

# Eric W. Sellers, Ph.D.

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## **Educational History**

Ph.D., 2004 – Cognitive and Neural Sciences, Department of Psychology, University of South Florida. Thesis title: “A P300 based brain-computer interface: Testing an alternative method of communication.”

*Thesis advisor:* Emanuel Donchin, Ph.D.

M.A., 1999 – Cognitive and Neural Sciences, Department of Psychology, University of South Florida. Thesis title: “Attention to objects in scenes: Space-based and object-based influences during scene perception.”

*Thesis advisor:* Thomas Sanocki, Ph.D.

B.A., 1994 – Psychology, University of South Florida

## **Research Experience/Employment History**

2008 – Present – *Assistant Professor* – East Tennessee State University, Department of Psychology

2006 – 2008 – *Research Scientist* – Laboratory of Nervous System Disorders, Wadsworth Center, New York State Department of Health

2004 – 2006 – *Postdoctoral Research Fellow* – Laboratory of Nervous System Disorders, Wadsworth Center, New York State Department of Health

2001 – 2004 – *Graduate Research Assistant* – University of South Florida, Department of Psychology

1997 – 2002 – *Graduate Research Assistant* – University of South Florida, College of Nursing

1993 – 1995 – *Undergraduate Research Assistant* – University of South Florida, Department of Psychology

## **Teaching Experience**

Spring 2009 – Behavioral Neuroscience, East Tennessee State University

Fall 2008 – Cognition, East Tennessee State University

Fall 2000 – General Psychology, University of Tampa

Spring 1997; Spring 1996; Fall 1995 – Research Methods Labs, University of South Florida

Fall 1996 – Cognitive Psychology, University of South Florida

## **Student Supervision**

East Tennessee State University

2009 – Present – David Ryan; Daniel Berry, Graduate students Experimental Psychology

2009 – Present – Juliane Armstrong, Christopher Hauser, Undergraduate Honors Students

2009 – Present – James Bailey, Gerald Frye, Tiffany Lewis, Stephany Mesa, Sarah Truitt, Kayla Winnen, Undergraduate Research Assistants

2008 – Present – Nicholas Schwartz B.S. - Graduate student Experimental Psychology  
2008 – Matthew Dorton, Christopher Hauser, Gerald Frye, Research Assistants

Wadsworth Center

2007 – Daniela Klobassa – M.A. student visiting from University of Graz  
2007 – Chadwick Boulay – Ph.D. candidate University at Albany  
2006 – Nicholas Schwartz – B.S. student visiting from Johns Hopkins  
2005 – Guy Ohringer – B.S. student visiting from Oxford University

University of South Florida Honors Thesis Committees

2003 – Jennifer Kaltreider  
2002 – Nathan Gates  
2000 – Melissa F. Schulz

**Committees**

Fall 2008 – East Tennessee State University Hayward Grant Committee  
January 2000 – January 2001 – University of South Florida, Dept. of Psychology Graduate Funding Committee  
January 1999 – January 2000 – University of South Florida, College of Nursing Technology Committee  
January 1998 – January 1999 – University of South Florida, College of Nursing Research Committee

**Honors and Awards**

2009 – *Clinical Neurophysiology* Top 10 Cited Papers Award 2006 – 2008  
2008 – Saatchi & Saatchi Award for World Changing Ideas - Finalist  
2007 – Society for Neuroscience Poster selected for a SfN Press Conference (~50 of 16,000 presentations/posters selected)  
2006 – Society for Neuroscience Poster selected for the SfN Press Book (less than 4.5% of posters selected)  
2006 – Poster selected to represent the Wadsworth Center Laboratory of Nervous System Disorders at the New York State Department of Health Poster Day  
2006 – New York State Department of Health Commissioner's Recognition Award  
2005 – Brain-Computer Interface Technology Third International Meeting – Vidal Poster Prize, 1<sup>st</sup> place, \$500 prize.  
2003 – Society for Psychophysiological Research – Outstanding Student Poster Award, \$300 prize.

**Professional Affiliations**

Society for Neuroscience  
Association for Psychological Science

**Ad Hoc Journal/Conference Review**

*Applied Psychophysiology and Biofeedback*  
*Artificial Intelligence in Medicine*  
*Clinical Neurophysiology*  
*EURASIP Journal on Advances in Signal Processing*  
*Human Computer Interaction International (HCII)*  
*IEEE Transactions on Neural Systems and Rehabilitation Engineering*  
*International Conference on Field and Service Robotics (FSR)*

*International Journal of Computers and Applications*  
*Journal of Neural Engineering*  
*New England Journal of Medicine*  
*Psychophysiology*  
*Transactions on Accessible Computing*

### **Ad Hoc Grant Review**

National Institutes of Health  
National Science Foundation  
Natural Sciences and Engineering Research Council of Canada

### **Research Support**

#### Submitted

*Sponsor:* National Institute on Deafness and other Communication Disorders (NIH/NIDCD–R15)

*Title:* Paradigm and attentional manipulations to improve P300-based BCI

*PI:* E.W. Sellers

Amount requested: \$250,000

The goal is to enhance P300-based brain-computer interface performance through paradigm manipulations and meditative and mindfulness induction training.

*Sponsor:* National Institute of Neurological Disease and Stroke (NIH/NINDS–SBIR)  
NIH/NINDS

*PI:* W. Soussou

*Role:* Co-Investigator

Amount requested: \$100,000

*Title:* A Practical Dry Electrode Headset For BCI Applications

The goal is to develop a dry-electrode system and mounting device that performs better, is easier to use, and is more comfortable than traditional wet-electrodes for long-term daily BCI use.

*Role:* Co-Investigator

#### Active

*Sponsor:* National Institute on Deafness and other Communication Disorders (NIH/NIDCD–R21/R33)

*Title:* Towards clinical acceptability: Enhancing performance of the P300-based brain computer interface via improved stimulus selection and signal processing

*Duke Co-PI:* L.M Collins: *ETSU Co-PI:* E.W. Sellers

Amount funded: \$1,475,000

The goal is to investigate novel signal processing methods and novel presentation methods for a P300-based brain-computer interface in the R21 phase. In the R33 phase the goal is to test the most promising techniques with individuals severely disabled by amyotrophic lateral sclerosis (ALS).

*Sponsor:* National Institute of Biomedical Imaging and Bioengineering/ National Institute of Neurological Disorders and Stroke

*Title:* General Purpose Brain-Computer Interface (BCI) System

*PI:* J. R. Wolpaw

*Role:* Bioengineering Research Partner

The goal of this BRP is to continue development and comprehensive evaluation of a general-purpose BCI.

*Role:* Co-Investigator

Amount funded: \$31,000

*Sponsor:* National Institute on Deafness and other Communication Disorders (NIH/NIDCD–R21)

*Title:* Utility of the P300 Brain-Computer Interface for Patients in Acute Care Settings

*PI:* L.R. Hochberg

*Role:* Co-Investigator

Amount funded: \$275,000

The goal is to examine if BCI is a practical communication option for patients who are in acute care settings and have no means of verbal communication.

#### Completed

*Sponsor:* National Institute of Neurological Disorders and Stroke (NIH/NINDS–Fast track SBIR I &II)

*Title:* Next Generation Dry Electrode Headset for BCI

*ETSU Co- PI:* E.W. Sellers: *Quasar Co-PI* P. Turner:

Amount requested: \$850,000 – Scored unfunded

The goal is to compare a novel “dry” EEG sensor technology to standard “wet” electrodes in a brain-computer interface paradigm.

*Sponsor:* National Institute of Neurological Disorders and Stroke (NIH/NINDS–STTR)

*Title:* Hybrid EEG Sensor Array for Brain-Computer Interfaces

*PI:* E.W. Sellers

Amount funded: \$163,705

The goal is to compare a novel “dry” EEG sensor technology to standard “wet” electrodes in a brain-computer interface paradigm.

*Sponsor:* Helen Hayes Hospital

*Title:* Home Use of a Brain-Computer Interface

*PI:* T.M. Vaughan

*Role:* Co-Investigator

Amount funded: \$199,469

The goal of this project is to provide severely disabled individuals with BCI system to be used in their home environment.

*Sponsor:* James S. McDonnell Foundation

*Title:* A Non-Invasive Brain-Computer Interface for Prosthesis Control

*PI:* J.R. Wolpaw

*Role:* Research Scientist

The goal is to show that a non-invasive brain-computer interface can control 3-D movements of a robotic arm.

*Sponsor:* National Institute of Biomedical Imaging and BioEngineering (NIBIB–R01)

*Title:* General Purpose Brain-Computer Interface System

*PI:* J.R. Wolpaw

*Role:* Research Scientist

The goal of this Bioengineering Research Partnership is to develop a general-purpose BCI system and establish its clinical value.

### Peer-Reviewed Journal Articles

- Sellers E.W.**, Vaughan, T.M., Wolpaw, J.R. (submitted). A brain-computer interface for long-term independent home use. *Amyotrophic Lateral Sclerosis*.
- Townsend, G., LaPallo, B.K., Boulay, C., Krusienski, D.J., Frye, G.E., Hauser, C.K., Schwartz, N.E., Vaughan, T.M., Wolpaw, J.R., **Sellers, E.W.** (submitted). A novel P300-based brain-computer interface stimulus presentation paradigm: moving beyond rows and columns. *Clinical Neurophysiology*.
- Krusienski, D.J., Townsend, G., **Sellers, E.W.** (2009). Amplitude Quantization of Event Related Potentials. *Proceedings of the 4th International IEEE EMBS Conference on Neural Engineering*, 605-608.
- Sellers, E.W.**, Turner, P., Sarnacki, W.A., McManus, T., Vaughan, T.M., Matthews, R. (2009). A novel dry electrode for brain-computer interface. *Proceedings of HCI International 2009*, 623-631.
- Guger, C., Daban, S., **Sellers, E.**, Holzner, C., Krausz, G., Carabalona, R., Gramatica, F, Gunter Edlinger (2009). How many people are able to control a P300-based brain-computer interface (BCI)? *Neuroscience Letters*, 462, 94-98.
- Klobassa, D.S., Vaughan, T.M., Brunner, P., Schwartz, N.E., Wolpaw, J.R., Neuper, C., **Sellers E.W.** (2009). Toward a high-throughput auditory P300-based brain-computer interface. *Clinical Neurophysiology*, 120, 1252-1261.
- Nijboer, F., **Sellers, E.W.**, Mellinger, J., Jordan, M.A., Matuz, T., Furdea, A., Mochty, U., Krusienski, D.J., Vaughan, T.M., Wolpaw, J.R., Birbaumer, N., & Kübler, A. (2008). A brain-computer interface for people with amyotrophic lateral sclerosis. *Clinical Neurophysiology*, 119 (8), 1909-1916. PMID: 18571984.
- Krusienski, D.J., **Sellers, E.W.**, McFarland, D.J., Vaughan, T.M., & Wolpaw, J.R. (2008). Toward Enhanced P300 Speller Performance. *Journal of Neuroscience Methods*, 167, 15-21. PMID: 17822777.
- Krusienski, D.J., **Sellers, E.W.**, & Vaughan, T.M. (2007). Common Spatio-Temporal Patterns for the P300 Speller. *Proceedings of the 3rd International IEEE EMBS Conference on Neural Engineering*, 421-424.
- Krusienski, D.J., **Sellers, E.W.**, Cabestaing, F., Bayouth, S., McFarland, D.J., Vaughan, T.M., & Wolpaw, J.R. (2006). A Comparison of Classification Techniques for the P300 Speller. *The Journal of Neural Engineering*, 3, 299-305.
- Sellers, E.W.**, Krusienski, D.J., McFarland, D.J., Vaughan, T.M., & Wolpaw, J.R. (2006). A P300 Event-Related Potential Brain-Computer Interface (BCI): The Effects of Matrix Size and Inter Stimulus Interval on Performance. *Biological Psychology*, 73, 242-252.
- Sanocki, T., Michelet, K., **Sellers, E.**, & Reynolds, J. (2006). Representations of scene layout can consist of independent, functional pieces. *Perception & Psychophysics*, 68(3), 415-427.
- Sellers, E.W.**, Kübler, A., & Donchin, E. (2006). Brain-computer interface research at the University of South Florida cognitive psychophysiology laboratory: The P300 speller. *IEEE Transactions on Neural System and Rehabilitation Engineering*, 14 (2), 221-224.

- Vaughan, T.M., McFarland, D.J., Schalk, G., Sarnacki, W.A., Krusienski, D.J., **Sellers, E.W.**, & Wolpaw, J.R. (2006). The Wadsworth BCI research and development program: At home with BCI. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 14 (2), 229-234.
- Sellers, E.W.**, & Donchin, E. (2006). A P300-based brain-computer interface: Initial tests by ALS patients. *Clinical Neurophysiology*, 117 (3), 538-548.
- Gonzalez, L. O., & **Sellers, E.** (2002). The effects of a stress-management program on self-concept, locus of control, and the acquisition of coping skills in school-aged children diagnosed with attention deficit hyperactivity disorder. *Journal of Child and Adolescent Psychiatric Nursing*, 15 (1), 5-15.
- Sanocki, T., & **Sellers, E.** (2001). Shifting resources to recognize a forming object: Dependencies involving object properties. *Visual Cognition*, 8 (2), 197-235.
- Berarducci, A., Burns, P.A., Lengacher, C.A., & **Sellers, E.** (2000). Osteoporosis-related health promoting educational practices of primary care providers. *Advanced Nurse Practitioner*, 13(4), 173-180.

### Book Chapters

- Sellers, E.W.**, McFarland, D.J., Vaughan, T.M., & Wolpaw, J.R. (in press). The Wadsworth Noninvasive brain-computer interface research program. In B. Graimann, B. Allison, G. Pfurtscheller, (Eds.), *Brain-Computer Interfaces: Non-Invasive and Invasive Techniques*. Springer.
- Sellers, E.W.**, Krusienski, D.J., McFarland, D.J., & Wolpaw, J.R. (2007). Non-Invasive Brain-Computer Interface Research at the Wadsworth Center. In G. Dornhege, J. Millan, T. Hinterberger, D. McFarland, K. Müller (Eds.), *Toward Brain-Computer Interfacing*, (pp. 31-42). Cambridge, MA: The MIT Press.
- Lengacher, C.A., & **Sellers, E.** (2002). The Women's Role Strain Inventory. In O. Strickland, and C. Dilorio (Eds.), *Measurement of Nursing Outcomes 2<sup>nd</sup> Edition, Volume 3: Self Care and Coping* (pp. 109-127). New York: Springer.

### Invited Lectures

- September 2009 – The P300 Brain-Computer Interface: Moving from Bench to Bedside. Psychiatry Grand Rounds, East Tennessee State University, Johnson City, TN.
- May 2009 – Moving the Brain-Computer Interface from the Laboratory to the Home. Center for Neural Communication Technology, University of Michigan, Ann Arbor, MI.
- January 2009 – A Novel Communication Method: The P300 Brain-Computer Interface. Department of Physics and Astronomy, East Tennessee State University, Spring 2009 Seminar Series, Johnson City, TN.
- September 2008 – The P300 Brain-Computer Interface: A Novel Communication Method. Psychology Speaker Series, East Tennessee State University, Johnson City, TN.
- March 2008 – Brain Computer Interface using the P300 Event Related Potential: Moving out of the Laboratory and into the Home. Clinical Neuroscience Grand Rounds, Duke University, Durham, NC.
- January 2008 – Brain Computer Interface using the P300 Event Related Potential: Moving out of the Laboratory and into the Home. Psychology Department Colloquium, East Tennessee State University, Johnson City, TN.
- January 2008 – Brain Computer Interface using the P300 Event Related Potential: Moving out of the Laboratory and into the Home. Psychology Department Colloquium, Clarkson University, Potsdam, NY.
- July 2007 – A P300-based Speller using BCI2000. The 2<sup>nd</sup> BCI2000 Workshop: Beijing, China.

- July 2007 – Brain-Computer Interface via the P300 Event-Related Potential. International Workshop on Brain-Computer Interface Technology – HCI2007 12<sup>th</sup> International Conference on Human-Computer Interaction: Beijing, China.
- June 2006 – Brain-Computer Interface: Current and Potential Applications. Interagency Committee on Disability Research, Interagency Subcommittee on Technology Workshop: Washington, DC.
- January 2006 – Brain-Computer Interface Using the P300 Event-Related Potential: The Past, Present, and Future. University of Tübingen, Institute of Medical Psychology and Behavioural Neurobiology: Tübingen, Germany
- June 2005 – BCI2000 and the P300 Event-Related Potential. The 1<sup>st</sup> BCI2000 Workshop: Albany, NY.
- February 2005 – Brain-computer interface using the P300 event-related potential. Rensselaer Polytechnic Institute, Department of Mathematical Sciences: Troy, NY.
- December 2004 – The P300 event-related potential: A brain-computer interface application. New York State Department of Health, Neuroscience Lecture Series: Albany, NY.
- March 2003 – An introduction to brain-computer interface devices. University of South Florida, Department of Psychology: Tampa, FL.
- May 2002 – The P300 ERP as a typing tool. University of Tampa, Department of Psychology: Tampa, FL.
- August 2000 – Inattentional blindness and change blindness: Why do we miss the change? University of South Florida, Department of Psychology: Tampa, FL.
- February 1999 – Operationalization and measurement. University of South Florida, College of Nursing: Tampa, FL.
- October 1998 – An introduction to correlation and regression. University of South Florida, College of Nursing: Tampa, FL.
- June 1996 – How to teach t-tests in undergraduate research methods. University of South Florida, Department of Psychology Graduate Training Program: Tampa, FL.

### Published Abstracts

- Sellers, E.W.**, Townsend, G., Boulay, C., LaPallo, B.K., Vaughan, T.M., Wolpaw, J.R. (2008). The P300 brain-computer interface: A new stimulus presentation paradigm. 778.21. 2008 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience. Online.
- Cormier, J., Cash, S.S., **Sellers, E.W.**, Jennings, T., Townsend, L.M., DiPietro, A., Vaughan, T.M., Wolpaw, J.R., Hochberg, L.R. (2008) Feasibility of a P300-based brain-computer interface in an acute care setting. 778.11. 2008 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience. Online.
- Sellers, E.W.**, Vaughan, T.M., McFarland, D.J., Carmack, C.S., Schalk, G., Cardillo, R.A., Mackler, S.A., Braun, E.M., Halder, S., Lee, S.S., Fudrea, A., Kübler, A., Wolpaw, J.R. (2007). Brain-Computer Interface for people with ALS: long-term daily use in the home environment. Program No. 414.5. 2007 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience. Online.
- Vaughan, T.M., **Sellers, E.W.**, McFarland, D.J., Carmack, C.S., Brunner, P., Fudrea, A., Braun, E.M., Lee, S.S., Kübler, A., Mackle, S.A., Krusienski, D.J., Miller, R.N., Wolpaw, J.R. (2007). Daily use of an EEG-based brain-computer interface by people with ALS: technical requirements and caretaker training. Program No. 414.6. 2007 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience. Online.
- Klobassa, D.S., Vaughan, T.M., Brunner, P., Wolpaw, J.R., Neuper, C., **Sellers, E.W.** (2007). A high-throughput auditory P300-based brain-computer interface (BCI). Program No. 414.7. 2007 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience. Online.

- Sellers, E.W.**, Vaughan, T.M., McFarland, D.J., Krusienski, D.J., Mackler, S.A., Cardillo, R.A., Schalk, G., Binder-Macleod, S.A., Wolpaw, J.R. (2006). Daily use of a brain-computer interface by a man with ALS. Program No. 256.1. 2006 Abstract Viewer/Itinerary Planner. A, DC: Society for Neuroscience. Online.
- Vaughan, T.M., Krusienski, D.J., **Sellers, E.W.**, McFarland, D.J., Wolpaw, J.R. (2006). Assessing the spatio-temporal relationships elicited by the P300 speller matrix for a brain-computer interface. Program No. 256.4. 2006 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience. Online.
- Nijboer, F., **Sellers, E.W.**, Matuz, T., Mellinger, J., Jordan, M., Mochty, U., Furdea, A., Kaiser, J., Wolpaw, J.R., Birbaumer, N., Kübler, A. (2006). Communication for people with amyotrophic lateral sclerosis (ALS): A P300 brain-computer interface (BCI). Program No. 256.2. 2006 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience. Online.
- Sellers, E.W.**, Krusienski, D.J., McFarland, D.J., & Wolpaw, J.R. (2005). P300-based brain-computer interface (BCI) performance: effects of matrix size and presentation rate. Program No. 520.11. 2005 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience. Online.
- Sellers, E.W.**, Donchin E., Nijboer, F., Kübler, A., & Wolpaw, J.R. (2005). Brain Computer Interface (BCI) using the P300 Event-Related Potential. *Psychophysiology*, 42 (S1), S29.
- Sellers, E.**, Schalk, G., & Donchin, E. (2004). A P300 based brain-computer interface (BCI): Moving toward a communication system for the locked-in. *Psychophysiology*, 41 (S1), S76.
- Sanocki, T., Michelet, K., & **Sellers, E.** (2003). How are elements of a scenic layout bound together? *Journal of Vision*, 3(9), 642a.
- Sellers, E.**, Schalk, G., & Donchin, E. (2003). The P300 as a typing tool: Tests of brain computer interface with an ALS patient. *Psychophysiology*, 40 (S1), S77.
- Sanocki, T., Swartz, K., & **Sellers, E.** (2002). Priming layout of mixed scenes: Evidence of non-semantic, locally organized layout representations? *Journal of Vision*, 2(7), 496a.
- Sanocki, T., **Sellers, E.**, & Mittelstadt, J. (2001). High-capacity visual short term memory for layout. *Journal of Vision*, 1(3), 124a.
- Sellers, E.** & Sanocki, T. (1999). Localizing objects within scenes: Testing predictions of space-based and object-based models of attentional selection. *Investigative Ophthalmology & Visual Science*, 40, S414.
- Sanocki, T. & **Sellers, E.** (1998). Shifting resources to recognize a forming object: Dependencies involving object properties. *Investigative Ophthalmology & Visual Science*, 39, S859.

### Conference Presentations/Posters

- Sellers, E.W.**, Townsend, G., Boulay, C., LaPallo, B.K., Vaughan, T.M., Wolpaw, J.R. (2008, November). The P300 brain-computer interface: A new stimulus presentation paradigm. Program No. 778.21. Poster presented at the Society for Neuroscience annual meeting, Washington, DC.
- Cormier, J., Cash, S.S., **Sellers, E.W.**, Jennings, T., Townsend, L.M., DiPietro, A., Vaughan, T.M., Wolpaw, J.R., Hochberg, L.R. (2008, November) Feasibility of a P300-based brain-computer interface in an acute care setting. 778.11. Poster presented at the Society for Neuroscience annual meeting, Washington, DC.
- LaPallo, B.K., **Sellers, E.W.**, Townsend, G., Boulay, C. Vaughan, T.M., Wolpaw, J.R. (2008, October). Novel Stimulus Presentation Pattern in a P300-Based Brain-Computer Interface. Poster presented at the Flexible Electronics for Biological and Life Science Applications (FlexEBio) IGERT External Advisory Board Meeting, Ithaca, NY.
- Sellers, E.W.**, Vaughan, T.M., McFarland, D.J., Carmack, C.S., Schalk, G., Cardillo, R.A., Mackler, S.A., Braun, E.M., Halder, S., Lee, S.S., Fudrea, A., Kübler, A., Wolpaw, J.R. (2007, November). Brain-Computer Interface for people with ALS: long-term daily use in the home

- environment. Program No. 414.5. Poster presented at the Society for Neuroscience annual meeting, San Diego, CA.
- Vaughan, T.M., **Sellers, E.W.**, McFarland, D.J., Carmack, C.S., Brunne, P., Fudrea, A., Braun, E.M., Lee, S.S., Kübler, A., Mackler, S.A., Krusienski, D.J., Miller, R.N., Wolpaw, J.R. (2007, November). Daily use of an EEG-based brain-computer interface by people with ALS: technical requirements and caretaker training. Program No. 414.6. Poster presented at the Society for Neuroscience annual meeting, San Diego, CA.
- Klobassa, D.S., Vaughan, T.M., Brunner, P., Wolpaw, J.R., Neuper, C., **Sellers, E.W.** (2007, November). A high-throughput auditory P300-based brain-computer interface (BCI). Program No. 414.7. Poster presented at the Society for Neuroscience annual meeting, San Diego, CA.
- Boulay, D., Townsend, G., Wolpaw, J.R., **Sellers, E.W.** (2007, October). Comparison of two different presentation methods for a P300-based brain-computer interface. Poster presented at the University at Albany, Department of Biomedical Sciences Annual Retreat, Rensselaerville, NY.
- Sellers, E.W.**, Vaughan, T.M., McFarland, D.J., Krusienski, D.J., Mackler, S.A., Cardillo, R.A., Schalk, G., Binder-Macleod, S.A., Wolpaw, J.R. (2006, October). Daily use of a brain-computer interface by a man with ALS. Program No. 256.1. Poster presented at the Society for Neuroscience annual meeting, Atlanta, GA.
- Vaughan, T.M., Krusienski, D.J., **Sellers, E.W.**, McFarland, D.J., Wolpaw, J.R. (2006, October). Assessing the spatio-temporal relationships elicited by the P300 speller matrix for a brain-computer interface. Program No. 256.4. Poster presented at the Society for Neuroscience annual meeting, Atlanta, GA.
- Nijboer, F., **Sellers, E.W.**, Matuz, T., Mellinger, J., Jordan, M., Mochty, U., Furdea, A., Kaiser, J., Wolpaw, J.R., Birbaumer, N., Kübler, A. (2006, October). Communication for people with amyotrophic lateral sclerosis (ALS): A P300 brain-computer interface (BCI). Program No. 256.2. Poster presented at the Society for Neuroscience annual meeting, Atlanta, GA.
- Sellers, E.W.**, Krusienski, D.J., McFarland, D.J., & Wolpaw, J.R. (2005, November). P300-based brain-computer interface (BCI) performance: effects of matrix size and presentation rate. Program No. 520.11. Poster presented at the Society for Neuroscience annual meeting, Washington, DC.
- Sellers, E.W.**, Donchin E., Nijboer, F., Kübler, A., & Wolpaw, J.R. (2005, September). Brain Computer Interface (BCI) using the P300 Event-Related Potential. Lecture presented at the 45<sup>th</sup> annual meeting of the Society for Psychophysiological Research, Lisbon, Portugal.
- Nijboer, F., Mochty, U., Mellinger, J. Matuz, T., Jordan, M., **Sellers, E.**, Vaughan, T.M., McFarland, D.J., Schalk, G., Wolpaw, J.R., Birbaumer, N., & Kubler, A. (2005, June). Comparing Sensorimotor Rhythms, Slow Cortical Potentials, and P300 for Brain-Computer Interface (BCI) use by ALS Patients – A Within Subjects Design. Poster presented at the Brain-Computer Interface Technology Third International Meeting, Rensselaerville, New York.
- Krusienski, D., **Sellers, E.**, Vaughan, T.M., McFarland, D.J., & Wolpaw, J.R. (2005, June). P300 Matrix Speller Classification via Step-Wise Linear Discriminant Analysis. Poster presented at the Brain-Computer Interface Technology Third International Meeting, Rensselaerville, New York.
- Sellers, E.**, & Donchin, M. (2005, June). Brain-Computer Interface (BCI) Research at the University of South Florida Cognitive Psychophysiology Lab: The P300 Event-Related Potential. Lecture presented at the Brain-Computer Interface Technology Third International Meeting, Rensselaerville, New York.
- Kübler, A., Nijboer, F., Mellinger, J., Matuz, T., Kleber, B., Eitel-Braitsch, Y. **Sellers, E.**, Vaughan, T., Wolpaw, J., & Birbaumer, N. (2005, June). “Brain-computer interfaces” – communication with the P300. Lecture presented at the annual meeting of the Arbeitstagung Psychophysiologische Methoden, Bochum, Germany.

- Sellers, E.**, Schalk, G., & Donchin, E. (2004, October). A P300 based brain-computer interface (BCI): Moving toward a communication system for the locked-in. Poster presented at the 44<sup>th</sup> annual meeting of the Society for Psychophysiological Research, San Diego, CA.
- Sellers, E.**, Schalk, G., & Donchin, E. (2004, January). The P300 as a typing tool: Tests of brain computer interface with an ALS patient. Poster presented at the DARPA Augmented Cognition Conference: Improving Warfighter Information Intake Under Stress, Orlando, FL.
- Vaughan, T.M., McFarland, D.J., Schalk, G., **Sellers, E.**, Goncharova, I., & Wolpaw, J.R. (2003, November). Multichannel data from an EEG-based BCI speller using an oddball paradigm. Poster presented at the annual meeting of the Society for Neuroscience, New Orleans, LA.
- Sellers, E.**, Schalk, G., & Donchin, E. (2003, October). The P300 as a typing tool: Tests of brain computer interface with an ALS patient. Poster presented at the 43<sup>rd</sup> annual meeting of the Society for Psychophysiological Research, Chicago, IL.
- Sanocki, T., Michelet, K., & **Sellers E.** (2003, May). How are elements of a scenic layout bound together? Poster presented at the Vision Sciences Society Annual Meeting, Sarasota, FL.
- Sanocki, T., Michelet, K., & **Sellers, E.** (2002, November). Priming layout of mixed scenes: Evidence of piecemeal (only?) layout representation. Lecture presented at the Annual Meeting of the Psychonomic Society, Kansas City, MO.
- Jevitt, C. M., Beckstead, J.W., & **Sellers, E.W.** (2002, May). Education, retirement and employment of Florida certified nurse-midwives: A 2001 survey. Lecture presented at the American College of Nurse-Midwives 47<sup>th</sup> Annual Meeting, Atlanta, GA.
- Sanocki, T., Swartz, K., & **Sellers, E.** (2002, May). Priming layout of mixed scenes: Evidence of non-semantic, locally organized layout representations? Poster presented at the Vision Sciences Society Annual Meeting, Sarasota, FL.
- Schulz, M.F., Peterson, M.A., Sanocki, T., & **Sellers, E.W.** (2001, November). Time course of perceptual grouping: A priming study. Lecture presented at the 9th Annual Workshop on Object Perception and Memory, Orlando, FL.
- Sanocki, T., **Sellers, E.**, & Mittelstadt, J. (2001, May). High-capacity visual short term memory for layout. Lecture presented at the Vision Sciences Society Annual Meeting, Sarasota, FL.
- Sellers, E.** & Sanocki, T. (1999, November). Localizing objects within scenes: Object properties influence the mode of attentional selection. Poster presented at the Annual meeting of Object Perception and Memory (OPAM), Los Angeles, CA.
- Berarducci, A., Burns, P.A., Lengacher, C.A., & **Sellers, E.** (1999, November). Osteoporosis-related health promoting educational practices of primary care providers. Poster presented at the Biennial meeting of Sigma Theta Tau International Honor Society, San Deigo, CA.
- Sellers, E.** & Sanocki, T. (1999, May). Localizing objects within scenes: Testing predictions of space-based and object-based models of attentional selection. Poster presented at the annual meeting of the Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL.
- Berarducci, A., Burns, P.A., Lengacher, C.A., & **Sellers, E.** (1999, May). Osteoporosis-related health promoting educational practices of primary care providers. Poster presented at the annual National Conference for Nurse Practitioners, Washington, D.C.
- Sanocki, T. & **Sellers, E.** (1998, May). Shifting resources to recognize a forming object: Dependencies involving object properties. Lecture presented at the annual meeting of the Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL.
- Sanocki, T. & **Sellers, E.** (1996, November). Shifting attention to recognize an object: Dependencies involving initial stimulus information. Lecture presented at the Annual Meeting of the Psychonomic Society, Chicago, IL.
- Schneider, S.L., Wright, R.C., Caffray, C.M., **Sellers, E.W.**, & Styers, R.D. (1995, June). Mapping cognitive representations of emotions: Asymmetries in relatedness ratings are rare. Lecture presented at the Seventh American Psychological Society Annual Convention, New York, NY.

**Sellers, E.** & Sanocki, T. (1995, March). Shifting resources to recognize an object. Poster presented at the 9th Annual Florida Conference on Cognition, Perception, Sensation, Language, and Action, Orlando, FL.