

VITA

Name: **Walter Schneider**
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Educational History: B.A., Psychology (with honors), University of Illinois, 1971
Ph.D., Psychology, Indiana University, 1975
Post-Doc., Neurophysiology, University of California, Berkeley, CA, 1975-77

Title of Thesis: Selective attention, memory scanning, and visual search:
Three components of one process. Supervisor: Richard M. Shiffrin

Professional History:

1971-1975	Research Assistant, Indiana University
1975-1977	Miller Research Fellow, Miller Institute for Basic Research in Science, University of California, Berkeley
1977-1983	Assistant Professor, University of Illinois
1983-1985	Associate Professor, University of Illinois
1985-1988	Associate Professor, Department of Psychology & Senior Scientist, Learning Research and Development Center, University of Pittsburgh
1988-	Professor, Department of Psychology, University of Pittsburgh
1995-2004	Co-Director, Education Program, Center for the Neural Basis of Cognition (CNBC)
2002-2004	Program Chair, Cognitive Program, University of Pittsburgh
2005-present	Professor of Psychiatry, secondary appointment
2011-present	Professor of Neurosurgery & Radiology secondary appointment

Honors:

Phi Beta Kappa
Two Psychological Review papers have been awarded the status of "Science Citation Classics" (Schneider & Shiffrin, 1977; Shiffrin & Schneider, 1977)
President of Society for Computers in Psychology, 1986
Member of National Academy of Science Study Panel, 1985-1988
EDUCOM/NCRIPAL Higher Education Software Award winner of Best Social and Behavioral Sciences award for Micro Experimental Laboratory programming system, 1988
American Association for the Advancement of Science Fellow, 1995
Fellow of the American Psychological Society, 1997
Top download paper in Cognitive Science (Schneider & Chein, 2003)
Editors' Choice award Methods and Modeling for 2010 from NeuroImage (Cole, Pathak, & Schneider 2009)

Fellowships and Scholarships:

Beckman Fellow, Center for Advanced Study, University of Illinois, 1981-1982
Miller Research Fellow, Miller Institute for Basic Research in Science, 1975-1977
Mathematical Psychology NIMH Training Fellowship, Indiana University, Years
Illinois State Scholar, 1968-1971

Publications:

- Schneider, W. & Scholz, K. W. (1973). Requirements for minicomputer operating systems for human experimentation and an implementation on a 4KPDP-8 computer. *Behavioral Research Methods and Instrumentation*, 5, 173-177.
- Shiffrin, R. M. & Schneider, W. (1974). An expectancy model for memory search. *Memory and Cognition*, 2(4), 616-628.
- Schneider, W. & Shiffrin, R. M. (1977). Automatic and controlled information processing in vision. In D. LaBerge & S. J. Samuels (Eds.), *Basic processes in reading: Perception and comprehension* (pp. 127-154). Hillsdale, NJ: Erlbaum.
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- Shiffrin, R. M. & Schneider, W. (1977). Toward a unitary model for selective attention, memory scanning, and visual search. In S. Dornic & P. M. A. Rabbitt (Eds.), *Attention and performance VI* (pp. 413-439). New York: Academic Press.
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Special Report HDFT University of Pittsburgh Neurosurgery News Winter 2012

Juan C. Fernandez-Miranda, Sudhir Pathak, Walter Schneider High-Definition Fiber Tractography: Unraveling the connections of the human brain University of Pittsburgh Neurosurgery News Winter 2012

- Samuel Shin; David Okonkwo; Walter Schneider, PhD; Timothy Verstynen Using high resolution white matter mapping to detect traumatic brain injury University of Pittsburgh Neurosurgery News Winter 2012
- Johnathan Engh, Sudhir Pathak, Juan C. Fernandez-Miranda, HDFT, endoscopic port surgery synergistic in management of deep brain tumors University of Pittsburgh Neurosurgery News Winter 2012
- Arlan Mintz; Johnathan Engh; Sudhir Pathak Intra-operative use of HDFT with image-guidance valuable in awake craniotomy for tumor resection University of Pittsburgh Neurosurgery News Winter 2012 (use method from lab)
- Robert M. Friedlander, MD; Juan C. Fernandez- Miranda, MD; Amir Faraji HDFT provides key edge in presurgical planning of brainstem cavernomas University of Pittsburgh Neurosurgery News Winter 2012 (use method from lab)

Conference Presentations Since 2000

- Schneider, W. and Zuccolotto, A. (2000, March). E-Prime: Hands-on tutorial for implementing your research designs. Computers in Psychology Conference (CIP), University of York, York, UK.
- Schneider, W. and Fissell, K. (2000, March). Computerized methods for human brain mapping with fMRI. Computers in Psychology Conference (CIP), University of York, York, UK.
- Schneider, W. (2000, March). Workshop: E-Prime. Computers in Psychology Conference (CIP), University of York, York, UK.
- Vaughn, G., and Schneider, W. (2000, April). Event related functional MRI of the components of visual search. Cognitive Neuroscience Society, San Francisco, CA.
- Schneider, W. (2000, May). Functional imaging of the modules of human learning. Fourth International Conference on Cognitive and Neural Systems, Boston University, Boston, MA.
- Chein, J. and Schneider, W. (2000, June). An fMRI investigation of a common learning network: A test with verbal and nonverbal paired associates (poster #6851). Human Brain Mapping Conference. San Antonio, TX.
- McCandliss, B.D., Bolger, D.J., and Schneider, W. (2000, November). Habituating visual features versus cognitive codes: An event-related fMRI study of abstract word representations in extrastriate cortex. (Abstract #464.5). Society for Neuroscience 30th Annual Meeting. New Orleans, LA.
- Chein, J. and Schneider, W. (2001, March). Corresponding learning-related changes in brain activity associated with verbal and nonverbal versions of a paired-associate task (abstract #120B). Cognitive Neuroscience Society Meeting, New York, NY.
- Wheeler, L., Chein, J., & Schneider, W. (2001, March). Functional magnetic resonance imaging of the role of feedback in learning (abstract #6C). Cognitive Neuroscience Society Meeting, New York, NY.
- Schneider, W., Zuccolotto, A., & Cernicky, B. (2001, Nov.). Using package files to extend and upgrade experiment generators such as E-Prime. Presented at the 13th Annual Meeting of the Society for Computers in Psychology, New Orleans, LA.

- Wheeler, L., Chein, J., & Schneider, W. (2001, March). Functional magnetic resonance imaging of the role of feedback in learning (abstract #6C). Cognitive Neuroscience Society Meeting, New York, NY.
- Schneider, W., Zuccolotto, A., & Cernicky, B. (2001, November). Using package files to extend and upgrade experiment generators such as E-Prime. Presented at the 13th Annual Meeting of the Society for Computers in Psychology, New Orleans, LA.
- Schneider, W. (2001, 2002 March). Integrated functional brain imaging workshop. (This involved about 10 hours of lectures and creation of a CD for distribution. The conference involved about 50 participants around the world.) University of Pittsburgh, Pittsburgh, PA.
- Wheeler, E.Z., Chein, J.M., & Schneider, W. (2001 November). Feedback integration in learning: An event-related neuroimaging study. Society for Neuroscience, Los Angeles, CA.
- Wheeler, E.Z., Aizenstein, H., Schneider, W., Carter, C., & McClelland, J. (2002 April). Auditory sentence context modulates visual cortex activity during word recognition: An fMRI study. Cognitive Neuroscience Society, San Francisco, CA.
- Schneider, W. & Chein, J. (2002, November). Automaticity and Domain-General Learning in Cortical Networks. Presented at the 43rd Annual Meeting of the Psychonomic Society, Kansas City, MO.
- Drobyshevsky, A., Baumann, S., Ruth, R., Chein, J., & Schneider, W. (2002, June). Normative data from an FMRI cognitive task battery. Published in special issue of Neuroimage (Neuro Image for the 8th Annual Human Brain Mapping Conference, Sendai, Japan).
- Chein, J. & Schneider, W. (2003, April). An fMRI investigation of the role of domain-general cognitive resources in the transition from controlled to automatic processing. Cognitive Neuroscience Society, New York, NY.
- Goldberg, R. F., Perfetti, C. A., & Schneider, W. (2003, April). What's 'Alive' in Semantic Knowledge? Poster presented at the Cognitive Neuroscience Society, New York, NY.
- Schneider, W., Chein, J., McHugo, M. (2003 November) CAP: A model of automatic/controlled processing in the brain. Presented at the 44th Annual Meeting of the Psychonomics Society, Vancouver, BC, Canada
- Goldberg, R. F., Perfetti, C. A., & Schneider, W. (2004, April). Are abstract properties represented by the left inferior prefrontal cortex? Poster presented at the Cognitive Neuroscience Society, San Francisco, CA.
- Hill, N. M. & Schneider, W. (2004, April). Learning to dual-task: An fMRI study of practice related changes in neural activity. Poster presented at the Cognitive Neuroscience Society, San Francisco, CA.
- Goldberg, R.F. & Schneider, W. (2004 October). Controlled processing of semantic representations: Modality-specific and domain-general contributions. Poster presented at the Society for Neuroscience meeting, San Diego, CA.
- Goldberg, R.F., Perfetti, C.A., Fiez, J.A., & Schneider, W. (2004, April). The role of left inferior prefrontal cortex in semantic processing: Are abstract properties represented? Poster presented at the Cognitive Neuroscience Society, San Francisco, CA.
- Schneider, W., Hill, N., Chein, J., McHugo, M., Cole, M. (2004, Minneapolis, MN) Differentiating the control network of the human brain: Modules supporting attention, decision making, learning, and skilled performance. Psychonomics
- Schneider, W., Boldger, DJ, Eschman, & Zuccolotto, A. (2004, November) ExpSpreadSheet – An Easy-to-Learn Method for Creating Complete Computerized Experiments Society for Computers in Psychology Minneapolis, MN
- St. James, J, Eschman, A, Zuccolotto, A., Schneider, W., (2004, November) PsychMate: Providing Psychology Majors the Tools to do Real Experiments and Learn Empirical Methods. Society for Computers in Psychology Minneapolis, MN
- Cole M.W., Schneider W. (2005, November). Less Working Memory, More Control: Greater BOLD Response to Overcoming Prepotency in Prefrontal and Parietal Cortices. Talk presented at Society for Neuroscience, Washington, D.C.

- Hill, N.M., & Schneider, W. (2005, June). Changes in neural activation related to dual-task practice: Evidence for a domain general learning network. Poster presented the annual meeting for Organization for Human Brain Mapping, Toronto, Canada.
- Schneider, W, Hill, N, & Cole, M., (2005, Toronto, Canada) Native and supported mode processing in attentional control network. Psychonomics
- Schneider, W. (2005, Toronto, Canada) Three common misconceptions causing bad timing for most experimenters and how to correct for them. Society for Computers in Psychology
- 2005 Grant related presentations
- ONR MURI Review (May, 2005, Pittsburgh) Mapping the automatic parallel computation with domain general control
 - ONR/DARPA Review (September 2005 DC) Biologically Informed Training
 - DARPA Project kickoff meeting (November 2005, San Diego). Mapping Brain Architectures and Processes Supporting Experience Based Cognition
- Cole, M. W. & Schneider, W. (2006, March) Response conflict, stimulus-response processing, and task switching involve different components of a fronto-parietal network Cognitive Neuroscience Society
- Schneider, W. Formisano, E., Goebel, R., Goldberg, R., Haxby, J., Hasson, U. Mitchell, T. Nichols, T., Siegle, G. (2006, June) Workshop - Competition: Inferring Experience Based Cognition from fMRI. Workshop for Organization for Human Brain Imaging Florence, Italy
- Wheeler, M. Robert Goldberg, & Walter Schneider, The Representation Of Semantic and Experiential Knowledge In Multiple Cortical Areas And Medial Temporal Lobes (Psychonomics November 2007, Huston TX).
- Cole, M. W, & Schneider W. Dissociation of anterior cingulate, dorsolateral prefrontal, and premotor cortex during a visual search task reveals specialized roles within a commonly activated fronto-parietal network. (OHBM June 2006 Florence, Italy)
- Schneider, W. The Cognitive Neuroscience of Controlled & Automatic Processing (ONR Contractors Washington DC 2006 May).
- Schneider, W. Mapping Brain Architectures and Processes Supporting Experience Based Cognition. DARPA Contractors meeting (August 2006, San Francisco, May, 2006 Boston, January 2006 Washington DC). Several talks including progress report, review of fMRI technology, virtual worlds and fMRI, DTI mapping of connective topology)
- Schneider, W. The control and representation systems of the human brain providing cognitive synergy Key note presentation International Conference of Cognitive Modeling. Ann Arbor July 2007
- 2006 Grant related presentations
- DARPA Project Planning review (January 2006, DC) – Magic and biology of human cognition
 - DAPRA Project Scenario Review (May 2006 Boston) Mapping the Chipset of the Brain
 - ONR MURI project review (May 2006, DC). Mapping the automatic parallel computation with domain general control
- Schneider, W., Siegle, G., McHugo, M., Gemmer, L., Jones, D., Fissell, K., Koerbel, L., Suzuki, I., Jung, K., Goldberg, R., Wheeler, M., Cole, M., Hill, N. (June, 2006). 2006 Pittsburgh Brain Activity Interpretation Competition: Inferring experienced based cognition from fMRI data. Poster presented at Human Brain Mapping. Florence, Italy
- Schneider, W. (May, 2006). The cognitive neuroscience of controlled & automatic processing. ONR Contractors Meeting. Washington, DC.
- Schneider, W. Mapping brain architectures and processes supporting experience based cognition. DARPA Contractors meeting (August 2006, San Francisco, May, 2006 Boston, January 2006 Washington DC). Several talks including progress reports & reviews of project

- Wheeler, M., Goldberg, R., Schneider, W. (2006, November) The representation of semantic and experiential knowledge in multiple cortical areas and medial temporal lobes. Psychonomics Society. Houston, TX).
- Cole, M. & Schneider, W. (May 2007). The cognitive control network: Integrated cortical regions with dissociable functions. *NeuroImage*. doi: 10.1016/j.neuroimage.2007.03.071
- Cole M., & Schneider, W. (June, 2007). Abstract decision making is mediated by the cognitive control network via ACC/pre-SMA to DLPFC connectivity. Poster to be presented at Human Brain Mapping. Chicago, IL.
- Schneider, W. Representation And Control Areas Of Human Cortex (Includes Introduction slides) Symposium Organization of Human Brain Mapping June 2007 Chicago, IL
- Cole, M. W. & Walter Schneider Abstract Decision Making Is Mediated by the Cognitive Control Network via ACC Organization of Human Brain Mapping June 2007 Chicago, ILpre-SMA to DLPFC Connectivity Organization of Human Brain Mapping June 2007 Chicago, IL
- Schneider, W. Greg Siegle, Maureen McHugo, & the EBC group 2007 Pittsburgh Brain Activity Competition (PBAIC): Interpreting subject-driven actions and sensory experience in a rigorously characterized virtual world Organization of Human Brain Mapping June 2007 Chicago, IL
- Pathak, S. Catherine Fissell, Kwan Jin Jung & Walter Schneider Diffusion Weighted MRI, Comparison Study of Reconstruction and Fiber Tracking Algorithms, and related tools Organization of Human Brain Mapping June 2007 Chicago, IL
- Schneider, W Tom Yothers, Kyle Brauch, Lena Gemmer Cathrine Fissell, Maureen McHugo & Greg Siegle Dynamic VR exploration based fMRI with automatic visual object coding and brain activity mapping Organization of Human Brain Mapping June 2007 Chicago, IL
- Anita Barber, Andrea Ponting & Walter Schneider Task Switching Within and Between Semantic Representations: Retrieval Demands Depend on Decision Overlap Organization of Human Brain Mapping June 2007 Chicago, IL
- Kwan-Jin Jung, Sudhir Pathak & Walter Schneider Further Reliable Detection of Fiber Connection through Anterior and Posterior Commissure in Diffusion Tensor Imaging Organization of Human Brain Mapping June 2007 Chicago, IL
- Giancarlo Valente, Federico De Martino, Walt Schneider, Rainer Goebel & Elia Formisano Comparison of methods for fMRI brain reading: a study on generalization and interpretability. Organization of Human Brain Mapping June 2007 Chicago, IL
- Kwan-Jin Jung, & Walter Schneider Is the BOLD sensitivity reduced at a short TR in fMRI? A theoretical study Organization of Human Brain Mapping June 2007 Chicago, IL
- Kyung Hwa, Lee Walter Schneider, Maureen, McHugo, Philippe Goldin & Greg Siegle The neural structures associated with emotional valence and arousal induced by emotional movies Organization of Human Brain Mapping June 2007 Chicago, IL
- Schneider, W. Carnegie Mellon University Cognitive Modeling course (October 2007) Identifying the anatomy that supports the synergy of symbolic and connectionist computation
- Schneider, W. (July, 2007) The Cognitive Control And Representation Systems Of The Human Brain: Producing the synergy of symbolic and connectionist processing. International Conference of Cognitive Modeling Ann Arbor Michigan Keynote Address
- Schneider, W. Carnegie Mellon University Cognitive Modeling course (October 2007) Identifying the anatomy that supports the synergy of symbolic and connectionist computation
- Schneider, W. Regional Conference on MRI (September, 2007) Ann Arbor MI Mapping Brain System Specialization and Connective Topology with fMRI and DSI
- Schneider W. Cole, M, Goldberg R, Pathak, S. (November, 2007) The Control And Representation Systems Of The Human Brain And Cognition Psychonomics Long Beach CA.
- Schneider, W. Reverse Engineering of the Human Brain Workshop on Neuromorphic Computing Science Technology Expert Partnership, (April 2008) Washington DC

- Cole M.W., Martins B., Schneider W. (April, 2008). The Neural Basis of Rapid Instructed Task Learning. Poster presented at Cognitive Neuroscience Society, San Francisco, CA.
- Pathak S., Martins B., Cole M.W., Schneider W. (April, 2008). Anatomical and Functional Segmentation of the Cognitive Control Network: Supporting a preliminary cognitive control network connectome. Poster presented at Cognitive Neuroscience Society, San Francisco, CA.
- Cole M.W., Pathak S., Schneider W. (April, 2008). Medial Frontal Cortex Directs Attention along Multiple Pathways to Resolve Perceptual Decision Difficulty. Poster presented at Cognitive Neuroscience Society, San Francisco, CA.
- Fernando Boada, Schneider, W2, Pathak, S; Martin B.; Davis, D.; & Bleichner, A.1 (2008) Integration of Diffusion Weighted Imaging and fMRI to identify differential fiber loss in pre-surgical planning. SMRM Workshop on Frontiers of Magnetic Resonance: From Tumor Cell to Cancer Patient Nice France (see http://www.ismrm.org/workshops/Cancer_08/program.htm)
- Cole M.W., Bagic A., Kass R., Schneider W. (October, 2009). Rapid Task Learning as a Window into the Neural Basis of Executive Control. Poster presented at Society for Neuroscience, Chicago, IL.
- Cole M.W., Schneider W. (June, 2009). From Symbols to Rules to Complex Behaviors: The Neural Basis of Rapid Instructed Task Learning. Poster presented at Human Brain Mapping, San Francisco, CA.
- Cole M.W., Pathak S., Schneider W. (June, 2009). Identifying the Brain's Most Globally Interactive Regions. Poster presented at Human Brain Mapping, San Francisco, CA
- Schunn, C, Moss, J, Huppert, T, Schneider, W. (June, 2009) Real-time NIRS feedback may help improve self-explanation learning strategy use. Nanosymposium, Society for Neuroscience, Chicago, IL.
- Pathak, S. Bruna Martins, B. , Schneider, W, Fernandez-Miranda, J. (June, 2009) White Matter Damage Assessment in Neurosurgical Planning Poster presented at Human Brain Mapping, San Francisco, CA
- Verstynen, T, Jarbo, K, Pathak, S, Phillips, J. Schneider, W. Characterizing the topography of corticospinal pathways with high definition fiber tractography (June 2010) Poster presented at Human Brain Mapping, Barcelona Spain
- Schneider, W. Mapping the Human Connectome Pittsburgh Brain Connectivity Competition 2009 (June 2009) Organization for Human Brain Mapping. San Francisco, CA. (see web link to presentations <http://pbc.lrdc.pitt.edu/?q=2009a-conference>)
- Schneider W. Mapping the Human Brain Connectome for Actionable Reverse Engineering for Brain Treatment and Sensemaking. (July 2009) Intelligence Advanced Research Projects Activity (IARPA) conference Washington, D.C.
- Fernandez-Miranda, J.C., Pathak, S., Engh, J., Kassam, A., Boada, F., Schneider, W. (presented by Schneider) (August 2009) High-Definition Fiber Tracking for Presurgical Planning in Minimally Invasive Endoscopic Brain Surgery. International Brain Mapping & Intraoperative Surgical Planning Society Boston MA.
- Schneider, W., Pathak, S., Phillips, J.S., Cole, M.W. (November, 2009) High Definition Fiber Tracking Exposes Circuit Diagram for Brain Showing Triarchic Representation, Domain General Control, and Metacognitive Subsystems. Association for the Advancement of Artificial Intelligence Biologically Inspired Cognitive Architectures. Washington, D.C.
- Schneider, W. (December 2009) 2009 IEEE ICDM PBC Brain Connectivity Challenge Symposium (presentation and chair). Institute of Electrical and Electronics Engineers International Conference on Data Mining. Miami, FL.
- Schneider, W., Schunn, C., Pickering, M., Huppert, T., Tokowicz, N. (August 2009) Biologically Accelerated Learning Technology. DARPA Contractors Meeting.
- Schneider, W. (September 2009) Brain Training Technology for US Army. Briefing of General Joe Martz, Fort Monroe, VA.
- Schneider, W. (December 2009) Schneider Connectome DARPA Briefing of Amy Kruse & Tom Nugent, DARPA, Pittsburgh, PA.

- Schneider, W. & Patak, S., Yeh, F. (September 2009) Mapping brain circuits with High Definition Fiber Tracking (HDFT) Data mining fiber tracts to identify the cables and chipset of the human brain. Data Mining Group, CMU, Pittsburgh, PA.
- Schneider, W. & Patak, S. (December 2009) Roadmap for mapping the human Connectome. Intel Research, Pittsburgh, PA
- Schneider, W., Pathak, S., Fernandez-Miranda, J., Bleicher, A., Davis, D., Boada, F. (September 2009) Mapping brain circuits with High Definition Fiber Tracking (HDFT) for medical imaging in Neurosurgery and TBI plus Human Connectome. Radiology Seminar Series.
- Schneider, W., Patak, S., Phillips, J. (November 2009) Adventures in Research at LRDC Mapping Brain Architecture Actionable Neuroscience for Learning and Support. LRDC Senior Scientists Meeting.
- Schneider, W. Brain Fitness Training with High Intensity Interval Training. (March 2010) Sustainment Decision Superiority Army TRADOC meeting
- Bleicher, Andrew, Sudhir K. Pathak, Walter W. Schneider, , Mark R. Lovell, 4, John Norwig, and Joseph C. Maroon, Documenting white matter damage in sports related mild traumatic brain injury with diffusion and high definition fiber tracking (March 2010) American Society of Functional Neuroradiology.
- Schneider, W. Brain Fitness Training Summary Duplicating the Army's Physical Fitness Training Success in Brain Fitness Training (May 2010) Defense Language Institute Change of Commander Proceedings.
- Schneider, W. High Definition Fiber Tracking in Neurosurgery & Traumatic Brain Injury: A Transforming Technology for Brain Imaging and Treatment of Brain Disorders (May 2010) GE MRI imaging R&D special presentation.
- Schneider, W. Mapping the Human Connectome with High Definition Fiber Tracking: Statistical Challenges of a new data domain. (May 2010) Fifth International Workshop Statistical Analysis of Neuronal Data (SAND5)
- Schneider, W. Mapping the Human Brain and Building Brain Fitness for Building Intelligence and Foreign Language Learning (May 2010) Invited address University of Maryland Center for Advance d Study of Language
- Verstynen, T, Jarbo, K, Pathak, S, Phillips, J, Schneider, W. Characterizing the topography of corticospinal pathways with high definition fiber tractography (June 2010) Poster presented at Human Brain Mapping, Barcelona Spain.
- Schneider, W. Quantifying Brain Connectivity, Strengthening Brain Fitness, Increasing Intelligence & Learning (July, 2010) Invited presentation General Dynamics.
- Schneider, W. Commentary Brandeis Memory Meeting Need for Actionable Science (November 2010).
- Phillips, J, Pathak, S, Verstynenn, T, W. Schneider (presented by Schneider). High-definition fiber tracking of human cortical eye fields Society of Neuroscience (Nov, 2010) Society for Neuroscience presentation
- Schneider, W, S. Pathak, J. Fernandez-Miranda, D. Okonkwo, K. Jarbo, J. Engh, A. Mintz, F. Boada (Nov, 2010). Society for Neuroscience presentation
- Pathak,S, Fang-Chen, Y, Schneider, W. HD fiber tracking: Non-invasive quantification of fiber tract volume Society for Neuroscience presentation
- Schneider, W.& Pathak, S. High definition fiber tracking in neurosurgery & traumatic brain injury (Dec. 2010) NIH invited presentation to neuroimaging group.
- Schneider, W. Sudhir Pathak , Timothy Verstynen, Jeff Phillips (U.Pittsburgh), Juan Fernandez-Miranda (UPMC), Frank Yeh (CMU High Definition Fiber Tracking in Visual System to Quantify Human Connectivity and Aid Neurosurgery to Preserve Vision Multi-modal Neuroimaging Training Program (MNTP) (July 2010)
- Schneider, W. Pittsburgh High Definition Fiber Tracking for Quantitative Mapping of cortical networks (Jan 2011) CNBC Neuroimaging Workshop)

- Schneider, W. Non-invasive High Definition Fiber Tracking (HDFT) Mapping Human Brain Connectivity Applications to Neurosurgery and Traumatic Brain Injury. (March 2011). UPMC Radiology Department Seminar series
- Schneider, W. A Forty Year Journey of Moving Psychology Forward: Chapter 5 – Mapping Brain Connectivity for Basic Science and Clinical Applications (April 2011) Keynote address Westminster University Eastern PA Undergraduate Psychology Conference.
- Walter Schneider, Fernando Boada, J. Fernandez-Miranda, David Okonkwo. “Clinically Useful High Definition Fiber Tracking for TBI & Neurosurgery.” Quebec, Canada. June 28, 2011.
- Sudhir Pathak, Timothy Verstynen, Kevin Jarbo, Walter Schneider, Juan Fernandez-Miranda. “High Definition Fiber Tracking (HDFT) in Neurosurgery & Traumatic Brain Injury” Cognitive Neuroscience Society, San Francisco. April 3, 2012
- Kevin G. Jarbo, Timothy Verstynen & Walter Schneider. “High definition fiber tractography of the corpus callosum fiber pathways” Cognitive Neuroscience Society, San Francisco. April 3, 2011
- Timothy Verstynen, Kevin Jarbo, Jeff Phillips, Sudhir Pathak & Walter Schneider. “High definition fiber tracking of corticostriatal projection subfields in vivo.” Cognitive Neuroscience Society, San Francisco. April 3, 2011
- Walter Schneider, Jason Chein, Jingtao Wang & Randy Engle. “Replicating the Military Fitness Training in Brain Fitness Training.” ONR Contractors meeting, Washington, DC. June 2, 2011
- Walter Schneider, Timothy Verstynen, Sudhir Pathak, Kate Fissell, Juan Fernandez-Miranda, Kevin Jarbo. “Quality High Definition Fiber Tracking Metrics To Interpret and Optimize Connectome Mapping Accuracy in Basic and Clinical Research.” Society for Neuroscience, Washington, DC. Nov 14, 2011
- Sudhir Pathak & Walter Schneider. “Directional Axonal Volume: Novel metric to define connectivity in Human Brain.” Society for Neuroscience, Washington, DC. Nov 14, 2011
- Walter Schneider. “Replicating the Military Fitness Training in Brain Fitness Training.” Army Command Briefing, Pittsburgh, PA. June 13, 2011
- DoD Briefings on Traumatic Brain Injury DARPA November 2011; ONR November 2011; CDMRP Nov & Dec 2011, DVBIC April 4 2012
- Walter Schneider. *A Forty Year Journey of Moving Psychology Forward: Chapter 5 – Mapping Brain Connectivity for Basic Science and Clinical Applications*. Keynote address, Westminster University Eastern PA Undergraduate Psychology Conference. April 2011.
- Walter Schneider. *Replicating the Military Fitness Training in Brain Fitness Training*. Center for the Advanced Study of Learning Working Memory Conference, Washington, DC. August 2011.
- Walter Schneider. *Clinically Actionable Fiber Tracking in Neurosurgery & Traumatic Brain Injury: MRI Tract Visualizations with Quality Exceeding Microdissection*. Neuroscience for Neurosurgeons (RUNN) conferences, Woods Hole conference, November 4 2011.
- Walter Schneider. *High Definition Fiber Tracking (HDFT): Mapping Human Brain’s Anatomical Circuits and Track Growth Programs With Applications to Genetic Wiring Disorders, Neurosurgery and Traumatic Brain Injury*; colloquium, Boston Children’s Hospital. November 2011.

- Walter Schneider, Natasha Tokowicz, Jingtao Wang. *Replicating the Military Fitness Training in Brain Fitness Training*. Defense Language Institute Foreign Language Center Training Workshop, Monterey, CA. Dec 20, 2011.
- Walter Schneider, David Okonkwo, Juan Fernandez-Miranda, Robert Friedlander, Fernando Boada. *High Definition Fiber Tracking (HDFT): Mapping Human Brain Anatomical Circuits With Applications to Traumatic Brain Injury and Neurosurgery*. Walter Reed, Bethesda, MD. Dec 5, 2011.
- Walter Schneider. *High Definition Fiber Tracking (HDFT): Mapping Human Brain's Anatomical Circuits and Track Growth Programs With Applications to Genetic Wiring Disorders, Neurosurgery and Traumatic Brain Injury*. Paul Allen Institute, Seattle, Washington. July 21, 2012.
- Walter Schneider, David Okonkwo, Juan Fernandez-Miranda, Robert Friedlander, Fernando Boada. *High Definition Fiber Tracking (HDFT): Mapping Human Brain Anatomical Circuits With Applications to Traumatic Brain Injury*. Management of the Neurotrauma Patient, Pittsburgh, PA. April 1, 2012.
- Walter Schneider. *Attention Control Brain Dynamics and Anatomical Connective Circuitry, A Festschrift for Richard M Shiffrin*. Bloomington, IN. May 7 2012.
- Walter Schneider, David Okonkwo. *Detecting Visualizing & Quantifying TBI Damages with High Definition Fiber Tracking*. Society for Brain Mapping and Therapeutics, Toronto, CA. June 2, 2012.
- Walter Schneider & David Okonkwo Quantifying TBI White Matter Damage in Individual Patients with High Definition Fiber Tracking Military Health System Research Symposium (MHSRS) Aug 13 2013, Fort Lauderdale FL
- DoD Briefings on Traumatic Brain Injury ONR June 2012/2013; CDMRP Jan, March, April 2012 , DVBIC April 4 2012
- Walter Schneider. *High Definition Fiber Tracking (HDFT): Mapping Human Brain's Anatomical Circuits and Track Growth Programs With Applications to Genetic Wiring Disorders, Neurosurgery and Traumatic Brain Injury*. Paul Allen Institute, Seattle, Washington. July 21, 2012.
- Walter Schneider. *Clinically Actionable Fiber Tracking in Neurosurgery & Traumatic Brain Injury: MRI Tract Visualizations with Quality Exceeding Microdissection*. Neuroscience for Neurosurgeons (RUNN) conferences, Woods Hole conference, November 2013.
- Walter Schneider, David Okonkwo. *Detecting Visualizing & Quantifying TBI Damages with High Definition Fiber Tracking*. Society for Brain Mapping and Therapeutics, Toronto, CA. June 2, 2012.
- Walter Schneider. High Definition Fiber Tracking (HDFT): Mapping Human Brain Anatomical Circuits With Applications to Traumatic Brain Injury Management of the Neurotrauma Patient Resident Forum Pittsburgh April 15 2012.
- Walter Schneider. Applying Quantitative Methods to Map Brain Systems of Attention Control and Anatomical Connective Circuitry for Basic Research and Clinical Assessment. Shiffrin Festschrift Symposium 05/09/12
- Walter Schneider & David Okonkwo Quantifying TBI White Matter Damage in Individual Patients with High Definition Fiber Tracking Society for Brain Mapping Therapeutics Toronto June 3, 2012

- Walter Schneider & Jason Chein Replicating the Military Fitness Training in Brain Fitness Training Alexandria VA June 4
- Walter Schneider. Congress of Neurological Surgeons Oct 9,2012 Chicago IL Speaker for Special Course II - Functional Neuroimaging: Where Do We Go from Here?
- Walter Schneider. Quantifying TBI White Matter Damage in Individual Patients with High Definition Fiber Tracking (HDFT) New York University Oct 23, 2012 NYC
- Walter Schneider. High Definition Fiber Tracking (HDFT) - Providing Non-Invasive Personalized Brain Circuit Diagrams & Tract Integrity Reports In Traumatic Brain Injury, Neurosurgery, Autism & Basic Research McGovern Institute MIT, Oct. 31, 2012. Boston
- Walter Schneider. High Definition Fiber Tracking (HDFT) an MRI Biomarker for Brain Anatomical Connection Disorders in TBI, Neurosurgery & Autism Jan 24, 2013 Philadelphia PA
- Sudhir Pathak & Walter Schneider High Definition Fiber Tracking – A Pipeline of Computational Methods To Map White Matter Tracts and Support Clinically Viable Tract Analysis National Institute of Health March 19, 2013.
- Walter Schneider Medical Grand Rounds Talks HDFT in Clinical Applications - Children's Hospital Pittsburgh Autism Center (Jan 2), UPMC Concussion Clinic (May 2), UPMC Rehabilitation Clinic (Panther Rounds seminar on April 17)
- Walter Schneider HDFT creating accurate personalized circuit diagrams. Symposium High Definition Fiber Tracking, Mapping Brain Tracts and Brain Trauma and Surgical Procedures Society for Brain Mapping & Therapeutics May 13 Baltimore
- Okonkwo, D., Schneider, W. HDFT in TBI Seeing and Quantifying TBI. Symposium High Definition Fiber Tracking, Mapping Brain Tracts and Brain Trauma and Surgical Procedures Society for Brain Mapping & Therapeutics May 13 Baltimore
- Schneider W., Okonkwo D., Presson, N., Jarbo, K., Benso, S., Borrasso, A, Beers, S., Morrow, L., Pathak, S. High Definition Fiber Tracking of Blast mTBI – Making the Invisible Wounds of War Visible with Patient-Targeted Treatment. Military Health Science Research Symposium. August 12, 2013 Fort Lauderdale FL
- Schneider W. Okonkwo, Jarbo, K; Wagner, L; Bird, W, Presson, Baum, E, Chmura, J; Pathak, S Training and Support Programs to Learn, Implement, and Support HDFT TBI Analysis and How to Join the Group of Intake Sites. Military Health Science Research Symposium. August 12, 2013 Fort Lauderdale FL
- Pathak, S., Schneider, W; Krishnaswamy, D; Fissell, K; Chmura1, J; Okonkwo, D. Technical Methods of How HDFT Analysis Provides Interpretable Quantification and Visualization of TBI Anatomical Brain Military Health Science Research Symposium. August 12, 2013 Fort Lauderdale FL
- Okonkwo, D. Schneider, W., Presson, N., Chmura, J., Pathak, S. Puccio, A.; High Definition Fiber Tracking TBI Patient Clinical Report – visualizing TBI. Military Health Science Research Symposium. August 12, 2013 Fort Lauderdale FL
- Schneider, W., Okonkwo, D., Presson, N., Puccio, A.; Bird, W., Pathak, S. 2. 5 day workshop on HDFT based TBI analysis at Baylor Medical Center with 18 attendees.
- Schneider, W., Okonkwo, D., Presson, N., Beers, S., Morrow, L., Borrasso, A., Piccio, S., Quantifying White Matter Structural Integrity with High Definition Fiber Tracking in Traumatic Brain Injury Symposium International Neurotrauma Society Budapest Hungary
- Schneider, W., Okonkwo, D., Presson, N., Chmura, J., Borrasso, S., Piccio, A. Quantifying An

- iPad Case Report Viewer for High-Definition Fiber Tracking for TBI Patients and Their Clinicians. International Neurotrauma Society Budapest Hungary
- Schneider, W., Okonkwo, D., Presson, N., Chmura, J. TEAM-TBI Mobile environment. Cognitive Rehabilitation Meeting TEAM-TBI April 2, 2104.
- Schneider W., Pathak, S., Okonkwo D. , Fernandez-Miranda J. Fiber Tracking Based on Diffusion MRI: Challenging Present and Potentially Transformative. Future. National Academy of Science Institute of Medicine August 22, 2013 Washington DC Developing Standards for Diffusion Magnetic Resonance Imaging (dMRI) A Meeting of Experts
- Schneider. W & Chein J. Replicating the Military Fitness Training in Brain Fitness Training Office of Naval Research Project Review June 10, 2013 Washington DC.
- Schneider, W. High Definition Fiber Tracking (HDFT) to See Anatomical TBI Brain Damage & Enable Targeted Treatment & Rehabilitation. Invited Talk Radiology Department Navy Medical Center San Diego September 11, 2013
- Schneider, W. High Definition Fiber Tracking (HDFT) an MRI Biomarker for Brain Anatomical Connection Disorders in TBI, Neurosurgery & Autism Invited talk Radiology Dept. Loma Linda University Medical Center. September 13, 2013. Loma Linda CA
- Schneider, W., Pathak, S., Okonkwo, D., Fernandez-Maranda, J. High Definition Fiber Tracking, Mapping Brain Tracts and Brain Trauma and Surgical Procedures John Hopkins KIRBY Institute June 12, 2013 Baltimore MD
- Schneider, W. Current Progress in MRI-BasedConnectivity Neuroscience for Neurosurgeons (RUNN) conferences, Woods Hole conference, November October 31.2013.
- Schneider, W. & Okonkwo, D. Visualizing and Quantifying TBI Anatomical Tract Loss with High Definition Fiber Tracking Diffusion Imaging Baylor Medical Center November 13 Houston TX
- Schneider, W. Making Brain Anatomical, Transmitter and Functional Networks Wounds Visible and Targeting Repair DARPA Subnets Briefing Nov 22, 2014 Washington DC
- Schneider, W. TEAM-TBI Pittsburgh & NICOE Mqy 3, 2013 National Intrepid Center for Excellence of TBI May 3, Bethesda MD.
- Schneider, W. & Okonkwo D. High Definition Fiber Tracking Imaging of TBI Army Conference on Brain Imaging January 30, 2014 Fort Fredrick MD
- Schneider, W. Fiber Tracking Based on Diffusion MRI: Challenging Present and Potentially Transformative Future American College of Radiology Workshop of advancing diffusion imaging February 21, 2014 Washington DC.
- Schneider, W., & Okonkwo, D.. Neuroanatomical substrates of TBI outcomes. Invited Plenary session International Neurotrauma Society Budapest Hungary
- Schneider, W., Pathak, S., Okonkwo, D., Fernandez-Maranda, J. High Definition Fiber Tracking (HDFT) an MRI Biomarker for Brain Anatomical Connection Disorders in TBI, Neurosurgery & Autism Research Round Table Colloquium Department of Communication Science and Disorders Feb 12, 2014 Pittsburgh PA
- Schneider, W., Pathak, S., Okonkwo, D., Fernandez-Maranda, J. High Definition Fiber Tracking, Mapping Brain Tracts and Brain Trauma and Surgical Procedures Stanford Psychology Neuroimaging Program April 9, 2014 Palo Alto CA Baltimore MD
- Schneider, W., Pathak, S., Okonkwo, D., Fernandez-Maranda, J. High Definition Fiber Tracking, Mapping Brain Tracts and Brain Trauma and Surgical Procedures Center for Functional

- MRI (CFMRI), UC San Diego March 15, 2013 UCSD San Diego CA.
- Schneider, W., Okonkwo, D.O., Chmura, J., Presson, N., Benso, S., Puccio, A.M. An iPad case report viewer for high-definition fiber tracking for TBI patients and their clinician. (2014) International Neurotrauma Society Budapest, Hungary.
- Okonkwo, D.O., Schneider, W., Presson, N., Beers, S., Marrow, L., Borasso, A., Puccio, A.M. Quantifying white matter injury in traumatic brain injury with high definition fiber tracking. (2014) Neurotrauma, San Francisco, California.
- Schneider, W., Okonkwo, D.O., Presson, N., Bird, W., Wagener, L., Krishnaswamy, D., Hachey, R., Fissell, K., Pathak, S., Beers, S., Morrow, L., Puccio, A., Benso, S. TBI: Diagnosis of White Matter Damage with High Definition Fiber Tracking in Patients with Chronic TBI (2014) Medical Health Scientific Research Symposium Fort Lauderdale FL
- Okonkwo, D.O., Schneider, W., Pathak, S., Jarbo, K., Presson, N., Puccio, A., Benso, S., Borrasso, A., Beers, S., Morrow, L. High Definition Fiber Tracking TBI Patient Clinical Report – visualizing TBI (2014) Medical Health Scientific Research Symposium, Fort Lauderdale FL.
- Schneider, W., Pathak, S., Kim, T., Fissell, C., Hachey, R., Krishnaswamy, D., Bird, W., Presson, N., Wagener, L. (2014) Fast Optimized Multishell Imaging for High Definition Fiber Tracking of White Matter Tracts. Pittsburgh MR Imaging Community Retreat
- Pathak, S.K., Fissell, K., Krishnaswamy, D., Aggarwal, S., Hachey, R., Schneider, W. Diffusion reconstruction by combining Spherical Harmonics and Generalized Q-Sampling Imaging. ISMRM June 2015
- Presson, N., Beers, S.R. Morrow, L., Wagener, L., Bird, W., Van Eman, G., Penderville, J., Benso, S., Puccio, A., Okonkwo, D.O., Schneider, S. Quantitative White Matter Analysis with High Definition Fiber Tracking (HDFT) Predicts Neuropsychological Test Performance in Chronic TBI. Neurotrauma Jun 28, 2015
- Presson, N., Minhas, D., Mountz, J., Fissell, C., Laymon, C., Price, J., Puccio, A., Schneider, W. Okonkwo, D.O. PET Imaging with Pittsburgh Compound B of Amyloid Deposition in White Matter in Chronic TBI: An Exploratory Analysis Neurotrauma Jun 28, 2015
- Schneider, W., Boss, M., Wilde, E., Provenzale, J., Pathak, S., Zuccolotto, A., Evangelou, I., York, G., Taylor, B., & Okonkwo, D. A Novel Universal Phantom and Diffusion Tensor Imaging Standardization to Provide Cross-Vendor and Site-Calibrated Quantification of TBI. Medical Health Sciences Research Symposium August 16, 2015
- Presson, N., Beers, S.R., Morrow, L., Bird, W., Van Eman, G., Tang, R., Monsour, M., Benso, S., Puccio, A., Okonkwo, D., & Schneider, W. Neuropsychological Test Scores Consistently Relate to Quantitative MR Diffusion Imaging Metrics in High B-Value Multishell Imaging. Medical Health Sciences Research Symposium August 16, 2015
- Schneider, W., Boss, M., Wilde, E., Provenzale, J., Pathak, S., Zuccolotto, A., Evangelou, I., York, G., Taylor, B., & Okonkwo, D. A Novel Universal Phantom and Diffusion Tensor Imaging Standardization to Provide Cross-Vendor and Site-Calibrated Quantification of TBI. Medical Health Sciences Research Symposium August 16, 2015 VA Traumatic Brain Injury State-of-the-Art Conference Washington DC
- Schneider, W., & Okonkwo, D.O. Clinical MRI TBI Challenge and Opportunity. International Traumatic Brain Injury Research Network (IBIRN) organizational meeting Oct 14, 2015 Duke University.
- Schneider, W., Wilde, E., Boss, M., Provenzale, J., Evangelou, I. CENC Study 39: Diffusion

Tensor Imaging Standardization using Novel MR Diffusion Phantoms
Tools for Calibration and Advancement Clinical TBI Imaging Fort Lauderdale Aug 15,
2016

Technical Reports:

- Schneider, W., & Fisk, A. D. (1980). Independence of foveal retinal locus and visual detection paradigm (Tech. Rep. No. 8001). Champaign: University of Illinois, Human Attention Research Laboratory. Also in *JSAS*, 1981, 11.
- Schneider, W., & Fisk, A. D. (1980). Dual automatic and control processing, can it be done without cost? (Tech. Rep. No. 8002). Champaign: University of Illinois, Human Attention Research Laboratory. Also in *JSAS*, 1981, 11.
- Eberts, R., & Schneider, W. (1980). The automatic and control processing of temporal and spatial patterns (Tech. Rep. No. 8003). Champaign: University of Illinois, Human Attention Research Laboratory.
- Schneider, W., & Fisk, A. D. (1980). Visual search improves with detection searches and declines with non-detection search (Tech. Rep. No. 8004). Champaign: University of Illinois, Human Attention Research Laboratory. Also in *JSAS*, 1981, 11.
- Schneider, W., & Fisk, A. D. (1980). Degree of consistent training and the development of automatic processing (Tech. Rep. No. 8005). Champaign: University of Illinois, Human Attention Research Laboratory. Also in *JSAS*, 1981, 11.
- Fisk, A. D., & Schneider, W. (1980). Controlled and automatic processing during tasks requiring sustained attention (Tech. Rep. No. 8006). Champaign: University of Illinois, Human Attention Research Laboratory. Also in *JSAS*, 1981, 11.
- Fisk, A. D., & Schneider, W. (1980). On the learning of distractors during controlled and automatic processing (Tech. Rep. No. 8007). Champaign: University of Illinois, Human Attention Research Laboratory.
- Schneider, W., & Eberts, R. (1980). Automatic processing and the unitization of two features (Tech. Rep. No. 8008). Champaign: University of Illinois, Human Attention Research Laboratory.
- Schneider, W. (1982). Automatic/controlled processing concepts and their implications for the training of skills (Tech. Rep. No. HARL-ONR-8101). Champaign: University of Illinois, Human Attention Research Laboratory.
- Ackerman, P. L., Schneider, W., & Wickens, C. D. (1982). Individual differences and time-sharing ability: A critical review and analysis (Tech. Rep. No. HARL-ONR-8102). Champaign: University of Illinois, Human Attention Research Laboratory.
- Fisk, A. D., & Schneider, W. (1982). Category and word search: Generalizing search principles to complex processing (Tech. Rep. No. HARL-ONR-8103). Champaign: University of Illinois, Human Attention Research Laboratory.
- Schneider, W., Dumais, S. T., & Shiffrin, R. M. (1982). Automatic/control processing and attention (Tech. Rep. No. HARL-ONR-8104). Champaign: University of Illinois, Human Attention Research Laboratory.
- Fisk, A. D., Derrick, W. L., & Schneider, W. (1982). The use of dual task paradigms in memory research: A methodological assessment and an evaluation of effort as a measure of levels of processing (Tech. Rep. NO. HARL-ONR-8105). Champaign: University of Illinois, Human Attention Research Laboratory.

- Fisk, A. D., & Schneider, W. (1982). Task versus component consistency in the development of automatic processes: Consistent attending versus consistent responding (Tech. Rep. No. HARL-ONR-8106). Champaign: University of Illinois, Human Attention Research Laboratory.
- Schneider, W., & Fisk, A. D. (1982). Attention theory and mechanisms for skilled performance (Tech. Rep. No. HARL-ONR-8201). Champaign: University of Illinois, Human Attention Research Laboratory.
- Schneider, W., & Fisk, A. D. (1982). Automatic category search and its transfer: Automatic process semantic filtering (Tech. Rep. No. HARL-ONR-8202). Champaign: University of Illinois, Human Attention Research Laboratory.
- Schneider, W., & Fisk, A. D. (1982). Processing with and without long-term memory modification: Attention, level of processing, and word frequency (Tech. Rep. No. HARL-ONR-8203). Champaign: University of Illinois, Human Attention Research Laboratory.
- Schneider, W. (1984). Training high performance skills: Fallacies and guidelines (Final Report No. HARL-ONR-8301). Champaign: University of Illinois, Human Attention Research Laboratory.
- Ackerman, P. A., & Schneider, W. (1984). Individual differences in automatic and controlled information processing (Tech. Rep. No. HARL-ONR-8401). Champaign: University of Illinois, Human Attention Research Laboratory.
- Schneider, W. (1984). Toward a model of attention and the development of automatic processing (Tech. Rep. No. HARL-ONR-8402). Champaign: University of Illinois, Human Attention Research Laboratory.
- Schneider, W. (1986). Building automatic component skills for air intercept control (Contract No. DAAL03-86-D-001). Department of Defense Research Roundtable.
- Schneider, W. & Regian, W. (1989). Developing automatic component skills for air intercept control (LRDC Tech. Rep.). Pittsburgh: University of Pittsburgh, Learning Research and Development Center.
- Levine, J. M. & Schneider, W. (1989). Feedback effects in computer-based skill learning (LRDC Tech. Rep.). Pittsburgh: University of Pittsburgh, Learning Research and Development Center.
- Schneider, W. (1992). Developing automatic components for complex tasks (LRDC Tech. Rep.). Pittsburgh: University of Pittsburgh, Learning Research and Development Center.

Research Grants and Contracts Awarded Note: all funds awarded to University of Pittsburgh unless indicated otherwise; Walter Schneider as Principal Investigator, except as noted.

Active Grants and Contracts

- DSF Foundation Pittsburgh High Definition Fiber Tracking (HDFT) Traumatic Brain Injury (TBI) Transformative Advancement Plan 12/15/13 – 09/30/16 \$1,800,000 PI Walter Schneider; Co-PI David Okonkwo.
- US Army Medical Materials Command Targeted Evaluation, Action, & Monitoring of Traumatic Brain Injury (TEAM-TBI) \$4,272,445 4/25/2014-4/24/2017 PI David Okonkwo Co-PI Walter Schneider with area co-PIs Anthony Kontos, Mickey Collins, Thomas DeGraba, NICOE, John Malone, Naval Medical Center San Diego (NMCS D)
- CDMRP (Army) TBI Biological Diagnosis via High Definition Tractography Asymmetry Screening PI Walter Schneider, Co-PI David Okonkwo 9/30/2012-9/30/2016 \$2,403,144
- US Army Medical Materials Command High Definition Fiber Tracking Biological Diagnosis of TBI Providing Actionable Clinical Report of Quantified Damage 9/30/2012-9/30/2016 \$4,610,072 PI David Okonkwo Co-PI Walter Schneider
- CDMRP In Vivo Neuroimaging Biomarker Panel for Chronic Traumatic Encephalopathy David Okonkwo PI, co-PIs: Walter Schneider, James Mountz 9/30/2013 to 9/30/2016 \$634,148

- Naval Health Research Center. Transforming Research and Clinical Knowledge in TBI (TRACK-TBI) – High Definition Fiber Tracking Neuroimaging, Biospecimen and Data Informatics Repositories. 07/01/2014 to 06/30/2018 \$4,569,679 PI: Okonkwo, CO-PI: George Manley UCSF, Walter Schneider, Ava Puccio
- Navy Medicine Advanced Longitudinal Diffusion Imaging for TBI Diagnosis of Military Personnel - \$3,615,078 PI Walter Schneider Co-PI David Okonkwo 6/1015-6/2017
- CENC Study 39: Diffusion Tensor Imaging Standardization using Novel MR Diffusion Phantoms P.I. Elisabeth Wilde (Baylor) Co-P.I. James Provenzale (Duke) Pitt portion about \$150,000 1/1/2015-12/30/2015

Completed Grants and Contracts

- NFL/GE Head Health Initiative Challenge. Efficacy of high definition fiber-tracking (HDFT) to identify impairment, track recovery, and inform safe return to play following concussion. 06/01/2014-05/30/2015. \$300,000. PI- Anthony P. Kontos; Co-Pis- Michael W. Collins, Walter Schneider; Co-Investigators- David Okonkwo, Vikas Agarwal
- ONR/DURIP: Massive Computing Capabilities to Qualitatively Advance DoD Cognitive Applications that Use Brain Imaging PI Marcel Just, Co-Pi Walter Schneider, John Anderson, Tom Mitchell 3/1/2011-12/28/2012 (estimated) \$852,494 (pitt part ~\$150,000).
- CASL/Army Brain Fitness Training for Foreign Language Learning Growth. PI Walter Schneider with Natasha Tokowicz 2/28,/2011, 12/31/2011 \$300,000
- DARPA: Biologically Accelerated Learning Technology (BALT) Phase II. PI: Walter Schneider, Chris Schunn, Natasha Tokowicz, & Ted Hubbert. 5/1/2009 – 8/30/2011. \$2,172,530 total cost
- DARPA: Training Induced Brain Fiber Growth PI: Walter Schneider. 1/1/2010-- 8/30/2011 \$500,000
- DARPA: Biologically Accelerated Learning Technology (BALT). PI: Walter Schneider, Chris Schunn, Kurt Van Lehn, and Natasha Tokowicz. 4/1/2007 – 6/30/2012. \$1,168,781 total cost
- DARPA; Assessing Brain Executive and Affect Circuits and Training Interventions Increase Capacity and Stress Tolerance. PI: Walter Schneider; Co-PI: Greg Siegle. 1/1/09 - 4/30/2010. \$275,000
- DARPA(funded through ONR) grant N00014-05-1-0881 grant Mapping Brain Architecture and Processes Supporting Experience Based Cognition PI Walter Schneider, Co Pi's Greg Siegle, Mark Wheeler, Kwan-Jin Jung. University of Pittsburgh; Sub Contractors Rainer Goebel & Elia Formisano Maastricht University Netherlands; Tom Landauer & Peter Foltz Pearson Knowledge Technologies Daniel Levin Vanderbilt University 08; 10/1/05 – 9/30/07 \$1,096,329
- Office of Navy Research ONR, No. 010360. Cognitive, biological, and computational analyses of automaticity in complex cognition. PI: Marcel Just; Co-PI: Walter Schneider. \$4,833,321, 06/01/01 - 05/30/06. (Carnegie Mellon University).
- Department of Health and Human Services PHS, No. Par-99-138. Usability and interoperability of neuroimaging software. PI: Jonathan Cohen ;Co-Pis: Walter Schneider, Cameron Carter. 7/1/00-6/30/05; \$1,542,510. (Yale University).
- NSF: The Cerebellum and Language. PI Julie A. Fiez with Co-I Walter Schneider. 9/1/2011-8/31/2014 \$593,228 (total cost)
- Department of Health & Human Services PHS. Graduate education in the neural basis of cognition. PI James McClelland; Co-Pis: Peter Strick, David Touretzky, Walter Schneider. 7/1/00 - 6/30/05; \$772,108. (Carnegie Mellon University).
- National Science Foundation, #DUE-9952631. Laboratory for undergraduate instruction and research in psychology. PI: Carey Ryan; Co-PI: Walter Schneider; 5/1/00 - 4/30/02; \$29,712. (University of Pittsburgh).

- National Science Foundation, IGERT #9987588. Innovative cross-disciplinary training in neuroscience and computation, PI: David Touretzky, Co-PI: Walter Schneider. 6/1/00 -5/31/05; \$1,800,000. (Carnegie Mellon University).
- National Science Foundation, KDI Proposal No. 58512-55-00. Computational models and coordinated neuroimaging of learning and cognitive function. PI: Walter Schneider; Co-PI: Jay McClelland. 10/1/98-9/30/01; \$1,200,000.
- James S. McDonnell Foundation, JSMF Grant No. 97-29. Brain activations and learning to read: an fMRI investigation. PI: Walter Schneider; Co-PIs: Isabel Beck, Charles Perfetti, B.J. Casey. 7/1/97-6/30/00; \$105,000.
- James S. McDonnell Foundation. Brain imaging and cognitive analyses of language processing. PI: Bruce McCandliss; Co-PI: Walter Schneider. 12/15/96 - 2/14/99; \$105,000.
- National Science Foundation, (REU) – DBI–9605167. Neural basis of cognition undergraduate summer research program, 4/15/97-9/30/00; \$173,746.
- National Science Foundation, BIR-9413228. Research training group in neural processing in cognition. PI: Walter Schneider; Co-PIs: Bard Ermentrout, Jay McClelland, and Daniel Simons. 9/1/97-6/30/01; \$899,933.
- National Science Foundation, BIR-9014347: Research training group in neural processing in cognition. PI: Walter Schneider; Co-PIs: Bard Ermentrout, Jay McClelland, and Dan Simons. 9/15/90-8/30/00; \$1,356,210.
- National Institute of Mental Health, NIMH 5R01-DC03378-02: Functional neuroanatomy of normal and impaired language. PI: Steven Small, University of Maryland. 9/29/96-8/31/01, \$1,784,029 (Walter Schneider: subproposal).
- National Institutes of Health, HS 32395-02. Mapping human attention & memory control with fMRI. 2/6/96- 1/31/01; \$937,167.
- Office of Naval Research. Brain imaging of human skill acquisition and workload processing. 7/1/95-6/30/98; \$529,957.
- Office of Naval Research, SBIR. Turn-key system for fMRI. 1/1/96-12/30/97; \$697,853.
- National Science Foundation, SBIR BMI-9405202. A graphical experiment specification interface: A reasoning support system and generator for behavioral research. 9/1/94 - 8/31/97; \$299,220.
- Army Research Institute. Skill acquisition, transfer, and retention for high workload performance. 10/1/92-4/30/96; \$327,000.
- Office of Naval Research. Tracking the biology of dynamic cognitive processing in working memory and skill acquisition. 6/1/92-6/30/95; \$406,038.
- Grant in Office of Naval Research. Laboratory for localizing dynamic cognitive processing. 5/1/91-4/30/92; \$94,474.
- McDonnell-Pew Foundation. Neurophysiological basis of shifting attention. 5/1/91-4/30/92; \$59,702.
- Office of Naval Research. U. S. Participation in Conference on Hybrid Models of Cognition, 5/1/91-9/30/91; \$10,500.
- Army Research Institute, MDA-903-89-K-0174; Developing declarative knowledge and automatic components for performing high workload tasks. 9/30/89-9/30/92; \$477,366.
- Office of Naval Research. Brain communication theory, attention and automaticity. 6/87-5/90; \$329,995.
- Army Research Institute. Quick development microcomputer system: Training automatic component skills for electronic troubleshooting. 8/1/86-7/30/89; \$470,776.
- Department of the Navy. Developing automatic component skills for air intercept control. 7/1/86-6/31/87; \$80,068.
- Office of Naval Research: Workshop. Theory on attention and arousal. With Norman M. Weinberger, University of California, Irvine, 1/1/86-12/30/86; \$37,468.

Defense Advanced Research Projects Agency (DARPA). Microprocessor training for developing automatic component skills in dynamic environments. 6/1/84-5/30/86; \$145,030.

Office of Naval Research. Microprocessor-based trainee selection and skill training for high workload environments. 10/1/83-12/30/86; \$432,241.

National Institute of Mental Health. Automatic/control processing in heterarchies. 6/1/81-6/1/84; \$157,460.

Office of Naval Research. Individual differences and training of automatic/control heterarchical processing. 10/1/80-9/30/83; \$205,789.

National Institute of Mental Health. Automatic/control processing nature and development. 1/1/78-12/30/80; \$82,879.

Office of Naval Research. Individual differences in automatic and controlled human information processing. 10/1/77-9/30/80; \$86,470.

University of Illinois Research Board. Automatic and controlled processing. 1977-1978; \$5,400.

National Institute of Mental Health, Small Grants Program. Two types of perception in search and attention. 9/15/75-8/31/76; \$4,950.

Research grants as member of research team:

ONR/DURIP: Massive Computing Capabilities to Qualitatively Advance DoD Cognitive Applications that Use Brain Imaging. PI Marcel Just, Co-Pi Walter Schneider, John Anderson, Tom Mitchell 1/1/2012-12/28/2013 (estimated) \$852,494 (Pitt part ~\$150,000) no indirect as it is equipment only.

Office of Navy Research, ONR No. 010360. Cognitive, biological, and computational analyses of automaticity in complex cognition. PI: Marcel Just; Co-PI: Walter Schneider . 06/01/01 – 06/30/07; \$4,833,321. (Carnegie Mellon University).

Department of Health & Human Services, PHS. Usability and interoperability of neuroimaging software. PI: Jonathan Cohen; Co-PIs Cameron Carter, Walter Schneider. 7/1/00 - 6/30/05; \$1,542,510.

National Science Foundation, Large Scale Equipment Grant . Acquisition of a 3 Tesla MRI scanner for brain imaging. PI: Marcel Just; Co-PI: Walter Schneider 9/1/00-6/1/02; \$1,893,000. (University of Pittsburgh/Carnegie-Mellon Consortium).

Department of Health and Human Services, PHS. Graduate education in the neural basis of cognition. PI: James McClelland; Co-PIs: Peter Strick, David Touretzky, Walter Schneider. 7/1/00 - 6/30/05; \$772,108. (Carnegie Mellon University).

National Science Foundation, #DUE-9952631: Laboratory for undergraduate instruction and research in psychology. PI: Carey Ryan; Co-PI: Walter Schneider. 5/1/00 - 4/30/02; \$29,712.

National Science Foundation, IGERT #9987588. Innovative cross-disciplinary training in neuroscience and computation, PI: David Touretzky; Co-PI: Walter Schneider. 6/1/00 -5/31/05; \$1,800,000. (Carnegie Mellon University).

James S. McDonnell Foundation, 98-3 CSEP EDU 02. Enhancing early literacy through tutors and computers. PI: Isabel Beck; Co-PIs: Bruce McCandliss and Walter Schneider. 6/1/98-5/31/02; \$598,509.

National Science Foundation, LIS 9720348. Intervention strategies that promote learning: Their basis and use in enhancing literacy. PI: James McClelland. Co-PI with Carnegie Mellon University,. 10/1/97-5/31/01; \$950,000.

University of Pittsburgh, Office of Child Development Seed Grant. Attentional dysfunction in children with Attention Deficit Disorder. 2/89-9/89, \$4,780 (Co-PIs: William Pelham & Walter Schneider).

Office of Naval Research. Learning, teaching, and discovery in artificial intelligence and psychology. (project leader awarded to Carnegie Mellon University; PI's A. Newell, H. Simon, & K. Van Lehn). 9/86-8/91, \$11,575,043.

National Science Foundation. An advanced scientific computer for simulating massively-parallel models of high-level cognitive processes. (Project leader awarded to Carnegie Mellon University; PI: J. McClelland). 8/86-7/87, \$300,000