (December, 2007). Brain processes and emotional regulation for superior human performance. Paper presented to faculty and students of the Uniformed Services University of Health Sciences (USUHS), Bethesda, MD.
- Hatfield, B. D. (May, 2008). Performance under challenge: a multi-level approach. Paper presented to the U.S. Army Research Laboratory (ARL) Collaborative Technology Alliances Workshop (ACTA), Reston, VA.
- Hatfield, BD (2008, May). Keynote address – Physical activity modifies genetic susceptibility to age-related neurocognitive decline. Paper presented to the American College of Sports Medicine meeting Indianapolis, IN as part of Featured Science Session – Physical Activity as a Modifier of the Genetic Susceptibility to Dementia  
Participants: C.W. Cotman –U C, Irvine, S. Rovio – Karolinska Institute, Stockholm, S Deeny and K Nichol – U C, Irvine.
- Hatfield, B. D., Haufler, A. J., & Contreras-Vidal, J. (October, 2008). Effects of psychological stress and neurofeedback on brain dynamics and cognitive motor performance. Workshop on Research Efforts and Future Directions in Neuroergonomics and Neuromorphics sponsored by the Army Research Office, Adelphi, MD.
- Hatfield, B.D. (November, 2008). Exercise and the aging brain. Alzheimer’s Association:

2<sup>nd</sup> annual Billie Showers Alzheimer's Symposium. Virginia Hospital Center, Arlington VA.

Hatfield, B.D. (December, 2008). Exercise and the brain: Essential medicine for those at genetic risk for dementia. University of Illinois, Urbana-Champaign.

Hatfield, B. D. (December, 2008). Exercise, cognitive reserve, and resilience to dementia. Memory Disorders Clinic, Georgetown University Medical School.

Hatfield, B. D., Haufler, A., & Contreras-Vidal, J. (February, 2009). Brain Processes During Expert Cognitive-Motor Performance: The Impact of Mental Stress and Emotion Regulation. 2nd Annual Sustaining Performance Under Stress Symposium (Adelphi, MD) sponsored by the Center for Strategic and Innovative Technologies, University of Texas at Austin, TX.

Hatfield, BD (March, 2009). Exercise and the aging brain – the dementias. GROWS, Holiday Park Senior Center, Wheaton, MD (point of contact – Susan Blum).

**Contributed papers to international and national societies** (\* designates refereed)

\*Hatfield, B.D., & Landers, D.M. Observer expectancy effects upon appraisal of gross motor performance, Paper presented to the North American Society for the Psychology of Sport and Physical Activity. Ithaca, New York, May, 1977.

\*Wilkinson, M.O., Landers, D.M., Daniels, F.S., & Hatfield, B.D. (1980). Respiration patterning as related to performance in elite and subelite rifle shooters. Psychology of Motor Behavior and Sport, Champaign, IL: Human Kinetics Publishers, 7, 95. (erratum: Hatfield omitted).  
Paper presented to the North American Society for the psychology of Sport and Physical Activity. Boulder, Colorado, May, 1980.

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- \*SantaMaria, D.L., Grzybinski, P., & Hatfield, B.D. Power as a function of load for a supine bench press exercise. National Strength and Conditioning Association

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- \*Hatfield, B.D. Exercise and psychological well-being: Underlying mechanisms and current theories. Paper presented to the Association for the Advancement of Applied Sport Psychology, Nashua, New Hampshire, October, 1988.
- \*Hatfield, B.D., SantaMaria, D.L., Porges, S.W. Potts, J.T., Mahon, A., Brody, E.B., & Spalding, T.W. (1989). Parasympathetic withdrawal is similar in trained and untrained young males during progressive relative aerobic work. Medicine and Science in Sports and Exercise, 21, (supplement) S42.  
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- \*Hatfield, B. Adherence and motivation: The psychological connection to exercise and training. Participant in Symposium presented to the American Alliance for Health, Physical Education, Recreation and Dance. Boston, Massachusetts, April 1989.  
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- \*Lemons, P., Armstrong, D., Moran, R., & Hatfield, B. Psychological assessment of United States Canoe Association marathon canoeists. Paper presented to the American College of Sports Medicine. Salt Lake City, UT, May, 1990.
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- \*Philbin, J., & Hatfield, B. Physiological and psychological aspects of superior performance. Paper presented to the National Strength and Conditioning Association. San Diego, CA, June, 1990.
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- \*Slater, B.A., Hatfield, B.D., & SantaMaria, D.L. (1992). Aerobic training relates to increased inhibitory function of the central nervous system of older males. Psychophysiology, 29 (4a), supplement 65.  
  
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- \*Hatfield, B., Santa Maria, D.L., Spalding, T., Blanchard, C., Donofrio, D., Haufler, A., Hung, T., Lockwood, P., McAllister, L., Saarela, P., Slater, B., Apparies, R., & Drazin, H. (1995). Does cardiovascular activity history impact upon cognitive processing in older people? Psychophysiology, 32, (supplement 1), S39.  
Paper presented to the Society for Psychophysiological Research, Toronto, Ontario, Canada, October, 1995).
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- \*Bond, V., Vaccaro, P., Hatfield, B., Caprarola, M., Fairfax, J., Franks, B.D., Curry, C., Harrell, J., Roltsch, M., Gills, S., & Mendez, T. (1996). Cardiovascular fitness is not related to cardiovascular reactivity in African Americans. Medicine and Science in Sports and Exercise, 28, (supplement) S174.  
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- \*Haufler, A., Hatfield, B., SantaMaria, D.L., Blanchard, C., Hung, T., Lockwood, P., McAllister, L., Saarela, P., & Apparies, R. (1996). Is cardiovascular activity history associated with math and spatial cognitive processing in younger and older adults? An examination of the efficiency hypothesis. Journal of Sport and Exercise Psychology, 18, (supplement) S40.  
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- \*Apparies, R., Hatfield, B., SantaMaria, L., & Spalding, T., (1996). The role of stimulus- preceding negativity and heart rate deceleration as an index of attention. Psychophysiology, 33 (supplement 1), S20.

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Paper presented to the Society for Psychophysiological Research, Vancouver, Canada.

- \*Hatfield, B. (1996, May). Exercise and the aging brain: an examination of the efficiency hypothesis. Paper (part of symposium) presented to the American College of Sports Medicine, Cincinnati, OH.

- \*Hung, T., Hatfield, B., & SantaMaria, D. (1997). Understanding attention in fast-action sports athletes: Behavioral and brain processes. Journal of Sport and Exercise Psychology, 19, (supplement), S25.

Paper presented at joint meeting of the North American Society for the Psychology of Sport and Physical Activity/American College of Sports Medicine Annual Meeting, Denver, Colorado, 1997.

- \*Hung, T., Hatfield, B., & SantaMaria, D. (1997). Are fast-action sport athletes characterized by greater attentional flexibility and motor preparedness? An electrophysiological study of elite table tennis players. Journal of Sport and Exercise Psychology, 19, (supplement), S68.

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\*Snyder-Bauer, R., Hatfield, B., Haufler, A., Lockwood, P., & Hung, T. (1997). Effect of exercise-induced hypoglycemia on CNS activation in elite cyclists. Medicine and Science in Sports and Exercise, 29 (5), (supplement) S223.

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\*Haufler, A., Hatfield, B., & SantaMaria, D.L. (1997). The cognitive correlates of skilled performance in marksmen: An examination of brain activation profiles. Psychophysiology 34 (1), (supplement) S42.

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\*Apparies, R., Hatfield, B., & SantaMaria, L. (1998). The effect of fitness on pattern reversal visual evoked potential in the elderly. Medicine and Science in Sports & Exercise, 30 (5), (supplement) S128.

Paper presented to the American College of Sports Medicine, Orlando, Florida.

\*Haufler, A.J., Hatfield, B.D., & SantaMaria, D.L. (1998), Brain activation profiles of marksmen and novices: an examination of a model of psychomotor performance. Medicine and Science in Sports & Exercise, 30 (5), (supplement) S119.

Paper presented to the American College of Sports Medicine, Orlando, Florida.

\*Apparies, R.J., Hillman, C.H., & Hatfield, B.D. (1998). Slow potentials and P300 in motor and nonmotor processing during cognitive challenge. Psychophysiology, 35, (S1), S17.

Paper presented to the Society for Psychophysiological Research, Denver, Co.

\*Kerick, S.E., Iso-ahola, S.E., and Hatfield, B.D., & Gruber, K. (1998). Psychological momentum in target shooting: Behavioral, affective, and brain responses. Journal of Applied Sport Psychology, 10 (supplement), S136.

Paper presented at the annual Association for the Advancement of Applied Sport Psychology (AAASP) Conference, Hyannis, MA. (October, 1998).

\*McDowell, K., Jeka, J.J., Schoner, G., & Hatfield, B.D. (1998, November). Testing Dynamic Field theory with directional arm movements. Paper presented to the Society for Neuroscience, Los Angeles, CA.

\*Haufler, A., & Hatfield, B.D. (1999). The psychology of expert performance: Comparative brain activation profiles in marksmen and novices. Journal of Sport

& Exercise Psychology, 21(supplement), S127.

Paper presented at the meeting of the North American Society for the Psychology of Sport and Physical Activity, Chicago, IL, June, 1998. (paper presented in 1998 but erratum abstract published in 1999 due to omission from journal supplement in year of presentation).

- \*Hatfield, B.D., Hillman, C.H., & Apparies, R.J., Janelle, C.M., & Vickers, J. (1999). Expert performance states: Psychophysiological perspectives on efficiency. Journal of Sport & Exercise Psychology, (supplement), 21, S55.  
Paper presented at the meeting of the North American Society for the Psychology of Sport and Physical Activity, Clearwater Beach, FL, June, 1999.
  
- \*Lanter, J.R. & Hatfield, B.D. (1999). The effect of mental imagery training on brain electrical activity. Journal of Sport & Exercise Psychology, (supplement), 21, S74.  
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- \*Murray, N.P., Janelle, C.M., Hillman, C.H., Apparies R., & Hatfield, B.D. (1999). The eye as a window to the mind: Concurrent recording of EEG and eye movement activity. Journal of Sport & Exercise Psychology, (supplement), 21, S84.  
Paper presented at the meeting of the North American Society for the Psychology of Sport and Physical Activity, Clearwater Beach, FL, June, 1999.
  
- \*McDowell, K., Hatfield, B.D., & Jeka, J.J. (1999). Motor area activation for a two-choice directional movement task. Journal of Cognitive Neuroscience, (supplement – annual meeting program), p. 87.  
Paper presented at the 6<sup>th</sup> annual meeting of the Cognitive Neuroscience Society, Washington, D.C.
  
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- \*Spalding, T.W., Jeffers, L.S., Porges, S.W., & Hatfield, B.D. (1999). Respiratory sinus arrhythmia during psychological stress and recovery in aerobically trained and untrained young men. Medicine and Science in Sports and Exercise, 31 (5) (supplement), S289.  
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- \*Bond, B., Vaccaro, P., Adams, R., Caprarola, M., Roltsch, M., Hatfield, B., Blakely, R., Fairfax, J., & Franks, B.D. (1999). Aerobic fitness level and family history of

hypertension influence blood pressure reactivity to mental stress in African Americans. Medicine and Science in Sports and Exercise, 31 (5) (supplement), S216.

Paper presented at the annual meeting of the American College of Sports Medicine, Seattle, WA, June, 1999.

\*Bixby, W.R., Hatfield, B., & Spalding, T.W. (1999). Temporal dynamics of hemispheric asymmetry and affect associated with an acute bout of aerobic exercise. Medicine and Science in Sports and Exercise, 31 (5) (supplement), S173

Paper presented at the annual meeting of the American College of Sports Medicine, Seattle, WA, June, 1999.

\*Janelle, C.M., Hillman, C.H., Apparies, R.A., & Hatfield, B.D. (1999). Ocular and cortical measures of performance efficiency during rifle shooting.

Paper presented at the annual meeting of the American Psychological Association, Boston, MA, August, 1999.

\*Hillman, C., Weiss, E, & Hatfield, B. (2000). Exercise and the aging brain: Mens sana in corpore sano? Psychophysiology, 37 (supplement 1), S48.

Paper presented at the national meeting of the Society for Psychophysiological Research, San Diego, CA.

\*Petruzzello, S.J., Hatfield, B.D., Boutcher, S.H., & Cacioppo, J.T. (2000). Mind-body perspectives on exercise and mental health. Medicine and Science in Sports and Exercise, 32 (5) (supplement), S343.

Symposium presented at the annual meeting of the American College of Sports Medicine, Indianapolis, IN, June, 2000.

\*Bixby, W.R., Spalding, T.W., & Hatfield, B.D. (2000). The temporal dynamics of affect during and following exercise. Medicine and Science in Sports and Exercise, 32 (5) (supplement), S301.

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\*Hillman C.H., Weiss, E.P., Deeny, S.P., Zooker, C.C., Roltsch, M.H., Hagberg, J.M., & Hatfield, B.D. (2000). Age and fitness effects on ERPs: Implications for exercise and the aging brain. Medicine and Science in Sports and Exercise, 32 (5) (supplement), S43.

Paper presented at the annual meeting of the American College of Sports

Medicine, Indianapolis, IN, June, 2001.

- \*Kerick, S.E., Haufler, A.J., & Hatfield, B.D. (2000). The psychology of superior performance: An electroencephalographic (EEG) comparison between skilled and novice target shooters. Journal of Sport and Exercise Psychology, 22 (supplement), S57.  
Paper presented at the annual meeting of the North American Society for the Psychology of Sport and Physical Activity, San Diego, CA.
- \*Hillman, C., Weiss, E., Deeny, J., Hagberg, J., & Hatfield, B. (2000). Physical fitness and neuro-cognitive processes in older adults. Journal of Sport and Exercise Psychology, 22 (supplement), S51.  
Paper presented at the annual meeting of the North American Society for the Psychology of Sport and Physical Activity, San Diego, CA.
- \*Deeny, S.D., Haufler, A.J., & Hatfield, B.D. (2001). EEG coherence and regional autonomy in the cortex of expert and novice shooters. Journal of Sport and Exercise Psychology, 23 (supplement), S70.  
Paper presented at the annual meeting of the North American Society for the Psychology of Sport and Physical Activity, St. Louis, MO, June, 2001.
- \*Bixby, W.R., Spalding, T.S., & Hatfield, B.D. (2001). An examination of opponent process theory as a mechanism for affective changes associated with acute exercise. Journal of Sport and Exercise Psychology, 23 (supplement), S22.  
Paper presented at the annual meeting of the North American Society for the Psychology of Sport and Physical Activity, St. Louis, MO, June, 2001.
- \*Cowan, J.D., Haufler, A.J., Kerick, S.E., Hatfield, B.D., Sime, W.J., & Allen, T.W. (2001). Attention, skill development, and brainwave changes during sports training. Journal of Sport and Exercise Psychology, 23 (supplement), S5.  
Paper presented at the annual meeting of the North American Society for the Psychology of Sport and Physical Activity, St. Louis, MO, June, 2001.
- \*Meeusen, R., Hatfield, B., Dishman, R.K., Greenough, W.T., Milton, J., & Petruzzello, S. (2001). 2001- A brain odyssey – methods of neuroscience research in exercise science. Medicine and Science in Sports and Exercise, 33 (5) (supplement), S226.  
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- \*Kerick, S.E., McDowell, K., Hung, T.M., Spalding, T.S., & Hatfield, B.D. (2001). Event-related alpha power in marksmen: Motor versus integrated perceptual-motor demands of shooting. Medicine and Science in Sports and Exercise, 33 (5) (supplement), S178.  
Paper presented at the annual meeting of the American College of Sports

Medicine, Baltimore, MD, June, 2001.

- \*Deeny, S.P., Hillman, C.H., Janelle, C.M., & Hatfield, B.D. (2001). EEG coherence and neural efficiency in expert and non-expert marksmen. Medicine and Science in Sports and Exercise, 33 (5) (supplement), S177.  
Paper presented at the annual meeting of the American College of Sports Medicine, Baltimore, MD, June, 2001.
- \*Haufler A.J., Lockwood, P., Spalding, T.W., & Hatfield, B.D. (2001). Affective responses to acute exercise are dependent upon approach/withdrawal orientation. Medicine and Science in Sports and Exercise, 33 (5) (supplement), S50.  
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- \*Bixby, W.R., Spalding, T.S., & Hatfield, B.D. (2001). An examination of opponent-process theory as an explanation for the anxiolytic effect of acute exercise. Medicine and Science in Sports and Exercise, 33 (5) (supplement), S50.  
Paper presented at the annual meeting of the American College of Sports Medicine, Baltimore, MD, June, 2001.
- \*Deeny, S., Hillman, C., Janelle, C., Hatfield, B. (2001). EEG coherence and neural efficiency in expert and non-expert marksmen. Psychophysiology, 38 (suppl), S35. Paper presented to the Society for Psychophysiological Research, Montreal, Canada, October, 2001.
- \*Hillman, C., Snook, E., Mahlow, P., Haufler, A., Spalding, T., Petruzzello, S., and Hatfield, B. (2001). Physical activity, EEG frontal asymmetry, and affect in elderly adults. Psychophysiology, 38 (suppl), S50.  
Paper presented to the Society for Psychophysiological Research, Montreal, Canada, October, 2001.
- \*Schleifer, L.M., Spalding, T.W., Hatfield, B.D., Kerick, S., and Cram, J.R. (2001, August). Muscle activity of the upper extremities under high and low mental demands during computer work: Preliminary findings. Paper presented at the meeting of the 9<sup>th</sup> International Conference on Human-Computer Interaction, New Orleans, LA.
- \*Hatfield, B., Schleifer, L.M., Spalding, T.W., Kerick, S., and Cram, J.R. (2001, August). Measurement of trapezius and forearm EMG gaps or micromomentary pauses during computer work. Paper presented at the meeting of the 9<sup>th</sup> International Conference on Human-Computer Interaction, New Orleans, LA.
- \*Spalding, T.W., Kerick, S., Hatfield, B., Schleifer, L.M., and Cram, J.R. (2001, August). Cardiac signal artifact and the interpretation of trapezius muscle activity during computer work. Paper presented at the meeting of the 9<sup>th</sup> International Conference on Human-Computer Interaction, New Orleans, LA.

- \*Cram, J.R., Schleifer, L.M., Spalding, T.W., Hatfield, B.D., and Kerick, S. (2001, August). EMG gaps and musculoskeletal disorders in computer work. Paper presented at the meeting of 9<sup>th</sup> International Conference on Human-Computer Interaction, New Orleans, LA.
- \*Spalding, T.W., Kerick, S., Hatfield, B.D., Schleifer, L.M., & Cram, J.R. (2002, March). Description and validation of a method to remove ECG artifact from EMG records. Paper presented at the 33<sup>rd</sup> Annual Meeting of the Association for Applied Psychophysiology and Biofeedback, Las Vegas, NV.
- \*Hatfield, B.D., Contreras-Vidal, J.L., & Van Gemmert, A.W.A. (2002). A multilevel approach to the understanding of cognitive-motor behavior: From neurobiology to conceptual modeling. Journal of Sport & Exercise Psychology, 24 (supplement), S14.  
Paper presented at the national meeting of the North American Society for the Psychology of Sport and Physical Activity, Baltimore, MD, June, 2002.
- \*Hatfield, B.D. (2002). The characterization of expert performance: Concurrent measures of a central organizing principle – economy of effort. Journal of Sport & Exercise Psychology, 24 (supplement), S15.  
Paper presented at the national meeting of the North American Society for the Psychology of Sport and Physical Activity, Baltimore, MD, June, 2002.
- \*Kerick, S.E., Schleifer, L.M., Spalding, T.W., & Hatfield, B.D. (2002). Cognitive workload influences neuromuscular activity and performance of skilled typists. Journal of Sport & Exercise Psychology, 24 (supplement), S18.  
Paper presented at the national meeting of the North American Society for the Psychology of Sport and Physical Activity, Baltimore, MD, June, 2002.
- \*Bixby, W.R., Deeny, S., Zimmerman, J.B., Price, R.W., Stover, H.S., Walden, T.T., Haufler, A.J., & Hatfield, B.D. (2002). Physical activity and the aging brain: Inhibitory processes. Journal of Sport & Exercise Psychology, 24 (supplement), S33.  
Paper presented at the national meeting of the North American Society for the Psychology of Sport and Physical Activity, Baltimore, MD, June, 2002.
- \*Deeny, S., Bixby, W.R., Zimmerman, J.B., Stover, H.S., Price, R.W., Walden, T.T., & Hatfield, B.D. (2002). The effect of physical activity on cortico-cortical communication in the elderly. Journal of Sport & Exercise Psychology, 24 (supplement), S50.  
Paper presented at the national meeting of the North American Society for the Psychology of Sport and Physical Activity, Baltimore, MD, June, 2002.
- \*Haufler, A.J., Mahlow, P.T., & Hatfield, B.D. (2002). Exercise and cognitive processes

in the elderly. Journal of Sport & Exercise Psychology, 24 (supplement), S68.  
Paper presented at the national meeting of the North American Society for the Psychology of Sport and Physical Activity, Baltimore, MD, June, 2002.

- \*Zimmerman, J.B., Bixby, W.R., Deeny, S., Price, R.W., Stover, H.S., Walden, T.T., Haufler, A.J., & Hatfield, B.D. (2002). Physical activity and the aging brain: Fluid vs. crystallized intelligence. Journal of Sport & Exercise Psychology, 24 (supplement), S137.  
Paper presented at the national meeting of the North American Society for the Psychology of Sport and Physical Activity, Baltimore, MD, June, 2002.
- \*Bixby, W.R., & Hatfield, B.D. (2002). The relationship of physical activity and frontal cerebral asymmetry to depression in the elderly. Medicine & Science in Sports and Exercise, 34(5), (supplement), S526.  
Paper presented at the national meeting of the American College of Sports Medicine, St. Louis, MO, June, 2002.
- \*Schleifer, L. Spalding, T., Hatfield, B.D., Kerick, S., & Ley, R. (2002). Effects of mental workload stress on end-tidal CO<sub>2</sub> in computer work.  
Paper presented at the annual Meeting of the International Society for the Advancement of Respiratory Psychophysiology, Washington, D.C., October 2002.
- \*Lockwood, P., Haufler, A.J., & Hatfield, B.D. (2002). Effect of an acute bout of exercise on affective state as indexed by electroencephalogram (EEG). Psychophysiology, 39 (supplement 1), S52.  
Paper presented at the Annual Meeting of the Society for Psychophysiological Research, Washington, D.C., October 2002.
- \*McAllister, L.D. & Hatfield, B.D. (2002). Attentional processes and psychomotor expertise: An ERP study. Psychophysiology, 39 (supplement 1), S56.  
Paper presented at the Annual Meeting of the Society for Psychophysiological Research, Washington, D.C., October 2002.
- \*Deeny, S., Bixby, W., Zimmerman, J., Stover, H., Price, R., Walden, T., Hillman, C.H., Haufler, A.J., & Hatfield, B.D. (2002). Effects of physical activity on P300 for a Go/No-Go task in a healthy elderly population. Psychophysiology, 39 (supplement 1), S31.  
Paper presented at the Annual Meeting of the Society for Psychophysiological Research, Washington, D.C., October 2002.
- \*Meijer, E.H., Smulders, F.T.Y., & Hatfield, B.D. (2002). Effects of rhythmic physical activity on the EEG. Psychophysiology, 39 (supplement 1), S58  
Paper presented at the Annual Meeting of the Society for Psychophysiological Research, Washington, D.C., October 2002.

- \*Hatfield, B.D. & Haufler, A.J. (2002). Exercise and the aging brain. Paper to be presented at the annual Meeting of the Gerontological Society of America, Boston, MA, November 2002. (paper part of symposium Exercise, Fall Prevention, and Cognition Within a Continuing Care Retirement Community – chair: J. Gaines).
- \*Contreras-Vidal, J.L., Kerick, S.E., & Hatfield, B.D. (2002). Adaptive visuo-motor learning mechanisms in normal aging. Program No. 170.8. 2002 Abstract viewer/Itinerary Planner. Washington, D.C.: Society for Neuroscience, 2002. Online.  
Paper presented at the Annual Meeting of the Society for Neuroscience, Orlando, FL, November, 2002.
- \***Hatfield, B.D.**, Landers, D.M., Cotman, C.W., Schuit, J., & Kaspar, B. (2003). Exercise and cognitive function; from genes to behavior. Symposium presented at the Annual meeting of the American College of Sports Medicine, San Francisco, CA May 28-June 1, 2003.
- \* Bixby, W.R., & **Hatfield, B.D.** (2003). Does fitness influence the affective response during and following acute aerobic exercise? Medicine and Science in Sports and Exercise, *35*, S202. Paper presented at the annual meeting of the American College of Sports Medicine, San Francisco, CA, May 28-June 1, 2003.
- \* Deeny, S.P., Bixby, W.R., Zimmerman, J.B., Price, R.W., Stover, H.S., Haufler, A.J., & **Hatfield, B.D.** (2003). Exercise and resting alpha power in the elderly. Medicine and Science in Sports and Exercise, *35*, S394. Paper presented at the annual meeting of the American College of Sports Medicine, San Francisco, CA, May 28-June 1, 2003.
- \*Deeny, S., Farrell, R., Bixby, W.R., Zimmerman J., Stover, H., Haufler, A., & **Hatfield, B.D.** (2003). The effect of physical activity and APOE genotype on memory and executive function in the elderly. Journal of Sport and Exercise Psychology, *25*, S48. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Savannah, GA, June, 2003.
- \*Zimmerman, J., Stover, H., Deeny, S., Walden, T., Price, R., Wallace, B., Bixby, W.R., Haufler, A., & **Hatfield, B.D.** (2003). Relationship of neurocognitive functioning with physical activity in older men and women. Journal of Sport and Exercise Psychology, *25*, S144-145. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Savannah, GA, June, 2003.
- \*Conroy, D.E., Hillman, C.H., Janelle, C.M., Martin-Ginis, K.A., & **Hatfield, B.D.** (2003). New dimensions for emotion research in kinesiology. Journal of Sport and Exercise Psychology, *25*, S16. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Savannah, GA, June, 2003.

- \*Bixby, W.R., Deeny, S., Zimmerman, J., & **Hatfield, B.D.** (2003). Physical activity, executive control, and the oldest old. Paper presented to the The Cooper Institute Conference Series: Physical activity and mental health: A multidisciplinary approach – From molecular biology to clinical practice, Dallas, TX, October, 2003.
- \*Spalding, T.W., Lyon, L.A., & **Hatfield, B.D.** (2004). Relative efficacy of aerobic training and stress management in lowering cardiovascular activity during psychological stress. Medicine and Science in Sports and Exercise, *36* (5), S90. Paper presented at the annual meeting of the American College of Sports Medicine, Indianapolis, IN, June, 2004.
- \*Zimmerman, J., Stover, H., Wallace, B., Deeny, S., Goodman, R., Pangelinan, M., Haufler, A., & Hatfield, B. (2004). Medicine and Science in Sports and Exercise, *36* (5), S274. Effects of a low-intensity short-duration physical activity intervention on cognitive function in older adults. Paper presented at the annual meeting of the American College of Sports Medicine, Indianapolis, IN, June, 2004.
- \*Zimmerman, J., Stover, H., Deeny, S., Wallace, B., Price, R., Bixby, W., Haufler, A., & Hatfield, B. (2004). Relationship of physical activity with neurocognitive functioning during an executive function task in older men and women. Journal of Sport and Exercise Psychology, *26* (supplement), S206. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Vancouver, BC, June, 2004.
- \*Goodman, R., Price, R., Zimmerman, J., Stover, H., Deeny, S., Wallace, B., Bixby, W., Haufler, A., & Hatfield, B. (2004). Attenuation of frontal lobe decline with physical activity: a neuroimaging study. Journal of Sport and Exercise Psychology, *26* (supplement), S81. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Vancouver, BC, June, 2004.
- \* Zimmerman, J., Haufler, A., Bixby, W., Stover, H., Deeny, S., & Hatfield, B. (2004). Physical activity and neurocognitive function during executive challenge in older men and women. The Gerontologist, *44* (special issue 1), xx. Paper presented to the annual meeting of the Gerontological Society of America, Washington, DC, October, 2004.
- \*Hatfield, B.D. & Meeusen R. (2005). Exercise, sport performance, and the human brain – Overview of assessment techniques with selected applications. Medicine and Science in Sports and Exercise, *37* (50), S415. Highlighted symposium presented to the American College of Sports Medicine, Nashville, TN, June, 2005. Participants: C. Cotman (U. California, Irvine; S Deeny, U.C., Irvine; A. Kramer,

U. of Illinois; C. Hillman, U. Illinois; & J. Williamson, U. Texas Southwestern.

- \*Goodman, R.N., Rietschel, J.C., Lo, L.C., Woo, M.J., Haufler, A.J., Contreras-Vidal, J.L., & Hatfield, B.D. (2006). Frontal asymmetry during high and low stress conditions in cognitive motor performance. Journal of Sport and Exercise Psychology, 28 (supplement), S74. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Denver, CO, June, 2006.
- \*Hung, T.M., Haufler, A.J., & Hatfield, B.D. (2006). Comparison of mental efficiencies between marksmen and novice shooters during rifle shooting: Examining the psychomotor efficiency hypothesis. Journal of Sport and Exercise Psychology, 28 (supplement), S91. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Denver, CO, June, 2006.
- \*Lo, L.C., Zimmerman, J.B., Woo, M.J., Haufler, A.J., & Hatfield, B.D. (2006). The relationship between frontal brain activation, physical activity, and depression in older men and women. Journal of Sport and Exercise Psychology, 28 (supplement), S121. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Denver, CO, June, 2006.
- & \*Rietschel, J.C., Goodman, R.N., Lo, L., Woo, M., Haufler, A.J., Contreras-Vidal, J.L., Hatfield, B.D. (2006). Explaining motor performance decrement associated with stress through electroencephalography (EEG) coherence. Journal of Sport and Exercise Psychology, 28 (supplement), S153. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Denver, CO, June, 2006.
- \*Woo, M.J., Goodman, R.N., Rietschel, J.C., Lo, L.C., Haufler, A.J., Contreras-Vidal, J.L., & Hatfield, B.D. (2006). Cortical activation during visuomotor performance and stress. Journal of Sport and Exercise Psychology, 28 (supplement), S194. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Denver, CO, June, 2006.
- \*Zimmerman, J.B., Deeny, S.P., Hearn, J.W., Conery, R., Poeppel, D., & Hatfield, B.D. (2006). Physical activity and MEG current dipole intensity in middle-aged men and women. Journal of Sport and Exercise Psychology, 28 (supplement), S198. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Denver, CO, June, 2006.
- \*Keenan, J.F., Zimmerman, J.B., Deeny, S.P., Hearn, J.W., Conery, R., Young, D., & Hatfield, B.D. (June, 2006). Validating the Physical Activity Survey (PAS) for Adults aged 50-70: A comparison of the Yale Physical Activity Survey (YPAS) to the Physical Activity Survey. Journal of Sport and Exercise Psychology, 28

(supplement). Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Denver, CO, June, 2006.

\*Ludlow, A. T., Zimmerman, J. B., Hearn, J. W., Witkowski, S., Hatfield, B. D., & Roth, S. M. (2007, May). Relationship between exercise energy expenditure and telomere length and telomerase activity. Experimental Biology, XX (supplement). Paper presented to FASEB meeting, Washington, D. C.

Zimmerman, J. B., Conery, R., Hearn, J. W., Rietschel, J. C., Deeny, S. P., Roth, S. M., & Hatfield, B. D. (2007, May). Behavioral evidence of brain changes moderated by APOE and physical activity in middle-aged adults. Medicine & Science in Sports & Exercise, 39(5), S164. Paper presented at the Annual Meeting of the American College of Sports Medicine, New Orleans, LA.

Pangelinan, M.M., Kagerer, F.A., Hatfield, B.D., Momen, B., & Clark, J.E. (2007, August). Age-related changes in motor readiness potentials and kinematics of goal-directed reaching in children and adults. Motor Control, 11, S24. Paper presented at Progress in Motor Control VI, Santos, Sao Paulo, Brazil.

Pangelinan, M.M., Kagerer, F.A., Momen, B., Hatfield, B.D., & Clark, J.E. (November, 2007). Age-related differences in task-relevant activation and functional coupling during motor planning of discrete drawing in children and adults. Presented at the 37th Annual Meeting of the Society for Neuroscience, San Diego, CA, USA.

Gentili, R.J., Bradberry, T. J., Hatfield, B.D., & Contreras-Vidal, J.L. (November, 2007). Power increase in specific EEG bands reflects the acquisition of an internal model of a novel environment during a visuomotor adaptation task. Presented at the 37th Annual Meeting of the Society for Neuroscience, San Diego, CA, USA.

Zimmerman, JB, Hearn, JW, Ludlow, AT, Savin-Murphy, J., Rietschel, JC, Conery, R., Deeny, SP, Roth, SM, & Hatfield, BD (2008, May). Executive and memory performance is moderated by APOE and physical activity in middle-aged adults. Paper presented at the American College of Sports Medicine, Indianapolis, IN. Published abstract in: Medicine and Science in Sports and Exercise, 40, (Supplement, S89).

Savin-Murphy, J., Zimmerman, JB, Deeny, SP, Ludlow, AT, Poeppe, D., Roth, SM, Contreras-Vidal, J, & Hatfield, BD. (2008, May). Fitness and cognitive decline of the aging brain: A preliminary investigation. Paper presented at the American College of Sports Medicine, Indianapolis, IN. Published abstract in: Medicine and Science in Sports and Exercise, 40, (Supplement, S90).

McCullagh, P., Christina, B., Gould, D., Brawley, L., Feltz, D., Hatfield, B., Crews, D., Etnier, J., & Arent, S. (2008). Five decades of impact in sport and exercise

psychology: A legacy of mentorship. Journal of Sport and Exercise Psychology, 30 (Supplement), S3. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Niagara Falls, Canada, June, 2008.

Haufler, A. J., Goodman, S. R., Shim, J., & Hatfield, B. D. (2008). From novice to expert motor behavior: A process of refinement to achieve a stable goal. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Niagara Falls, CANADA, June, 2008.  
Published abstract in: Journal of Sport and Exercise Psychology, 30 (supplement), S31.

Pangelinan, MM, Kagerer, FA, Hatfield, BD, & Clark, JE (2008). Increased recruitment of the ipsilateral sensorimotor cortex and coherence during multi-joint, goal-directed arm movements. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Niagara Falls, CANADA, June, 2008.  
Published abstract in: Journal of Sport and Exercise Psychology, 30 (supplement), S117.

Saffer, MI, Deeny, SP, Haufler, AJ, & Hatfield, BD (2008). EEG coherence during visuomotor performance: A comparison of corticocortical communication in experts and novices. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Niagara Falls, CANADA, June, 2008.  
Published abstract in: Journal of Sport and Exercise Psychology, 30 (supplement), S124-125.

Rietschel, JC, King, BR, Pangelinan, MM, Clark, JE, & Hatfield, BD. (2008). EEG coherence associated with using an explicit strategy during a motor task. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Niagara Falls, CANADA, June, 2008.  
Published abstract in: Journal of Sport and Exercise Psychology, 30 (supplement), S195-196.

Woo, M, Roth, S., & Hatfield, BD (2008). Physical activity, brain function, and the role of the apolipoprotein E4 allele in young adults. Paper presented to the North American Society for the Psychology of Sport and Physical Activity, Niagara Falls, CANADA, June, 2008.  
Published abstract in: Journal of Sport and Exercise Psychology, 30 (supplement), S214.

Goodman, RN, Rietschel, JC, Lo, L., Sane, N., Costanzo, M., & Hatfield, BD. (2008). Performance under pressure: Frontal asymmetry and emotion regulation. Paper presented to the Society for Psychophysiological Research, Austin, TX, September, 2008.  
Published abstract in: Psychophysiology, 45 (supplement 1), S39.

Rietschel, J.C., Zimmerman, J.B., McDonald, C.G., Haufler, A.J., & Hatfield, B.D. (2008). Physical activity is positively associated with executive functioning in older adults: A principal component analysis of the ERP response. Paper presented to the Society for Psychophysiological Research, Austin, TX, September, 2008. Published abstract in: Psychophysiology, 45 (supplement 1), S76-77.

Rietschel, J. C., Costanzo, M. E., Goodman, R. N., Haufler, A. J., Lo, L. C., McDonald, C. G., Saffer, M., & Hatfield, B. D. (November, 2008). Electro cortical dynamics during competitive psychomotor performance. Paper presented at the Society for Neuroscience annual conference, Washington, D. C. Listed in Society for Neuroscience Final Program, November 16, 2009 - Sunday.

Goodman, R.N., Rietschel, J.C., Lo, L., Sane, N., Costanzo, M., & Hatfield, B.D. (November, 2008). Phasic EEG frontal asymmetry mediates markers of emotion regulation. Paper presented at the Society for Neuroscience annual conference, Washington, D. C. Listed in Society for Neuroscience Final Program, November 19, 2009 - Wednesday.

#### **Papers presented at regional conferences:**

Daniels, F.S., & Hatfield, B.D. The basis of biofeedback techniques and their use for stress management with athletes. Paper presented to the Eastern District Association of the American Alliance Health, Physical Education and Dance. Lancaster, Pennsylvania, March, 1980.

Hatfield, B.D., & Daniels, F.S. The basis of hypnosis and its use for stress management with athletes. Paper presented to the Eastern District Association of the American Alliance of Health, Physical Education and Dance. Lancaster, Pennsylvania, March, 1980.

\*Goldfarb, A.H., Sforzo, G.A., Flynn, M.G., & Hatfield, B.D. The relationship between serum beta-endorphins and the intensity of exercise. Paper presented to the Mid-Atlantic Regional meeting of the American College of Sports Medicine. Ithaca, New York, February, 1984.

\*Hatfield, B.D. What research can tell the coach about motivation. Paper presented to the Eastern District Association of American Alliance of Health, Physical Education and Dance. Philadelphia, Pennsylvania, March 1984.

\*Hatfield, B.D., & SantaMaria, D.L. New ideas for muscular power training for the athlete. Symposium presented to the Eastern District Association of the American Alliance of Health, Physical Education, Recreation and Dance. Atlantic City, New Jersey, 1985. Published in Proceedings of the Annual Meeting of the Eastern District Association of AAHPERD.

- \*Hatfield, B.D. Observations of mental preparedness on athletes with implications for psychological training. Paper presented to Eastern District Association of American Alliance of Health, Physical Education, Recreation and Dance. Atlantic City, New Jersey, March, 1985.
- \*Hatfield, B.D., Vaccaro, P., Spalding, T., Byarlay, J.A., Brody, E.B., Seaward, B.L., & Siders, S. Lateralization of electroencephalographic activity following aerobic exercise. Paper presented to the Mid-Atlantic Regional Meeting of the American College of Sports Medicine. College Park, Maryland, January, 1986.
- Spalding, T.W., Hatfield, B.D., & Brody, E.B. Cardiac-cortical relationships during a psychomotor task requiring autonomic control. Paper presented to the Psychology of Exercise Symposium. University of Virginia, Charlottesville, March, 1987.
- Brody, E.B., Hatfield, B.D., & Spalding, T.W. The generalization of self-efficacy to a continuum of stressors upon mastery of a high-risk sport skill. Paper presented to the Psychology of Exercise Symposium. University of Virginia, Charlottesville, March, 1987.
- Hatfield, B.D., Spalding, T.W., Mahon, A., Brody, E.B., & Vaccaro, P. Self-control of cardiopulmonary activity during intense dynamic exercise. Paper presented to the Psychology of Exercise Symposium. University of Virginia, Charlottesville, March, 1987.
- Jeffers, L., Hatfield, B., & Porges, S.W. Vagal response to psychogenic stress by trained and untrained subjects. Paper presented at Aerobic Exercise, Psychophysiology and Mental Health Conference, University of Maryland, College Park, April 28, 1989.
- Potts, J., Hatfield, B., & SantaMaria, D.L. Acute exercise and vagal tone responses. Paper presented at Aerobic Exercise, Psychophysiology and Mental Health Conference, University of Maryland, College Park, April, 1989.
- Spalding, T.W., Allen, R.J., Hatfield, B.D., & Siders, S. Cardiac and Electrocortical activity measured during performance of an attention-demanding task. Paper presented to the Southeast Sport and Exercise Psychology Symposium. University of North Carolina at Greensboro, NC, February, 1990.
- Brody, E.B., Hatfield, B.D., & Slater, B.A. The effect of varying concentration upon force alteration and activation of the biceps and medial triceps brachii during an isometric elbow flexion task: An electromyographic assessment. Paper presented to the Southeast Sport and Exercise Psychology Symposium. University of North Carolina at Greensboro, NC, February, 1990.

- \*Morales, J., SantaMaria, D.L., & Hatfield, B.D. The comparative effect of a combined velocity and a traditional resistive training program upon muscular power. Paper presented at the meeting of the Southwest Regional Chapter of the American College of Sports Medicine, San Diego, November, 1991.
- McAllister, L., Hatfield, B., SantaMaria, D.L., Spalding, T., Blanchard, C., Donofrio, D., Haufler, A., Hung, T., Lockwood, P., McAllister, L., Saarela, P., Slater, B., Apparies, R., & Drazin, H. (1995, October). The effects of age and cardiovascular fitness status on neurocognitive functioning. Paper presented to the Southeast Sport and Exercise Psychology Symposium, University of Virginia, Charlottesville, VA.
- Haufler, A., Donofrio, D., Hatfield, B., SantaMaria, D.L., Spalding, T., Blanchard, C., Hung, T., Lockwood, P., McAllister, L., Saarela, P., Slater, B., Apparies, R., & Drazin, H. (1995, October). The relationship of self-reported activity history and aging on behavioral and cognitive performance. Paper presented to the Southeast Sport and Exercise Psychology Symposium, University of Virginia, Charlottesville, VA.
- \*Haufler, A., Donofrio, D., Hatfield, B., SantaMaria, D.L., Spalding, T., Blanchard, C., Hung, T., Lockwood, P., McAllister, L., Saarela, P., Slater, B., Apparies, R., & Drazin, H. (1995, November). The relationship of cardiovascular activity history and aging on behavioral and cognitive performance. Paper presented to the Mid-Atlantic Regional Chapter of the American College of Sports Medicine, University of Maryland, College Park, MD.
- \*Snyder-Bauer, R., Hatfield, B., Haufler, A., Lockwood, P., & Hung, T. (1996, November). Effect of exercise induced hypoglycemia on CNS activation in elite cyclists. Paper presented to the Mid-Atlantic Regional Chapter of the American College of Sports Medicine, White Haven, PA.
- \*McDowell, K., Lanter, J., Hatfield, B., SantaMaria, D.L., Spalding, T., Apparies, R., Blanchard, C., Haufler, A., Hung, T., Kerick, S., McAllister, L., & Saarela, P. (November, 1996). Age and aerobic activity history impact upon cognitive processing. Paper presented to the Mid-Atlantic Regional Chapter of the American College of Sports Medicine, White Haven, PA.
- Bixby, W.R., & Hatfield, B. Aerobic exercise as an inhibitor of the cognitive slowing associated with age. Paper presented at the Southeast Exercise and Sport Psychology Symposium, Morgantown, West Virginia, March, 1997.
- Lanter, J.R., & Hatfield, B. An explanation of brain during mental imagery: A proposal. Paper presented at the Southeast Exercise and Sport Psychology Symposium, Morgantown, West Virginia, March, 1997.

- Haufler, A., & Hatfield, B. The behavioral, psychological, and neurocognitive correlates of novice and expert performance. Paper presented at the Southeast Exercise and Sport Psychology Symposium, Morgantown, West Virginia, March, 1997.
- \*Apparies, R., Hatfield, B., & SantaMaria, L. The effect of fitness on the pattern reversal visual evoked potential in the elderly. Presented at the Mid-Atlantic American College of Sports Medicine Annual Meeting, State College, Pennsylvania, November, 1997.
- \*Haufler, A.J., Hatfield, B.D., & SantaMaria, D.L. Brain activation profiles of marksmen and novices: An examination of a model of psychomotor performance. Presented at the Mid-Atlantic American College of Sports Medicine Annual Meeting, State College, Pennsylvania, November, 1997.
- Hatfield, B., SantaMaria, D., Spalding, T., Blanchard, C., Haufler, A., Hung, T., Kerick, S., Lockwood, P., McAllister, L., Saarela, P., Apparies, R., Lanter, J., & McDowell, K. (1997, March). The association of age and aerobic activity history with 40-Hz EEG activity during cognitive challenge. Paper presented at the Southeast Exercise and Sport Psychology Symposium, Morgantown, West Virginia.
- Kerick, S.E., Iso-Ahola, S.E., Hatfield, B.D., & Gruber, K. (1998, March). A psychophysiological analysis of psychological momentum in target shooting. Paper presented at the Southeast Sport & Exercise Psychology Symposium, College Park, MD.
- Bixby, W., & Hatfield, B. (1998, April). Temporal dynamics of affect associated with an acute bout of aerobic exercise. Paper presented to the Southeast Sport and Exercise Psychology Meeting, College Park, MD.
- Bixby, W.R., Spalding, T.W., & Hatfield B.D. (November, 1999). The relationship between exercise intensity and the temporal dynamics of affect during and following exercise. Paper presented to the Mid-Atlantic Regional Chapter of the American College of Sports Medicine, Ithaca, NY.
- \*Deeny, S, Hillman, C, Janelle, C, & Hatfield, B (November, 2000). EEG coherence and neural efficiency in expert and non-expert marksmen. Paper presented to the Mid-Atlantic Regional Chapter of the American College of Sports Medicine, Split Rock, PA.
- \*Bixby, WR, Spalding, TS, & Hatfield, BD (November, 2000). An examination of opponent-process theory as an explanation for the anxiolytic effects of acute exercise. Paper presented to the Mid-Atlantic Regional Chapter of the American College of Sports Medicine, Split Rock, PA.

\*Hatfield, B. D. (2001). Exercise and aging brain. Part of a symposium on Exercise and Aging presented to the Mid-Atlantic Chapter of the American College of Sports Medicine, Split Rock, Pennsylvania. Other members included J. Hagberg, B. Hurley, & M Rogers).

+Hatfield, B.D. & Haufler, A.J. (November, 2002). The psychology of superior performance. Invited paper presented to the Mid-Atlantic Chapter of the American College of Sports Medicine, Fernwood, Pennsylvania.

Hatfield, B.D. (May, 2005). The psychology of superior athletic performance. Lecture presented to the Mid-Atlantic meeting of the National Strength and Conditioning Association, College Park, MD

**Papers presented at state and local conferences:**

Bowman, E., Brody, E., Hatfield, B., Spalding, T., & Tyler, S. Sport psychology-past, present and future: Psychologists' expanding role. Paper presented to the Maryland Psychological Association Convention, Baltimore, Maryland, 1987.

Hatfield, B.D., & Philbin, J. Training for strength speed and power. Science and application. Paper presented to the Maryland Association for Health, Physical Education, Recreation and Dance. Ocean City, Maryland , October, 1987.

Hatfield, B. Psychology of athletic performance. Paper presented at the second Annual Sports Medicine Symposium (Maryland State Games), College Park, Maryland, June, 1989.

Hatfield, B. Motivational techniques for young athletes. Paper presented to the annual convention of the Maryland Association for Health, Physical Education, Recreation and Dance, Annapolis, Maryland, November, 1989.

Hatfield, B., & Philbin, J. Speed and power development through drills and plyometrics. Paper presented to the annual convention of the Maryland Association for Health, Physical Education, Recreation and Dance, Annapolis, Maryland, November, 1989.

McDowell, K., Jeka, J.J., Schoner, G, & Hatfield, B.D. Testing Dynamic Field Theory with Directional Arm Movements. Paper presented at the 1<sup>st</sup> Annual Winter Fest - Neural & Cognitive Program, College Park, MD. January, 1999.

Hatfield, B.D., Zimmerman, J., Haufler, A.J., Roth, S., Poeppel, D., & Contreras-Vidal, J. (2007, November). Physical activity and the graying of America: Preventing the decline of the aging brain – a public health imperative. College of Chemical and Life Sciences, Bioscience Day, College Park, MD.

Haufler, A. J., Hatfield, B. D., Costanzo, M., Goodman, R., Lo, L. C., Rietschel, J., & Saffer, M. (October, 2007). Performance under pressure: brain processes of the superior athlete. Poster presented at the College of Chemical and Life Sciences, Bioscience Day, College Park, MD.

Ludlow, A. T., Zimmerman, J. B., Hearn, J. W., Witkowski, S., Hatfield, B. D., & Roth, S. M. (2007, November). Relationship between exercise energy expenditure and telomere length and telomerase activity. College of Chemical and Life Sciences, Bioscience Day, College Park, MD.

Zimmerman, J.B., Hearn, J.W., Ludlow, A.T., Savin-Murphy, J., Rietschel, J.C., Conery, R.C., Deeny, S.P, Roth, S.M., & Hatfield, B.D. (2007, November). Executive and memory performance is moderated by APOE and physical activity in middle-aged adults. College of Chemical and Life Sciences, Bioscience Day, College Park, MD.

Savin-Murphy, J., Zimmerman, J.B., Deeny, S.P., Ludlow, A.T., Poeppel, D., Roth, S.M., Hatfield, B.D. (2007, September). Fitness, aging, and cognitive decline: A preliminary investigation. School of Public Health, Research Interaction Day, College Park, MD.

Zimmerman, J.B., Conery, R., Hearn, J.W., Rietschel, J.C., Deeny, S.P., Roth, S.M., & Hatfield, B.D. (2007, September). Behavioral evidence of brain changes moderated by APOE and physical activity in middle-aged adults. School of Public Health, Research Interaction Day, College Park, MD.

Hatfield, B., Zimmerman, J., Haufler, A.J., Roth, S., Poeppel, D., & Contreras-Vidal, J.L. (2007, September). Physical activity and the graying of America: Preventing the decline of the aging brain – a public health imperative. School of Public Health, Research Interaction Day, College Park, MD.

Gentili, R.J., Bradberry, T.J., Hatfield, B.D., & Contreras-Vidal, J.L. (2007, September). EEG-based monitoring of brain dynamics during the acquisition of an internal model of a novel environment. School of Public Health, Research Interaction Day, College Park, MD.

Rietschel, J.C., BB King, MM Pangelinan, JE Clark, BD Hatfield. EEG coherence associated with using an explicit strategy during a motor task. Poster presentation at 2007 Graduate Research Interaction Day, University of Maryland, College Park.

Swett, K., Zimmerman, JB, & hatfield, BD (2008, August). Does exercise reduce neurocognitive decline in individuals at genetic risk for Alzheimers disease? The role of signal processing in answering the question. Paper presented at the Neural and Cognitive Sciences (NACS) Summer Research Interns' Day, College Park, MD.

Elele, NN, Zimmerman, JB, & Hatfield, BD (2008, August). The impact of physical activity on middle-aged adults at genetic risk for dementia. Paper presented at the UMSTAR Research Poster day, College Park, MD.

Obot, U, Zimmerman, JB, & hatfield, BD (2008, August). The role of genetics and exercise in cognitive decline. Paper presented at the UMSTAR Research Poster day, College Park, MD.

Saffer, M, Zimmerman, JB, & Hatfield, BD (2008, October). Brain dynamics and motor behavior: Antecedants and consequences. Paper presented to the Keck Research Foundation, College Park, MD.

Swett, K., Zimmerman, JB, Contreras-Vidal, J, Roth, SM & Hatfield, BD (2008, October). Exercise and the aging brain: A comparative study of MEG filtering. Paper presented to the School of Public Health Research Interaction Day, University of Maryland, College Park, MD.

Haufler, A. J., Goodman, S., Shim, J. K., & Hatfield, B. D. (October, 2008). From novice to expert motor behavior: a process of refinement to achieve a stable goal. Paper presented to the School of Public Health Research Interaction Day, University of Maryland, College Park, MD.

Costanzo, M.C., Rietschel, J.C, Goodman, R.N, Haufler, A.J., Lo, L., McDonald, C.G, Saffer, M., Hatfield, B.D. (October, 2008). Electrocortical dynamics during competitive psychomotor performance. Paper presented at the School of Public Health Research Interaction Day, University of Maryland, College Park, MD.

Rietschel, J., Zimmerman, J., McDonald, C., Haufler, A., & Hatfield, B. D. (October, 2008). Physical activity is positively associated with executive function in older adults: A principal component analysis of the ERP response. Paper presented at the School of Public Health Research Interaction Day, University of Maryland, College Park, MD.

Saffer, M., Deeney, S., Haufler, A., & Hatfield, B. (October, 2008). EEG coherence during visuomotor performance: a comparison of corticocortical communication in experts and novices. Paper presented at the School of Public Health Research Interaction Day, University of Maryland, College Park, MD.

Zimmerman, JB, Hearn, JW, Ludlow, AT, Roth, SM, & hatfield, BD (2008, October). Executive and memory performance is moderated by APOE and physical activity in middle-aged adults. Paper presented at the School of Public Health Research Interaction Day, University of Maryland, College Park, MD.

Savin-Murphy, J, Zimmerman, JB, Ludlow, AT, Roth, SM, & Hatfield, BD (2008, October). Fitness and cognitive decline of the aging brain. Paper presented at the School of Public Health Research Interaction Day, University of Maryland, College Park, MD.

Obot, U, Zimmerman, JB, Ludlow, AT, Roth, SM & Hatfield, BD (2008, October). The role of exercise and genetics in delaying cognitive decline. Paper presented at the School of Public Health Research Interaction Day, University of Maryland, College Park, MD.

Elele, NN, Zimmerman, JB, & Hatfield, BD (2008, August). The impact of physical activity on middle-aged adults at genetic risk for dementia. Paper presented at the School of Public Health Research Interaction Day, University of Maryland, College Park, MD.

**Fellowships, Honors, Prizes, and Awards:**

- |         |   |
|---------|---|
| 2007    | Recipient, Research and Development Award – University of Maryland, College Park School of Public Health  |
| 2004    | Fellow, American Academy of Kinesiology and Physical Education  |
| 2002    | Jerry P. Wrenn Outstanding Service Award, College of Health and Human Performance, University of Maryland, College Park                                     |
| 2001    | George F. Kramer Practitioner Award, College of Health and Human Performance, University of Maryland, College Park  |
| 2000    | Elected President of the Mid-Atlantic Regional Chapter of the American College of Sports Medicine   |
| 1999    | Elected President of the North American Society for the Psychology of Sport and Physical Activity (NASPSPA)<br>Fellow – American College of Sports Medicine |
| 1990    | Nominated for Mabel Lee Award of American Alliance of Health, Physical Education, Recreation, and Dance   |
| 1987    | Fellow - Research Consortium of the American Alliance of Health, Physical Education, Recreation and Dance   |
| 1986    | Fellow (charter) - Association for the Advancement of Applied Sport Psychology (currently inactive)   |
| 1984    | Outstanding Young Men of America  |
| 1983    | Outstanding Dissertation Award presented by the American Alliance of Health, Physical Education, Recreation and Dance (Sport Psychology Academy of NASPE).  |
| 1981-82 | Academic Scholarship - Department of Sports Administration, School of   |

Health and Sport Science, Ohio University, Athens, Ohio.

1981 Phi Kappa Phi (scholastic honorary).

1980-81 Doctoral fellowship, National Research Council of Canada, Ottawa, Canada.

**Editorships, Editorial Boards, and Reviewing Activities for Journals and Other Learned Publications:**

2001-Present Editorial Board, Journal of Sport and Exercise Psychology

2004- present Editorial Board, Journal of Contemporary Athletics

Reviewer on National Institutes of health (NIH) study section on proposals related to neurobiological bases of cognition (October 2004). I reviewed the proposals and wrote summaries over a two-week period and attended the meeting sessions held in Washington, DC over a two-day period.

Manuscript reviewer: Journal of Sport and Exercise Psychology

Neuroimage

Psychophysiology

Neuropsychologia

Biological Psychology

Neurobiology of Aging

Brain and Cognition

Medicine and Science in Sports and Exercise

European Journal of Applied Physiology

Journal of Cognitive Neuroscience

Pharmacology, Biochemistry and Behavior

Behavior Therapy

Life Sciences

Research Quarterly for Exercise and Sport

Journal of Aging and Physical Activity

Perceptual and Motor Skills

International Journal of Sport Psychology

The Sport Psychologist

Journal of Sport Sciences.

Scandinavian Journal Of Medicine and Science in Sports

Exercise and Sport Sciences Reviews

Quest

Journal of Applied Sport Psychology

Psychosomatic Medicine.

Journal of Lifestyle Medicine

- Reviewer of abstracts for Research Consortium of AAHPERD national meeting to be held in New Orleans, April, 1990.
- 1988-94 Editorial Board, American Running and Fitness Association.
- 1988-94 Associate Editor, Journal of Sport and Exercise Psychology.
- 1988-94 Associate Editor, Journal of Applied Sport Psychology.
- 1987-94 Associate Editor, Journal of Applied Sport Science Research.
- 1984-94 Associate Editor, National Strength and Conditioning Association Journal.
- 1987 Exercise and Sport Sciences Reviews.
- 1985 Research Quarterly for Exercise and Sport.
- 1984 Canadian Journal of Applied Sport Sciences.
- 1983 Reviewer for a series of volumes entitled Current Selected Research in the Psychology and Sociology of Sport, (Editors - J. Humphrey and L. VanderVelden).
- 1983-1986 Compiler of abstracts for the Sports Psychologists' Digest, an annotated abstract section of the Journal of Sport Psychology.
- 1981-1988 Reviewer, Journal of Sport Psychology.
- 1981 Assistant to the Editor, Journal of Sport Psychology.

#### **4. Teaching and Advising:**

##### **Courses taught in the last ten years:**

Fall (1997)	KNES 650 Mental and Emotional Aspects of Sport and Exercise (4 students) KNES 455 Scientific Basis of Athletic Conditioning (49 students)
Spring (1998)	KNES 789R Advanced Seminar: The Psychology of Elite Performance (5 students) KNES 350 The Psychology of Sport (37 students)
Fall (1998)	KNES 650 Mental and Emotional Aspects of Sport and Exercise (9 students) KNES 455 Scientific Basis of Athletic Conditioning (43 students)
Spring (1999)	KNES 789K Advanced Seminar: Exercise and the Aging Brain (7 students) KNES 350 The Psychology of Sport (47 students)
Fall (1999)	KNES 650 Mental and Emotional Aspects of Sport and Exercise (8 students) KNES 350 The Psychology of Sport (52 students)
Spring (2000)	Sabbatical Leave
Fall (2000)	KNES 650 Mental and Emotional Aspects of Sport (4 students) KNES 350 The Psychology of Sport (69 students)
Spring (2001)	KNES 789R Advanced Seminar: The Psychology of Elite Performance (9 students)
Fall (2001)	KNES 650 Mental and Emotional Aspects of Sport and Exercise (4 students)
Spring (2002)	KNES 789K Advanced Seminar: Exercise and the Aging Brain (7 students)
Fall (2002)	KNES 689U Biopsychological Foundations of Exercise and Mental Health (5 students) KNES 350 The Psychology of Sport (144 students)
Spring (2003)	KNES 350 The Psychology of Sport (200 students total) (2 sections taught)

Fall (2003)	KNES 689M The Biopsychological Foundations of Skilled Motor Behavior (7students) KNES 350 The Psychology of Sport (150 students)
Spring (2004)	KNES 789R Advanced Seminar: The Psychology of Elite Performance (12 students) KNES 350 The Psychology of Sport (150 students)
Fall (2004)	KNES 689U Biopsychological Foundations of Exercise and Mental Health (10 students) KNES 350 The Psychology of Sport (180 students)
Spring (2005)	KNES 789A Advanced Seminar: Exercise and the Aging Brain (6 students) KNES 350 The Psychology of Sport (190 students)
Fall (2005)	KNES 689M The Biopsychological Foundations of Skilled Motor Behavior KNES 350 The Psychology of Sport (190 students)
Spring (2006)	KNES 789R (689K 498i) Advanced Seminar: The Psychology of Elite Performance (18 students) KNES 350 The Psychology of Sport (190 students)
Fall (2006)	Released from teaching for grant preparation
Spring (2007)	Released from teaching for grant preparation
Fall (2007)	KNES 689L Biopsychological Aspects of Exercise and Mental Health (7 students)
Winter (2008)	KNES 350 The Psychology of Sport (16 students)
Spring (2008)	KNES 789A Advanced seminar: Exercise and the Aging Brain (5 students)
Fall (2008)	KNES 689M The Biopsychological Foundations of Skilled Motor Behavior (4 students)
Winter (2009)	KNES 350 The Psychology of Sport (23 students)
Spring (2009)	KNES 497 Independent Studies Seminar (24 students)

**Courses Developed:**

KNES 455	Scientific Basis of Athletic Conditioning
KNES 789A	Advanced Seminar: Exercise and the Aging Brain
KNES 789R	Advanced Seminar: The Psychology of Elite Performance
KNES789O	Advanced Seminar: Applications of Electroencephalography in Kinesiology (taught spring semester, 1997)
KNES 689U	Biopsychological Foundations of Exercise and Mental Health
KNES 689M	The Biopsychological Foundations of Skilled Motor Behavior

**Graduate Advising:**

I currently advise nine doctoral students. In addition, at the present time, I serve on a number of dissertation and thesis committees of the students advised by others.

**Current Doctoral Advisees:**

Jo Zimmerman (Kinesiology)  
 Li-Chuan Lo (Kinesiology)  
 Jeremy Rietschel (Neural and Cognitive Sciences)  
 Michelle Costanzo (Neural and Cognitive Sciences) co-advise with J.L. Contreras-Vidal  
 Mark Saffer (Neural and Cognitive Sciences)  
 Maureen Kellogg Kayes (Kinesiology)  
 Ghedem Solomon (Neural and Cognitive Sciences)  
 Bartlett Bulkley (Neural and Cognitive Sciences)  
 Melissa Pangelinan (Neural and Cognitive Sciences - Co-advisor with Jane Clark)

**Post-Doctoral Fellows (formerly sponsored)**

Scott E Kerick

**Current Masters Advisees**

Linzi Jones (withdrew)  
 Bruce Wallace (not currently active)

**Doctoral Degree Completed**

**Title of dissertation and \*current position provided, if available**

(1993) Evan B. Brody	The effect of attention upon force alteration and activation of the biceps and medial triceps brachii during an isometric elbow flexion task: An EMG assessment *Lecturer – University of Maryland, College Park; President-Performance Enhancement Corporation, Olney, MD
(1993) David W. Armstrong	The role of opioid receptors in exercising humans acutely exposed to cold and hot air *Research Scientist, Dept of Endocrinology – National Naval Medical Command Hospital, Bethesda, MD

Currently: Samuelli Institute for Integrative Medicine  
1700 Diagonal Road, Suite 400  
Alexandria, VA 22314

- (1995) Lewis Lyon A comparative analysis of aerobic conditioning, resistance training, and a structured stress management program in the attenuation of the adult psychophysiological response to cognitive stress  
\*Director, Good Health Center, Good Samaritan Hospital, Baltimore, MD
- (1996) T.M. Hung Are fast-action sport athletes characterized by greater attentional flexibility and motor preparedness? An electrophysiological study of table tennis players  
\*Professor, Graduate Institute of Sport and Exercise Science, Taipei Physical Education College, Taiwan, Republic of China
- (1996) Robyn Snyder-Bauer The effect of exercise-induced hypoglycemia on selected measures of central nervous system function in elite cyclists  
\*Instructor, Dept of Exercise Science, Rutgers University, New Brunswick, NJ
- (1997) Amy J. Haufler The psychology of expert performance: Comparative brain activation profiles in marksmen and novice shooters  
\*Research Assistant Professor, Dept of Kinesiology, University of Maryland, College Park
- (1998) Cassandra Blanchard The effect of exercise-induced hyperthermia on post exercise cerebral asymmetry and affective state
- (1999) Pekka Saarela The effect of mental stress on cerebral hemispheric asymmetry and psychomotor performance in skilled marksmen  
\*Research Scientist, Finnish Institute of Occupational Health
- (1999) Ross J. Apparies The relationship of attention to cortical slow potentials  
\*National Technical Coordinator, Neuroscan Laboratories, El Paso, Texas
- (2000) Charles H. Hillman Cardiovascular fitness and neurocognitive processes in older adults  
\*Associate professor, Dept of Kinesiology and Community Health, University of Illinois, Champaign-Urbana, IL
- (2002) Scott E. Kerick Neurocognitive adaptations associated with marksmanship training

\*National Research Council Post-doctoral fellow – Army Research Laboratory, Aberdeen Proving Grounds, Aberdeen.

Currently: Research scientist, Army Research Laboratory, Human Research and Engineering Directorate  
Aberdeen Proving Grounds, Aberdeen.

- (2002) Lisa D. McAllister      Selective attention characteristics of expert and novice rifle shooters: An electrocortical study  
\*Advising Coordinator, Robert H. Smith School of Business, University of Maryland, College Park, MD
- (2003) Walter Bixby            A multifaceted examination of the exercise and affect relationship  
\*Assistant Professor, Dept of Kinesiology, Texas Tech University, Lubbock, Texas.  
Currently: Assistant Professor, Elon University, Elon, North Carolina
- (2004) Park Lockwood        Aerobic exercise, hemispheric Asymmetry and affective state: Does exercise differentially impact approach versus withdrawal-oriented individuals?  
\*Assistant Professor, Exercise Science, Washburn University, Topeka, Kansas
- (2005) Sean Deeny            Physical activity is associated with greater task-related cortical activation during executive function and working memory challenge in cognitively normal middle-aged APOE E4 carriers and non-carriers.  
\* Post doctoral fellow, Brain Aging and Dementia Institute, University of California, Irvine. Currently employed by the Defense Advanced Research Projects Agency (DARPA)
- (2007) Shu-Chen Lee         Spectators' Emotional and Physiological Responses to Televised Sports Violence: A Test of Sensation Seeking Theory
- (2008) Ronald N. Goodman    Performing Motor Skills Under Psychological Stress – Assessment of Neurobiological and Genetic Influence  
Post doctoral fellow, University of Maryland at Baltimore Medical School
- (2008) Minjung Woo          Physical Fitness, Brain Function, and the Role of the Apolipoprotein E4 Allele in Young Adults  
Research Assistant Professor, Korea University, Seoul, South Korea

**Masters of Arts Recipients – Chaired Thesis Committee**

Joseph Hearn	Exercise Psychology (2007)
Melissa Pangelinan (co-advised with Jane Clark)	Motor Behavior
Ryan Conery	Exercise Psychology
Jeremy Rietschel	Sport Psychology
Robert Price	Exercise Psychology
Holly Stover	Exercise Psychology
Tamara Walden	Exercise psychology
Pamela Chisholm	Exercise Psychology
Walter Bixby	Exercise Psychology
Jason Lanter	Sport Psychology
Ross Apparies	Sport Psychology
Lisa D. Mugavero	Sport psychology
Heather Drazin	Sport Psychology
Christine Jordan	Sport Psychology
Cara Joy Lockman	Sport psychology
Margaret Meharg	Sport Psychology
Mark Orrell	Sport Psychology
Steve Siders	Sport Psychology
Albert J. Krotz	Sport Psychology
Susan Stein	Exercise Physiology
Julie Hamon	Sport Psychology
Heather Lewis	Sport Psychology
Laurie Jeffers	Exercise Physiology
Valerie Mauck	Sport Management
Mitchell Batkin	Exercise Physiology
Linard Hancock	Sport Psychology
Debra Wiegand	Sport Psychology
Robert Baldwin	Sport Management
Evan Brody	Sport Psychology
Jacobo Morales	Exercise Physiology

**Masters and doctoral committee memberships:**

**Doctoral committees (student has completed degree):**

Tracy Tomlinson	Psychology (proposed)	
Xihe Zhu	Kinesiology (Pedagogy) (proposed)	
Radha Golkar	Psychology	2009
Alice Saperstein	Psychology	2009
Joseph Mahan	Kinesiology Sport Management	2008
Hoa Vo	Psychology	2008
Haichun Sun	Kinesiology – Pedagogy	2007
Choong Lim	Kinesiology – Sport Management	2007
Amber Sprenger	Psychology	2007
Bruce Swett	Neural and Cognitive Science	2007
Josef Brandauer	Exercise Physiology	2005

Kerrie Gruber	Sport Psychology	2004
Cindy Waddell	Sport Psychology	2003
Julie Blackburn	Sport psychology	2003
Kaleb Mc Dowell	Neural & Cognitive Science	2003
Francis Allen	Public Comm Health	2003
Virginia Schardt	Sport psychology	2001
Dana Phares	Exercise Physiology	2001
Pedro Silva	Motor Control	2000
Frank Merino (NZ)	Sport Psychology	1997
Daniel Rodriguez	Human Development	1999
Dorothy Hyman	Sport Psychology	1995
Gina Oliva	Recreation	1994
Rose Mince	Human Development	1994
Joseph Jacobs	Sport Psychology	1994
Ronald Bradley	Sport psychology	1993
Judy Dole	Exercise Physiology	1992
C. Dooly-Manning	Exercise Physiology	1992
Rod Williamson	Sport psychology	1992
Doug Miller	Sport Psychology	1992
Alice Smith	Exercise Physiology	1992
Margarita Smith	Exercise Physiology	1992
Brad Bennett	Exercise Physiology	1991
Gretchen Schlabach	Exercise Physiology	1991
Jodi Cognato	Health	1990
Anthony Mahon	Exercise Physiology	1990
Thomas W. Spalding	Health/Psychophysiology	1989
Susan Kyle	Exercise Physiology	1989
Nancie Park	Recreation	1989
Stephen J. Bocuzzi	Exercise Physiology	1988
Timothy R. Harvey	Sport Psychology	1988
Edward J. Marciniak	Exercise Physiology	1988
Steven M. Ostrove	Exercise Physiology	1988
Gerald A. Walford	Sport Psychology	1988
James Coale	Exercise Physiology	1987
Brian Luke Seaward	Exercise Physiology	1987
Alex Isherwood	Sport Management	1986
Suzanne Tyler	Sport Psychology	1986
J. Yoo	Sport Psychology	1986
Gary Sforzo	Exercise Physiology	1984
Brad L. Bennett	Exercise Physiology	
Andrew M. Jennings	Sport Psychology	
Greg Kitchen	Sport Psychology	
Jacobo Morales	Exercise Physiology	
Scott James Leischow	Health Psych/Psychophysiology	
Anthony Mahon	Exercise Physiology	

Rodney Williamson  
Joseph M. Hannah

Sport Psychology  
Exercise Physiology

**Doctoral program of study committees:**

Andrew Ludlow	Exercise Physiology
Erik Hanson	Exercise Physiology
Tina Ellis	Exercise Physiology
Joe Mahon	Sport management
JoAnne Kuo	Exercise Physiology
Sean Walsh	Exercise Physiology
Steve Prior	Exercise Physiology
Amy Halverstedt	Exercise Physiology
J.J. Park	Exercise Physiology
Marl Roltsch	Exercise Physiology
Matt Kostek	Exercise Physiology
Diane Hurlbut	Exercise Physiology
Dana Brown	Exercise Physiology
Jeff Gardner	Sport Psychology
Andrew M. Jennings	Sport Psychology
Lewis Lyon	Sport Psychology
Gerald A. Walford	Sport Psychology
Rodney G. Williamson	Sport Psychology
Brad L. Bennett	Exercise Physiology
Stephen J. Bocuzzi	Exercise Physiology
John Francis Bruno	Exercise Physiology
James A. Coale	Exercise Physiology
Robert Joseph Confessore	Exercise Physiology
Colleen Mary Farmer	Exercise Physiology
John Gilligan	Exercise Physiology
Susan Kyle (Wigutoff)	Exercise Physiology
Anthony P. Mahon	Exercise Physiology
Edward J. Marcinek	Exercise Physiology
Steve D. McCole	Exercise Physiology
Douglas K. Miller	Exercise Physiology
Jacobo Morales	Exercise Physiology
Jeffrey T. Potts	Exercise Physiology
Gretchen Schlabach	Exercise Physiology
Brian Luke Seaward	Exercise Physiology
Michael A. Smutok	Exercise Physiology
Hideko Yamaguchi	Exercise Physiology
Steven J. Stanhope	Biomechanics

**Doctoral comprehensive examination committees:**

Kimberly Drnec	Neural and Cognitive Sciences	2008
JoAnn Kuo	Exercise Physiology	2005
Kyle Savage	Sport Psychology	2005
Choong Lim	Sport management	2004
Bruce Swett	Neural Cog Science	2004
Kerrie Gruber	Sport Psychology	2000
Kaleb Mc Dowell	Neural Cognitive Science	2000
Laura Kraft	Exercise Physiology	2000
Pedro Silva	Motor Control	1999
Tim Bryant	Sport Sociology	1997
John Gilligan	Exercise Physiology	1990
Steve Weiss	Exercise Physiology	1989
Anthony Mahon	Exercise Physiology	1989
Rod Williamson	Sport Psychology	1989
Andy Jennings	Sport Psychology	1989
Rob Confessore	Exercise Physiology	1989
Doug Miller	Exercise Physiology	1989
Karen Sullivan	Health	1988
Brad L. Bennett	Exercise Physiology	1988
Ronald Bradley	Sport Psychology	1987
James Coale	Exercise Physiology	1987
Colleen Farmer	Exercise Physiology	1987
Gerald Walford	Sport Psychology	1986
Steven Bocuzzi	Exercise Physiology	1985
Luke Seaward	Exercise Physiology	1985
Hideko Yamaguchi	Exercise Physiology	1985
J. Yoo	Sport Psychology	1985
Jack Bruno	Exercise Physiology	1984
Joseph Hannah	Exercise Physiology	1984
Susan Kyle	Exercise Physiology	1984
Gary Sforzo	Exercise Physiology	1983

**Masters thesis committee member (student has completed degree):**

Andrew Ludlow	Exercise Physiology	2007
David Oviatt	Sport Psychology	2005
Michael Hamberger	Sport psychology	2004
Katherine Kerr	Sociology of Sport	2003
John Kouame	Motor Behavior	2003
Jonathan P. Liba	Pedagogy	2002
Kathy Kerr	Sport Sociology	2002
Chad Cirafesi	Sport Psychology	2001
Alex Porter	Sport Psychology	2001
Dan Barlow	Exercise Physiology	2001
Margaret McDermott	Sport Psychology	2001

Jason Fajardo	Sport psychology	1998
Cindy Waddell	Exercise Physiology	1997
Miyuki Iwamoto	Exercise Physiology	1997
Julius Bevetta	Exercise Physiology	1997
Margot Royer	Exercise Physiology	1997
Waddell Wright	Sport Psychology	1995
Derick Donofrio	Sport Psychology	1995
Yves Reidrich	Sport Psychology	1995
Myles Berg	Sport Psychology	1994
C. Blesy-Khron	Exercise Physiology	1993
Jon Rogers	Sport Psychology	1993
Mary Hankey (non-thesis)	Sport Psychology	1993
Wendy Hurley	Sport Psychology	1992
Cassandra Blanchard	Sport Psychology	1992
Bart Lerner	Sport Psychology	1992
Kathleen Haberman	Exercise Physiology	1991
Sylvester Mathis	Exercise Physiology	1990
Dwight B. Galt	Exercise Physiology	1989
Joseph Grikis .	Biomechanics	1987
Diana Barcelo-Viera	Exercise Physiology	1986
Ruth Ragsdale	Sport Management	1986
Dawn Diehl .	Exercise Physiology	1985
Catherine Kohlensein	Exercise Physiology	1985
Gary Benedict	Exercise Physiology	1984
Jackie Briley	Exercise Physiology	1984
Peter Gryzbinski	Exercise Physiology	1984
Timothy Moore	Exercise Physiology	1984
Judith Smith	Sport Psychology	1983

### **Visiting Students (International Exchange)**

Ewout Meijer (Mastriicht University) 2000- 2002

### **Graduate Advisees' Awards**

- 2008 Sean Deeny, received the Alzheimer's Association "Best Paper" for the New Investigator Alzheimer's Disease Neuroimaging Award at the annual meeting of International Conference on Alzheimers disease (ICAD) in Chicago – July, 2008. This award was in recognition of Dr..Deeny's paper in Biological Psychology "Exercise, APOE, and working memory: MEG and behavioral evidence for benefit of exercise in epsilon4 carriers." Other authors on the paper were: David Poeppel, Jo B. Zimmerman, Stephen M. Roth, Josef Brandauer, Sarah Witkowski, Joseph W. Hearn, Andrew T. Ludlowa, José L. Contreras-Vidal, Jason Brandt, and Bradley D. Hatfield.

- 2008 Joanne Zimmerman won first place in the campus Graduate Research Interaction Day (Public Health section) for her oral presentation on Exercise and Cognitive Decline in Carriers of the APOE e4 Genotype.
- 2007 Doctoral Advisee, Jo Zimmerman, recipient of Outstanding Graduate Teaching Award, Department of Kinesiology, University of Maryland College Park School of Public Health
- 2006 Doctoral Advisee, Sean Deeny, awarded post-doctoral fellowship by the Institute for Brain Aging and Dementia, University of California, Irvine
- 2005 Doctoral Advisee, Jo Zimmerman, nominated for University of Maryland Graduate Service Award
- 2000 Doctoral advisee, Walter Bixby, recipient of President's Award, Mid-Atlantic regional chapter of the American College of Sports Medicine
- 1999 Doctoral advisee, Charles H. Hillman, was awarded a pre-doctoral training grant from the National Institutes of Health
- 1998 Doctoral advisee, Amy Haufler, recipient of Outstanding Dissertation Award - Sport Psychology Academy of American Alliance of Health Physical Education Recreation and Dance (National Association of Sport and Physical Education)

## 5. Service

### To National Societies

- 2002-2003 Past-president, Mid-Atlantic Regional Chapter of the American College of Sports Medicine
- 2001-2002 President, Mid-Atlantic Regional Chapter of the American College of Sports Medicine
- 2001-2002 Past-president, North American Society for the Psychology of Sport and Physical Activity
- 2000-2001 President, North American Society for the Psychology of Sport and Physical Activity
- 2000-2001 President-elect, Mid-Atlantic regional chapter of the American College of Sports Medicine
- 1999-2000 President-elect, North American Society for the Psychology of Sport and Physical Activity
- 1999-2000 Vice President, Mid Atlantic Regional Chapter of the American College of Sports Medicine
- Abstract Reviewer for Annual Meetings of the American College of Sports Medicine (1992-Dallas, 1993-Seattle, 1995-Indianapolis, 1996-Cincinnati).
- 1988 Participant in panel discussion: Defining the Body of Knowledge and Developing a Curriculum for Graduate Education in Exercise and Sport Psychology. Presented to the North American Society for the Psychology of Sport and Physical Activity. Knoxville, Tennessee, June, 1988.
- 1984 Selected to a national panel of sport psychologists to examine the future of the subdiscipline of sport psychology.

### **Memberships in Scholarly Organizations:**

- 2008- Society for Neuroscience
- 2003-present American Academy of Kinesiology and Physical Education
- 1986-Present American College of Sports Medicine
- 1986-Present Mid-Atlantic Regional Chapter of the American College of Sports

Medicine

1976-Present	North American Society for the Psychology of Sport and Physical Activity
1981-present	Society for Psychophysiological Research
2002-present	Gerontological Society of America
1976-92 2000-Present	American Alliance of Health, Physical Education, Recreation and Dance; (National Association for Sport and Physical Education-sport psychology academy, exercise physiology academy); (Research Consortium) Eastern District Association of AAHPERD.
1999-	Cognitive Neuroscience Society
1988-94	American Psychological Association (member) APA Division 47, Exercise and Sport Psychology (Applied)
1986-94 1985	Association for the Advancement of Applied Sport Psychology International Society for Sport Psychology
1984-94	National Strength and Conditioning Association
1981-82	Canadian Association of Sport Sciences
1981-82	American Psychological Association and Eastern Psychological Association (student member).

**Workshops and other service activities:**

Exercise and the Aging Brain, Lecture presented to Health Fair participants at Riderwood Village, Silver Spring, MD – (March, 2003) (contact person-Teresa Reymann, Wellness Center coordinator)

Exercise, Genes, and the Aging Brain, Lecture presented to the Holiday Park Community Center, Wheaton, MD – (June, 2003) (contact person-Carol Fuentevilla, program director)

Feb 2001-present	Series of lectures on exercise and the aging brain provided to a number of senior residential and day-care centers in the Baltimore and Washington metropolitan area (Charlestown Retirement Communities, Baltimore, MD; Holiday Park Senior Center,
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Wheaton, MD, Jewish Community Center, Rockville, MD; Attick Towers Senior Residential facility, College Park, MD

- July 2001 Hatfield, B.D. Mental training for competitive stress. Lecture presented to the coaching staff and players of the Washington Capitals Hockey Club of the National Hockey League
- Feb 2000 Hatfield, B.D. The psychology of superior performance. Lecture provided to the superintendent and staff of the United States Naval Academy, Annapolis, MD
- Nov 1997 Hatfield, B.D. Psychological aspects of athletic performance. Lecture provided to the Maryland State Baseball Coaches Association, Camden Yards Baseball Stadium, Baltimore, MD
- July 1991 The effects of exercise on mental health and the brain. Lecture presented to GTE Corporation (Contel Federal Systems), Chantilly, VA
- Jan 1990 Hatfield, B.D. Exercise and your health. Presentation given to Prince Georges County Soroptimist Society International on behalf of University of Maryland Speaker's Bureau.
- Sept 1988 Hatfield, B.D., SantaMaria, D.L., Costello, F. Motivation, Overtraining, and Feedback: Maximizing Performance for Speed, Strength, and Power. Presentation given to The Sport Psychology Center of Sheppard Pratt Hospital, Baltimore, Maryland.
- July 1988 Hatfield, B.D. Scientific Developments in Sports: Physical and Mental Preparation of athletes. Presentation given to "Teamwork 88" sponsored by the Alcohol and Drug abuse Administration of the Maryland Department of Health and Mental Hygiene.
- Feb 1988 Hatfield, B.D. Round Table Discussion: The Mental Health Aspects of Exercise. Moderated colloquium at 1988 Sport Psychology Symposium, University of North Carolina at Chapel Hill.
- Feb 1988 Hatfield, B.D. and Morales, J. The power behind the bench press. Presentation given to the Third Annual Sports Medicine and Athletic Performance Seminar. of the Shady Grove Center for Sports Medicine and Rehabilitation.
- Jan 1988 Hatfield, B.D. and Philbin, J. Training for Strength, Speed and Power: Science and Application. Presentation given to Physical

education resources teachers and department chairmen of Montgomery County, Magruder Hill School.

- Dec 1987 Apples and aerobics: The role of diet and exercise in staying well. Presentation provided to the Council for the Advancement and Support of Education, Suite 400, 11 Dupont Circle, Washington, D.C.
- Sept 1987 Instructional sessions presented to Anne Arundel County physical education teachers and administrators on scientific aspects of physical training.
- May 1987 Hatfield, B.D. The Competitive Edge-Sports Psychology. Community lecture series of the Shady Grove Center for Sports Medicine and Rehabilitation, Bethesda, Maryland.
- Jan 1987 Hatfield, B.D. and Brody, E.B. Mental and physical efficiency during athletic performance. Presentation given to the Second Annual Sports Medicine and Athletic Performance Seminar of the Shady Grove Center for Sports Medicine and Rehabilitation, Bethesda, Maryland.
- Nov 1986 University of Delaware-Seminar presented to graduate students and faculty concerning mental and physiological efficiency in elite athletes.
- May 1986 Hatfield, B.D. Power training. Presentation given to the First Annual Sports Medicine and Athletic Performance Seminar of the Shady Grove Center for Sports Medicine and Rehabilitation, Bethesda, Maryland.
- March 1986 National Strength and Conditioning Association (Special Olympics Seminar), College Park, Maryland.
- Nov 1985 Hatfield, B.D. Fitness and your lifestyle. Presentation given to Hyattsville Lions Club of Maryland (Branch Wood, contact person).
- May 1985 Hatfield, B.D. The role of exercise in physical and mental health. Presentation given to the Department of the Navy. Naval Communication Unit, Washington, D.C. 20390 (coordinator:LCDR P.M. Mulvehill).
- May 1985 Hatfield, B.D. Psychophysiological Training of the Athlete. Presentation given to the Sport Psychology Symposium, sponsored by the M.S. Hershey Medical Center of the Pennsylvania State

University, Grantsville, Pennsylvania.

- May 1985 Hatfield, B.D. Sport Psychology and the Young Athlete. Presentation given to the Sport Psychology Symposium, sponsored by the M.S. Hershey Medical Center of the Pennsylvania State University, Grantsville, Pennsylvania.
- April 1985 Hatfield, B.D. The cognitive states of elite athletes during performance. Invited talk-Psychology Honor Society, Prince Georges Community College, Largo, Maryland.
- March 1985 Hatfield, B.D. Sports-related careers, Kettering Middle School, Prince Georges County, Maryland. Workshop on career education.
- Feb 1985 Your Stress: Analysis and control, University of Maryland, College Park. A workshop presented to the Division of Human and Community Resources.
- Jan 1985 United States Department of Agriculture, workshop presented to federal employees concerning the psychological benefits and selected physical responses to aerobic and resistive exercise training.
- Dec 1984 Maryland Agricultural Extension Society, workshop presented to University of Maryland faculty concerning the role of physical fitness benefit exercise in health.
- Dec 1984 University of Delaware faculty and graduate students in Physical Education, workshop presented on selected aspects of sport psychology research projects being conducted at the University of Maryland.
- Oct 1984 Association of Independent Maryland Schools, workshop presented on Stress and Teacher Burnout, Baltimore, Maryland.
- May 1984 Hatfield, B.D., Sports-related careers, Kettering Middle School, Prince Georges County, Maryland. Workshop on career education.
- March 1984 Hatfield, B.D. Sport psychology and its role in competitive athletics. Presentation given to the Washington Run Hers Club, Alexandria, Virginia (Ayne Furman, contact person).
- March 1984 Your stress: Analysis and control, University of Maryland, College Park. A workshop presented to the alumni of the College of Physical Education, Recreation and Health.

- Jan 1984 Hatfield,B.D. Weight training for power and speed, presentation given to the Frank Costello Strength and Conditioning Clinic, University of Maryland, College Park, Maryland.
- Oct 1983 Different personality types and their psychological response to exercise, University of Maryland, College Park, Maryland. Presentation of faculty research endeavors within the Department of Physical Education.
- July 1983 Mental and physical training for the shooting sports Connecticut State Junior Olympic Shooting Camp, Hartford,Connecticut.
- May 1983 Physical fitness concerns in adulthood, Montgomery County Adult Education Division, Montgomery County, Maryland. Workshop given on the effects of physical training upon the body and guidelines for promoting cardiovascular and muscular development.
- Jan 1983 Psychological factors and competitive performance, National White water Kayak Team, Washington, D.C.
- Aug 1981- Mental training for competitive sports, July 1982 Physical training for the shooting sports. Administrative concerns for team manager/coach, Seminars presented to various clinics sponsored by the National Rifle Association class-C National Coach Certification Program. Clinics were held in Virginia Beach, VA., Long Island, NY., Brownwood, TX., Kansas City, MO., and University Park, PA. Coordinator of the program is Mr. Wayne Sheets, Education and Training Division, Washington, D.C.
- July 1981 "Learn By Doing" National Track and Field Coaches Clinic sponsored by the United States Olympic Development Program, University Park, Pennsylvania. Clinic coordinator was Mr. Gary Schwartz, Head Coach, Women's Track Team, The Pennsylvania State University.
- Nov 1980 A summary of research proceedings at the Annual meeting of the Canadian Society for Psychomotor Learning and Sport Psychology. Presented to graduate students and faculty of the College of Health, Physical Education and Recreation, The Pennsylvania State University.
- Aug 1980 Present and future directions of the Penn State marksmanship research program, San Antonio, Texas. Workshop given at the

training session of the United States National Pistol Team.

June 1980                    Research findings for competitive shooting, Phoenix, Arizona.  
Presentation given at the International Shooting Championships,  
Black Canyon Range, Carefree Inn.

**Other Service:**

- 2002                    Conference Organizer, Annual meeting of the North American Society for  
the Psychology of Sport and Physical Activity, Hunt Valley Marriott,  
Baltimore, MD
- 2001                    Moderator, free communications session, meeting of the American  
College of Sports Medicine. Baltimore, MD (June, 2001).
- 2001                    Moderator, Symposium (Attention, skill development, and brainwave  
changes during sports training), North American Society for the  
Psychology of Sport and Physical Activity. St. Louis, MO. (June, 2001).
- 2001                    Panel participant on job opportunities in academia to the graduate student  
meeting at the annual meeting of the North American Society for the  
Psychology of Sport and Physical Activity. St. Louis, MO. (June, 2001).
- 2001                    Conference Organizer, Annual meeting of the Mid-Atlantic Chapter of the  
American College of Sports Medicine, Fernwood, PA
- 2000                    Moderator, Symposium (Exercise and cardiovascular health), Mid-  
Atlantic chapter of the American College of Sports Medicine, Split Rock,  
PA (November, 2000).
- 1999                    Member of NASPSPA Committee for membership retention and  
promotion.
- 1997                    Speaker, career opportunities in sport psychology, Mid Atlantic American  
College of Sport Medicine, State College, Pennsylvania (November, 1997).
- 1994                    Program coordinator for the Sport psychology section of the annual  
meeting of the North American Society for the Psychology of Sport and  
Physical Activity, Clearwater, FLA
- 1995                    Meeting site coordinator for Mid-Atlantic Regional conference of the  
American College of Sports Medicine
- 1990                    Capital Sports Focus - Editorial Board; Baltimore Sports Focus - Editorial  
Board.

- 1990 Consultant to McGill University Faculty of Graduate Studies and Research (grants reviewer)
- 1991 (May) Moderator (free communications session) – Effects of exercise on anxiety and stress reactions. American College of Sports Medicine, Orlando, Florida.
- 1989 (April) Conference co-organizer and host: Aerobic Exercise, Psychophysiology and Mental Health, College Park, MD, April 28-29, 1989.
- 1989 (Oct) Moderator: Grant writing in sport psychology. Symposium presented at the national meeting of the Association for the Advancement of Applied Sport Psychology, Seattle, WA, October, 1989.
- 1988 (Oct) Moderator, session on Biofeedback: Research and Application to Sport, Association for the Advancement of Applied Sport Psychology.
- 1988 Running and Fitness Editorial Board (ARFA), Washington, D.C.
- 1988 Reviewer for the Sports Medicine Council's Research Committee of the United States Olympic Committee. This review panel dealt with grant proposals on overtraining and recovery from training in Olympic athletes. Chairman: Jack H. Wilmore, University of Texas.
- 1987-1988 Reviewer, abstracts for the sport psychology free communications section abstracts for the International meeting of the American College of Sports Medicine. Dallas, Texas, May, 1988.
- 1987-1988 Member of sport psychology program committee for the 1987-1988 International meeting of North American Society for the Psychology of Sport and Physical Activity. Knoxville, Tennessee, June, 1988.
- 1987-1988 Reviewer, abstracts for free communications section, International meeting of the North American Society for the Psychology of Sports and Physical Activity. Knoxville, Tennessee, June, 1988.
- 1987-1988 Member of the executive officer nominating committee for the North American Society for the Psychology of Sport and Physical Activity. (Chairman, Michael Wade)
- 1988 Member of the subcommittee to award the Outstanding Dissertation on behalf of the Sport Psychology Academy of the American Alliance of Health, Physical Education, Recreation and Dance.

- 1987 Grant reviewer for the Research Award Program of the City University of New York. (Title of Project: Exercise intensity and causal influences on psychological stress reduction). Supervisor-Dr. Erica Friedman.
- 1987 (June) Moderator, session on Training Specificity, National Strength and Conditioning Association National Meeting, Las Vegas, Nevada.
- 1987 Reviewer of forthcoming text, Aging and Motor Behavior, Editor, A.C. Ostrow.
- 1986(October) Moderator, session of Health Psychology. National Meeting of the Association for the Advancement of Applied Sport Psychology., Jekyll Island, Georgia.
- 1986 (April) Moderator, Research Consortium session on Psychophysiology in Sport and Exercise, American Alliance of Health, Physical Education, Recreation and Dance, National Meeting. Cincinnati, Ohio.
- 1985 Selected committee member, Health Psychology Committee, Association for the Advancement of Applied Sport Psychology.
- 1985 Member of the Subcommittee to award the Outstanding Dissertation Award on behalf of the Sport Psychology Academy of the American Alliance of Health, Physical Education, Recreation and Dance.
- 1985 Text reviewer for Prentice-Hall Inc: Vanderzwagg, H. Policy development in sport management.
- 1985 Text reviewer for AAHPERD publications: The Psychology of Sport and Games by Svoboda and Vanek (review solicited by Ray Ciszek).
- 1981 Statistical consultant for various research projects conducted at other universities: a) The comparative effectiveness of differential strength training techniques using Nautilus and University equipment. (Project supervisor: Gary Schwartz, Head Coach, Penn State Women's Track Team) (b) Cohesion, satisfaction and performance in intercollegiate field hockey. (Project supervisor: Dr. Jean Williams, Associate Professor of Physical Education, University of Arizona)

### **Campus Service**

#### **Department of Kinesiology:**

- 2008-2009 Executive Committee  
Chair, Husman lecture series  
Member, Search Committee in Translational research in

	<p>Kinesiology</p> <p>Member, Humphrey award for scholarly paper contribution by graduate students</p> <p>Chair, Three-year review committee for assistant professors</p> <p>Advisor to Epidemiology and Biostatistics on three-year progress of assistant professor (Sun-Min Lee)</p>
2007 – 2008	<p>Chair, Graduate Research Initiative Program</p> <p>Member, Executive Committee (elected)</p> <p>5-year review committee</p>
2006-07	<p>Chair, APT Committee, Dr. Andrews</p> <p>Chair, APT Committee, Dr. Young</p> <p>Member, APT Committee, Dr. Silk</p> <p>Chair, 5-year review committee</p> <p>Member Committee on Undergraduate Appeals</p>
2005-06	<p>Chair, Undergraduate Program Committee</p> <p>Member, Search committee for faculty position in molecular biology</p> <p>Member, Committee on Department APT guidelines</p>
2004-05	<p>Chair, APT Committee, Dr JL Contreras-Vidal</p> <p>Chair, Undergraduate Program Committee</p>
2003-04	<p>Chair, Undergraduate Program Committee</p> <p>Chair, Husman Lecture Series (speaker: Art Kramer U of Illinois)</p> <p>Member, Undergraduate Honors Program Committee</p>
2002-03	<p>Executive Committee member (elected)</p> <p>Undergraduate Committee (member)</p> <p>5-year Review Committee (Chair: Undergraduate Program in Cognitive-Motor Behavior)</p> <p>Promotion and Tenure Committee for Dr. David Andrews (member)</p> <p>Burris Husman Lecture Committee (member)</p>
2001-02	<p>Chair, Promotion and Tenure Committee for Dr. Steven McDaniel</p> <p>Chair, Graduate Committee</p> <p>Executive committee member (elected)</p> <p>Member, 3-year review evaluation for Dr. J.L.Contreras-Vidal</p>
2000-01	<p>Chair, Promotion and Tenure Committee for Dr. Ang Chen</p> <p>Chair, Graduate Committee</p> <p>Member, search committee for exercise epidemiology position</p>

Member, 3-year review evaluation for Dr. M.D. Brown  
Member, computer committee  
Director, Cognitive-motor Behavior Lab

1999-00 Three-year review for Dr. Stephen McDaniel (Chair)  
Search Committee for Sport Studies position (member)  
Computer committee (member)  
Human Subjects Committee (member)  
Graduate and Research Committee (member)

1998-99 Human Subjects  
Graduate & Research committee member  
Chair, 3-year review evaluation for Dr. Steven McDaniel  
Search committee member, sport studies position

1997 Executive Committee (Elected member)  
Merit Review Committee member  
Department Research Committee (Chair)  
Search Committee (Sport Management position) (co-chair)  
Search Committee (Department Chair position), member  
Promotion and Tenure Committee  
Graduate Committee  
Promotion Committee for Marvin Scott

1996 Executive Committee  
Merit Review Committee (Spring)  
Department Research Committee (Chair)  
Search Committee (Sport mgmt position)

1995 Executive Committee, Merit Review Committee, Department  
Research Committee (Chair), Search Committee (Sport Mgmt  
position)

1992-1993 Five-year Review Committee, member  
Chair of department Review Committee, member  
Graduate Committee, member  
Computer Committee, member

1991-1992 Elected member, Department Executive Committee  
Undergraduate Committee, member

1990-1991 Elected member, Department Executive Committee  
Chair, Department Research Committee  
Human Subjects Committee, member

- 1987-1988 Elected member, Department Executive Committee; Graduate Committee; Appointed member, Department Research Committee; Appointed member, Ad hoc Committee on Faculty Merit Pay Allocation; Member, Ad hoc Steering Committee for Department Convocation.
- 1986-1987 Member, Graduate Committee; Member, Kinesiological Sciences Program Committee; Member, Sports Medicine Committee  
Member, Search Committee for Sport Management position.
- 1985-1986 Chair, Teaching and Advising Evaluation Committee; Member, Publicity Committee; Member, Sports Medicine Committee.
- 1984-1985 Member, Graduate Committee; Member, Kinesiological Sciences Committee; Member, Sports Medicine Committee.
- 1983-1984 Member, Graduate Committee; Member, Kinesiological Sciences Committee; Member, Teaching and Advising Committee.
- 1982-1983 Member, Human Subjects Committee; Member, Teaching and Advising Evaluation Committee; Member, Ad Hoc Committee on Ph.D. Student program review; Member, Search Committee for Exercise Physiology position.

**School of Public Health:**

- 2008 - Chair, School of Public Health Executive Committee for the Assembly
- 2007-2008 Member, Search committee for Research Coordinator, School of Public Health
- 2006-07 Chair, Search Committee for Associate Dean for Research, School of Public Health
- 2005-06 Member College APT Committee
- 2004-05 College APT Committee
- 2003-04 College APT Committee
- 1997 College Planning & Advisory Committee, Chair  
Plan of Organization Committee, Chair  
Graduate Committee, Chair  
College Research Committee, Chair  
Media Committee, member

1996	College Planning and Advisory Committee, Chair Plan of Organization, Chair Graduate Committee, Chair College Research Committee, Chair
1995	College Planning and Advisory Committee College Research Committee (Chair)
1992-1993	College Research Committee (Chair)
1991-1992	College Planning and Advisory Committee, member College Research Committee, member
1990-1991	Ad hoc Publicity Committee, member
1985-1987	Elected member Educational Policies Committee
1986-1987	Member, ad hoc committee for College name change
<b><u>University:</u></b> 2009-	Member, Advisory committee to the Provost (Nariman Farvardin) on campus-wide budget reallocation
2008-2009	Member Executive Committee of campus-wide Neural and Cognitive Sciences Program
2007-2010	Member, Campus Appointments, Promotion, and Tenure committee
2005-2006	Member, University-wide APT appeals committee
2000-2002	Graduate Committee, Neural and Cognitive Sciences Program
1999	Search Committee – Neural and Cognitive Sciences Program
1991	Faculty Senator (Spring, 1991)
1991-1992	University Senate Plan of Organization Review Committee
1982-present	Member, University Speakers Bureau
1984	Faculty Advisor, University of Maryland Rugby Club

**Paid consultancies:**

2001-2003	Consultant, Junior Tennis Champions Center, College Park, MD
1991-2003	Consultant, Washington Capitals of the National Hockey League
1989-91	Consultant, Washington Wizards basketball club of the National Basketball Association

1990 Consultant, Professional Baseball - Boston Red Sox AAA franchise,  
Pawtucket, Rhode Island

**Consultancies:**

1995-Present National Strength Professionals Association, 700 Russell Avenue,  
Gaithersburg, MD. 20877 (NSPA Advisory Board)

1986-Present National Center for Health Promotion and Preventive Medicine

1988 Member, Board of Directors, Frank Costello's Elite Athlete  
Training Center, Crofton, Maryland 21114

1988-Present Mid-Atlantic Fitness Networking Association, P.O. Box 5158,  
Herndon, Virginia 22070

1986-Present National Sports Performance Association, Inc., 20550 Strath  
Haven Drive, Gaithersburg, Maryland 20879

1983-Present Athletic Training Consultants, Inc., P.O. Box 396, Bowie,  
Maryland 20715-0396

1982-85 Ohio University Intercollegiate Athletic Department (Varsity  
Football Program)

1979-84 National Rifle Association of America, Education and Training  
Division, Washington, D.C.

1984 Partners in Health

1984 Energetic Express

1983 Virginia Commonwealth University Athletic Department (Varsity  
Basketball Program)

Montgomery County Department of Adult Education