CURRICULUM VITAE

ROBERT W. THATCHER, Ph.D.

I. EDUCATION

University of Oregon, B.S. (Chemistry)

University of Waterloo (Waterloo, Canada), Ph.D. (Psychology, Specialty Biopsychology)

II. POSTDOCTORAL TRAINING

Albert Einstein College of Medicine, Post-doctoral Training (Neurobiology & Functional Neuroanatomy)

New York Medical College, Post-doctoral Training (Neurophysiology & Clinical Neuroscience)

III. ACADEMIC AND INSTITUTIONAL APPOINTMENTS

2006- Director NeuroImaging Applied Neuroscience Laboratories, Applied Neuroscience Research Institute, St. Petersburg, Florida

1993-2006 Director Neuroimaging Lab and Director of EEG and MRI Defense and Veterans Head Injury Program, Bay Pines Veterans Administration Hospital, Bay Pines, Florida

1994 – 2006 Adjunct Professor, Department of Neurology, University of South Florida College of Medicine, Tampa, Florida

1991-1993 Special Expert and Project Officer - Multimodal Neuroimaging, National Institutes of Neurological Disorders and Stroke, Medical Neurology Branch, Clinical Neurosciences Program, Bethesda, Md.

1979-1991 Research Professor, Applied Neuroscience Research Institute University of Maryland School of Medicine, Baltimore, Md.

1979-1989 Research Professor, Department of Human Ecology, University of Maryland Eastern Shore and Director Applied Neuroscience Research Institute.

1981-1989 Director of the Neurometric Clinical Service, Maryland Medical Emergency Services Institute, University of Maryland School of Medicine, Baltimore, Md.

1977-1979 Research Associate Professor, Dept. of Psychiatry, New York University School of Medicine, New York, New York.

1973-1977 Assistant Professor, Dept. of Psychiatry, New York Medical College, New York, New York.

1972-1973 Post-doctoral Fellow, Dept. of Physiology, New York Medical College, New York, New York.

1971-1972 Instructor, Neuroanatomy, Albert Einstein College of Medicine, Bronx, New York.

1971-1972 Post-doctoral Fellow, Department of Anatomy Albert Einstein College of Medicine, Bronx, New York.

1970-1971 Visiting Assistant Professor, Dept. of Psychology, Indiana University.

IV. CERTIFICATES

1978- **Certified as an Expert in Neurometrics and Clinical Electrophysiology. New York University School of Medicine, New York, New York.**

1992 **Certificate for course completion as Basic Project Officer, National Institutes of Health.**

1994 **Certified Neurotherapist, Academy of Certified Neurotherapists.**

1998 **Certified in Scientific Specialty of QEEG, American Board of Certification of Quantitative Electroencephalography, September, 1998 - Diplomate**

1999 **Biofeedback Certification Institute of America – QEEG certificate.**

2000 **Certified in EEG/QEEG/Neurophysiology, EEG and Clinical Neuroscience (American Board of Electroencephalography and Clinical Neurophysiology – ABEN)). Ph.D. Examination Board member – ECNS/ABEN**

V. PROFESSIONAL AFFILIATIONS

1992- **Chairman of the committee for the integration of EEG/MEG into the "Human Brain-Map", as part of the NIMH and NSF Human Brain Project.**

1994- **Member of Scientific Committee of the International Functional**

Brain Mapping Society.

1995- **Member of the Brain Map Advisory Board for the Human Brain Map Database.**

1997- **Executive Committee Member - American Psychiatric Electrophysiology Association and American Medical EEG Society.**

1998- **Elected Executive Board Member, Society for the Study of Neuronal Regulation.**

1998- **Executive Board Member, EEG and Clinical Neuroscience Society and Committee member to revise the Conventional EEG exam for Ph.D.s**

1998- **Board member American Board of Electroencephalography and Clinical Neurophysiology – ABEN**

2000- **National Institutes of Health Scientific Advisory Board member for the creation of a Developmental MRI database, birth to age 18 years.**

2001-2003 **Secretary, EEG and Clinical Neuroscience Society**

2003- **Re-elected Executive Board Member, EEG and Clinical Neuroscience Society and 2004-2005 Program Committee member**

2012- **Appointed to the Medical Advisory Board of BrainScope, Inc. for evaluation of traumatic brain injury in military personnel.**

VI. OTHER PROFESSIONAL ACTIVITIES

A. EDITORIAL CONSULTANT AND REVIEWER

1972-2016 **EEG and Clin. Neurophysiol; EEG and Clinical Neurophysiology; Clinical Neurophysiology; Science; Journal of Learning Disabilites; Internat. J. Neuroscience; J. of Neuroimaging; J. of Aging; Neuroimaging; Devel. Psychology; Devel. Psychopathology; Neuroimaging, Brain and Language; Brain Topography; Internat. J. of Psychophsiol.; J. of Neurotherapy; Human Brain Mapping; Perception and Motor Skills, Developmental Neuropsychology; Clinical Electroencephalography; Brain and Cognition.**

B. EDITORIAL REVIEW BOARDS

1995-2002 **Editorial Board of Neuroimaging**

1993-1997 **Associate Editor, Journal of Neuroimaging**

1997-1999 Associate Editor, Journal of Neurotherapy

1983-1998 Editorial Advisory Board, Journal of Learning Disabilities

2003- Editorial Board, Journal of Clinical Electroencephalography and Neuroscience

2009- Editorial Board Open Medical Imaging Journal

C. STUDY SECTION REVIEWER

1996-2016 National Institutes of Health SBIR Primary Reviewer (8); SBIR Secondary Reviewer; NIH-NIMH; NIH - Human Brain Map, EEG inverse solutions, Brain Networks.

1995- National Institutes of Health SBIR Primary Reviewer (2); SBIR Secondary Reviewer(2).

1994- National Institutes of Health RO1 Primary Reviewer (1)

1993- National Institutes of Health SBIR Primary Reviewer (4)

1992- National Institutes of Health RO1 Primary Reviewer (2)

1990- National Institutes of Health RO1 Secondary Reviewer (2)

1989- National Science Foundation Secondary Reviewer (1)

1980-1988 National Institutes of Health, National Science Foundation and Private Foundation Primary and Secondary Reviewer

VII. MEMBERSHIP IN SCIENTIFIC SOCIETIES

1973-1981 American Psychological Association
1973- American Association for the Advancement of Science
1972-1981 Society for Neuroscience
1973-1994 New York Academy of Science
1978-1988 International Society of Neuropsychology
1994-1997 Society of Magnetic Resonance in Medicine
1994-1997 Society for Magnetic Resonance Imaging
1996-2000 Human Brain Mapping Society
1996-1999 Society for Neuronal Regulation Research
1998- EEG and Clinical Neuroscience Society
1999- International Society for Neurofeedback & Research
2009- Association for Applied Psychophysiology & Biofeedback

X. PROFESSIONAL AWARDS AND HONORS

1968-1970 National Research Council Scholarship, University of Waterloo

1970- Undergraduate Teaching Fellowship, University of Waterloo

1971-1972 N.I.H. Postdoctoral Fellowship

1972-1973 N.I.H. Postdoctoral Fellowship

1981- Outstanding Scientist of the Year Award, Science Digest Magazine, December, 1981.

1982- Third Prize for a Scientific Exhibit, Congress of Neurological Surgeons, Toronto, Canada, October, 1982.

1985- Chancellor's Award for Outstanding Research, University of Maryland Eastern Shore, March 27, 1985.

1988- IBM Fulcrum Award For Advanced Education Project.

1991- Awarded Research Fellowship to the Center for Advanced Study, Stanford University, 1992 - 1993.

1998- Life Time Achievement Award for Work in the Scientific Specialty of QEEG, American Board of Certification of Quantitative Electroencephalography, September, 1998.

2008- The Hans Berger Award of Merit, Association for Applied Psychophysiology and Biofeedback, Neurofeedback Division, May 16, 2008.

2009- Life Time Achievement Award in EEG and Quantitative EEG, International Society for Neurofeedback and Research, Indianapolis, Indiana, September, 2009.

2012- Best Paper Award: "Differentiating transformational and non-transformational leaders on the basis of neurological imaging". Published in The Leadership Quartertly, 2012. Sponsored by the Center for Creative Leadership.

XI. MAJOR RESEARCH INTERESTS AND EXPERIENCE

Programing: Assembly language (IBM 360; PDP-12; PDP-11); Fortran, Basic, 'C', MATLAB and IDL.

Mathematics: Taken courses in calculus, differential equations, advanced calculus and complex analysis. Have studied the history of mathematics, differential geometry, algebraic topology and nonlinear dynamics.

Research Experience: **Have published papers in developmental neurobiology, learning, memory, cognitive neuroscience, neurotoxicology, neurophysiology of time representation, neurophysiology of aesthetics, nonlinear dynamical models of brain development, mathematical models of EEG coherence, mild and severe neural trauma and functional neuroimaging. Experienced in multichannel EEG, Positron Emission Tomography (PET), Magnetic Resonance Imaging (MRI), multimodal registration of PET, MRI and EEG, dipole analyses of EEG and evoked potentials, intracellular and extracellular single unit analyses and multiunit analyses. Experienced in MRI segmentation and brain image classification analyses. JTFA analyses of coherence, power, phase and phase reset in controls, autistic subjects, traumatic brain injury and neuropsychological functioning.**

Clinical Experience: **Have written over 10,000 test reports using psychometrics and/or neuroimaging and/or electrophysiology. Clinical neuroscientist at the New York Medical College quantitative EEG clinic with E. Roy John in 1974. In 1977, with Drs. E. Roy John, Leslie Prichep and Bernard Karmel developed the first QEEG certification examination at NYU School of Medicine. Founded and directed the Neurometric Clinical Service at Shock Trauma, University of Maryland during which approximately 1,500 head trauma patients were evaluated. Patient experience includes children with learning disabilities and ADD, adults with tumors, strokes and mild and severe brain injury. Computerized EEG evaluator and report writer for Traumatic Brain Injured (TBI) patients as part of the Department of Defense and Veterans Head Injury Program (DVHIP). Responsible for training of neurology residents in clinical computerized EEG and clinical evoked potential analyses of various types of neurological disorders.**

Administrative Experience: **Have administered public and private grants, directed the Applied Neuroscience Institute at the University of Maryland, directed the Neurometrics Clinical Service at Shock Trauma, University of Maryland. Project officer for the NIH 128 channel EEG and EP system, responsible for design and implementation. Project director for multi-center EEG-MRI analyses of TBI patients for the Department of Defense and Veterans Head Injury Program (DVHIP), 1993 – 2006. Director of the Applied Neuroscience Research Institute.**

Business Experience: **Founder (2001) and President & CEO of Applied Neuroscience, Inc.**

XII. CURRENT AND PAST FUNDED RESEARCH PROJECTS

P.I.: USDA Grant (HRD-0200) 1979-1984
P.I.: USDA Grant (CSRS 801-12-09C) 1979-1982
P.I.: USDA GRANT (CSRS 701-15-05B) 1979-1983
P.I.: MineraLab Grant 1981-1983 ($20,000 in free analyses)
P.I.: NIH (RR-08079-09) 1982-1985
P.I.: Gallaudet College for the Deaf 1984-1985

Co-P.I. Ryan Foundation Grant 1985-89
Co-P.I. Columbia Foundation Grant 1985-89
P.I.: Cardiovascular Research Ltd. Grant 1985-89
P.I.: USDA Grant (NUT-0402) 1985-89
P.I.: I.B.M. Fulcrum-II Equipment Grant 1987-91
P.I.: D.O.D. research grant in traumatic brain injury (DVHIP) 1994-2,001
P.I.: 3-Dimensional analyses of EEG and MRI in TBI patients Bay Pines Foundation – 2001-2006

XIII. PROFESSIONAL FACILITIES

a. Location of Office: 248 176th Terrace Drive, Redington Shores, Florida
b. Location of laboratories: 8200 Bryan Dairy Rd, Suite 315, Largo, Florida

XIV. GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS SUPERVISED

Dr. Eileen Maisel, University of Connecticut, 1975-1979.
Dr. David Cantor, State University of New York at Stony Brook, 1981-1985.
Dr. Harriet Hanlon, Virginia Polytechnic Institute, 1991-1994

XV. BIBLIOGRAPHY

A. BOOKS

Thatcher, R.W. and John, E.R. Functional Neuroscience, Vol. 1: Foundations of Cognitive Processes, E.R. John and R.W. Thatcher, Editors. L. Erlbaum Assoc., N.J., l977.

John, E.R. Functional Neuroscience, Vol. II: Neurometrics: Quantitative Electrophysiological Analyses. E.R. John and R.W. Thatcher, Editors. L. Erlbaum Assoc., N.J., l977.

Harmony, T. Functional Neuroscience, Vol. III: Neurometric Assessment of Brain Dysfunction in Neurological Patients. E.R. John and R.W. Thatcher, Editors. L. Erlbaum Assoc., N.J., l984.

John, E.R., Prichep, L.S., Ahn, H., Kaye, H., Brown, D., Easton, P., Karmel, B., Toro, A., and Thatcher, R. Neurometric Evaluation of Brain Function in Normal and Learning Disabled Children. The University of Michigan Press, Ann Arbor, Mich., 1989.

Thatcher, R.W., Hallet, M., Zeffiro, T., John, E.R. and Huerta, M., Editors. Functional Neuroimaging: Technical Foundations, New York, Academic Press, 1994.

Thatcher, R.W.,Lyon, G.R., Rumsey, J. and Krasnegor, N. Editors. Developmental

Neuroimaging: Mapping the Development of Brain and Behavior, Academic Press, Florida, 1996.

Thatcher, R.W. Handbook of Quantitative Electroencephalography and EEG Biofeedback, Anipublishing, Florida, 2012.

Thatcher, R.W. and Lubar, J.F. (Editors) (2014). Z Score Neurofeedback: Clinical Applications. Academic Press, San Diego, CA.

Thatcher, R.W. 2nd Edition. Handbook of Quantitative Electroencephalography and EEG Biofeedback, Anipublishing, Florida, 2016.

B. BOOK CHAPTERS

Thatcher, R.W. Neural space-time structures involved in the reconstruction of an interval of time. In: Holography in Medicine, P. Gregeus, (ed.), IPS Science and Technology Press, 1975.

Thatcher, R.W. and John, E.R. Information and mathematical quantification of brain states. In: Behavior and Brain Electrical Activity, N. Burch and H.L. Altchuler, (eds.) Plenum Press, 1975.

Thatcher, R.W. Electrophysiological diagnosis of the learning disabled child. In: Proceedings of Panel on Basic Issues in Working with the Learning Disabled Neurologically Handicapped Child, H. Blau, (ed.), Blau Research Center, Inc., Queens, N.Y., pp. 21-26, 1975.

Thatcher, R.W. On the neural representation of experience and time. In: Experience Forms: Their Cultural and Individual Place and Function, G. Haydu (ed.), Mouton, Amsterdam, l976.

Thatcher, R.W. Electrophysiological correlates of animal and human memory. In: The Neurobiology of Aging, R.D. Terry and S. Gershon (eds.), Raven Press, 1976.

Thatcher, R.W. and April, R.S. Evoked potential correlates of semantic information processing in normals and two aphasic patients. In: The Neuropsychology of Language: Essays in Honor of Eric Lenneberg, R.W. Rieber, (ed.) l976.

Thatcher, R.W. Evoked potential correlates of hemispheric lateralization during semantic information processing, In: Lateralization of the Nervous System, S. Harnad (ed.), Academic Press, l977.

Thatcher, R.W. Review of the Book: The Neurophysiological Aspects of Human Mental Activity, 2nd Edition", N.P. Bekhtereva, Cambridge University Press, 1977.

Kaye, H., Thatcher, R.W., and Karmel, B.Z. Electrophysiological approaches to non-biased pupil assessment. In: Proceedings of the Multi Cultural Colloquium on Non-Biased Pupil Assessment , L. Elm (ed.), U.S. Government Printing Office, Washington, D.C., 1978.

Thatcher, R.W. Electrophysiological analyses of cognition. In: Proceedings of the Winter Brain Research Conference, C. Ying-Ling (ed.), Brain Information service, UCLA, 1978.

Thatcher, R.W. Neurolinguistics: Evoked potential correlates of language and cognition. In: Perspectives in Event-Related Brain Potential Research, D. Otto (ed.), U.S. Government Printing Office, Washington, D.C., l978.

Thatcher, R.W. Neuroelectric techniques in clinical neurology. In: The Proceedings of the 17th Annual San Diego Biomedical Symposium, Academic Press, 1978.

Thatcher. R.W. and Maisel, E.B. Functional landscapes of the brain: An electrotopographic perspective. In: Evoked Brain Potentials and Behavior, H. Begleiter (ed.), Plenum Press, l979.

Thatcher, R.W. Spatial synchronization of brain electrical activity related to memory, logic and semantic information processing. In: The Neurophysiological Mechanisms of Goal Directed Behavior and Learning, First Joint Soviet-American Symposium in Psychology, R.F. Thompson (ed.), Academic Press, 1980.

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John, E.R., Karmel, B., Corning, W., Easton, P., Brown, D., Ahn, H., John, M., Harmony, T., Princhep, L., Toro, A., Gershon, I., Bartlett, F., Thatcher, R., Kaye, H., Valdes, P., and Schwartz, E. Neurometrics: Computerized diagnosis and remediation of brain dysfunctions. In: Health Handbook, G.K. Cracko, (ed.), North Holland Publishing Co., 1979.

Thatcher, R.W., McAlaster, R., Horst, R.L. and Lester, M.L. Evoked Potential Correlates of Cognitive Functioning in Children. In A. Rothenberger (Ed.),Developments in Neurology, Vol. 6; Event Related Potentials in Children, Elsevier Biomedical Press, Holland, 1982, pp. 337-344.

Horst, R.L., Thatcher, R.W., Lester, M.L. and McAlaster, R. Differential Effects of Age on sensory Evoked Potentials in Children. In A. Rothenberger (Ed.), Event Related Potentials in Children, Elsevier Biomedical Press, Holland, 1982, pp. 71-76.

Fishbein, D. and Thatcher, R.W. Nutrition and electrophysiological indices of maladaptive behavior. In: H. Lieberman and R. J. Wurtman (Eds.), Research Strategies for Assessing the Behavioral Effects of Foods and Nutrients, and Nutrients, Conference Proceedings, M.I.T., November 9, 1982.

Thatcher, R.W., McAlaster, R., Lester, M.L., Horst, R.L. and Cantor, D.S. Hemispheric EEG Asymmetries Related to Cognitive Functioning in Children. In: Cognitive Processing in the Right Hemisphere, A. Perecuman (Ed.), New York: Academic Press, (1983).

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McAlaster, R., Thatcher, R., Krause, P.J. and Geisler, F. Diagnostic value of evoked potentials in evaluating conversion syndrome in neurotrauma patients. In: New Techniques in Spinal Cord Monitoring, T. Ducker and B. Randal (Eds.), Plenum Press, 1987.

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Thatcher, R., Wang, B., Toro, C. and Hallett, M. Human Neural Network Dynamics Using Multimodal Registration of EEG, PET and MRI. In: R. Thatcher, M. Hallett, T. Zeffiro, E. John and M. Huerta (Eds.), Functional Neuroimaging: Technical Foundations, Academic Press: New York, 1994.

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Toro, C., Wang, B., Zeffiro, T., Thatcher, R.W. and Hallett, M. Cortical activation accompaning self-paced finger movements: Integration of equivalent dipole sources with MR and PET images. In: R. Thatcher, M. Hallett, T. Zeffiro, E. John and M. Huerta (Eds.), Functional Neuroimaging: I- Technical Foundations, Academic Press: New York, 1994.

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Thatcher, R.W. EEG database guided neurotherapy. In: J.R. Evans and A. Abarbanel Editors, Introduction to Quantitative EEG and Neurofeedback, Academic Press, San Diego, 1999.

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Thatcher, R.W. and Lubar, J.F. History of the scientific standards of QEEG normative databases. In: Introduction to QEEG and Neurofeedback: Advanced Theory and Applications, T. Budzinsky, H. Budzinsky, J. Evans and A. Abarbanel (eds)., Academic Press, San Diego, CA, 2008.

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C. JOURNAL ARTICLES:

Thatcher, R.W. and Kimble, D.P. Effect of amygdaloid lesions on retention of an avoidance response in overtrained and non-overtrained rats. Psychon. Sci., 6(1), :9-10, l966.

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Thatcher, R.W. and Purpura, D.P. Postnatal development of thalamic synaptic events underlying evoked recruiting responses and electrocortical activation. Brain Research, 60, :2l-24, 1973.

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Lester, M.L., Thatcher, R.W. and Monroe-Lord, L. Refined Carbohydrate Intake, Hair Cadmium Levels and Cognitive Functioning in Children. Journal of Nutrition and Behavior, 1: 3-13, 1982.

Vance, H.B., Lester, M.L. and Thatcher, R.W. Interscorer reliability of MPDT-R. Psychology in Schools, 20: 13-17, 1983.

Thatcher, R.W. and Lester, M.L. Anatomically-related variations in trace metal concentrations in hair. Journal Clinical Chemistry, 29(9): 1691, 1983.

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Lead Toxins in Rural Children, Journal of Learning Disabilities, 16: 355-359, 1983.

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Thatcher, R.W. and Fishbein, D.H. Computerized EEG, nutrition and behavior. Journal of Applied Nutrition, 36: 81-102", 1984.

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Thatcher, R.W., and Lester, M.L. Nutrition, Environmental Toxins and Computerized EEG: A Mini-Max Approach to Learning Disabilities. Journal of Learning Disabilities, 18: 287 - 297, 1985.

Cantor, D.S., Thatcher, R. W. and Ozand, P. Choline Supplementation in Downs Syndrome: A Case Study Psychological Reports, 58: 207 - 217, 1986.

Thatcher, R.W., Krause, P and Hrybyk, M. Corticocortical Association Fibers and EEG Coherence: A Two Compartmental Model. Electroencephalog. Clinical Neurophysiol., 64: 123 - 143, 1986.

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Cantor DS, Thatcher RW, Hrybyk M, Kaye H. Computerized EEG analyses of autistic children. J. Autism Dev. Disord., 16(2):169-87, 1986.

Fishbein, D. and Thatcher, R.W. New Diagnostic Methods in Criminology: Assessing Organic Sources of Behavioral Disorders. Research on Crime and Delinquency, 23 (3): 240 - 267, 1986.

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Thatcher, R. W., Biver, C., McAlaster, R and Salazar, A.M. Biophysical linkage between MRI and EEG coherence in normals and traumatic brain injury. 4th International Conference on Functional Mapping of the Human Brain, Montreal, Quebec, June 7 – 12, 1998.

Thatcher, R. W., New data on quantitative EEG and Quantitative MRI findings in traumatic brain injury: Implications for neurotherapy. Society of Neuronal Regulation Annual Meeting, Austin, Texas, September 16-21, 1998.

Thatcher, R. W., Neural dynamics of traumatic brain injury. Sixth Annual Future Health Congress, Palm Springs, California, February 5 – 11, 1999.

Thatcher, R.W., Biver, C., J. Gomez M, and Salazar, A.M. 3-Dimensional vector analysis of MRI relaxometry and current source localization (LORETA) of EEG in traumatic brain

injury. 5th International Conference on Functional Mapping of the Human Brain, Dusseldorf, Germany, June 7 – 12, 1999.

Thatcher, R.W. Frontal Lobe Consequences of Traumatic Brain Injury. Florida Psychological Association, 1999 Summer Convention, Palm Beach, Florida, July 8-11, 1999.

Thatcher, R.W. Biophysical Linkage Between MRI, EEG and Cognition in Traumatic Brain Injury. Florida Psychological Association, 1999 Summer Convention, Palm Beach, Florida, July 8-11, 1999.

Thatcher, R.W., Gomez, J., Biver, C. and Salazar, A. Capacitive effects and the EEG. 10th International Society for Brain Electromagnetism, Adelaid, Australia, October, 1999.

Thatcher, R.W., Biver, C., J. Gomez M, and Salazar, A.M. 3-Dimensional vector analysis of MRI relaxometry and current source localization (LORETA) of EEG in traumatic brain injury. NeuroImage, 9(6), S110, 2000.

Thatcher, R.W. (2000) "An EEG Least Action Model of Biofeedback" 8th Annual ISNR conference, St. Paul, MN, September.

Thatcher, R.W., Biver, C., J. Gomez M, North, D., and Salazar, A.M. Normative LORETA EEG database validations and reliability measures. EEG and Clinical Neuroscience Society, Monterey, Calf., 2001.

Thatcher, R.W., Biver, C., J. North, D, and Salazar, A.M. EEG analyses of traumatic brain injury: History and summary of relevant results. EEG and Clinical Neuroscience Society, Monterey, Calf., 2001.

Thatcher, R.W. NeuroGuide EEG analysis workshop. International Society of Neuronal Regulation Annual Meeting, Scottsdale, Arizona, September 16-21, 2002.

Thatcher, R.W., North, D., Biver, C. EEG normative databases of the differences between eyes open vs. eyes closed conditions. International Society of Neuronal Regulation Annual Meeting, Houston, Texas, September, 2003.

Thatcher, R.W., North, D., Biver, C. EEG discriminant analyses of children with learning disabilities. International Society of Neuronal Regulation Annual Meeting, Houston, Texas, September, 2003.

Thatcher, R.W., North, D., Biver, C. EEG inverse solutions and parametric vs. non-parametric statistics of Low Resolution Electromagnetic Tomography (LORETA). International Society of Neuronal Regulation Annual Meeting, Houston, Texas, September, 2003.

Thatcher, R.W., North, D., Biver, C. EEG analyses of children with learning disabilities. Eleventh Annual Future Health Congress, Palm Springs, California, February, 2004.

Thatcher, R.W., North, D., Biver, C. EEG and Intelligence: Univariate and Multivariate Comparisons Between EEG Coherence, EEG Phase Delay and Power, European International Society of Neuronal Regulation, Winterthur, Switzerland, February 24 – 28, 2004.

Thatcher, R.W., North, D., Biver, C. EEG and Intelligence: The Frontal Lobes and EEG Coherence and Phase Delays, International Society of Neuronal Regulation, Ft. Lauderdale, Florida, August 28, 2004.

Thatcher, R.W. and Collura, T. Z Score Biofeedback and New Technology. International Society of Neuronal Regulation Annual Meeting, Atlanta, GA, September 16-21, 2006.

Thatcher, R.W., Biver, C. and North, D. EEG Phase Reset. EEG and Clinical Neuroscience Society Annual Meeting, Boston, MA., EEG and Clinical EEG and Neuroscience, 37(2): 278-279, 2006.

Thatcher, R.W., Biver, C. J. and North, D. M. Spatio-Temporal Current Source Correlations and Cortical Connectivity. EEG and Clinical Neuroscience Society Annual Meeting, Boston, MA., EEG and Clinical EEG and Neuroscience, 37(2): 279-300, 2006.

Thatcher, R.W., North, D. M, Biver, C. J. Intelligence and EEG Current Density Using LORETA. EEG and Clinical Neuroscience Society Annual Meeting, Boston, MA., EEG and Clinical EEG and Neuroscience, 37(2): 278-279, 2006.

Thatcher, R.W., North, D. M. and Biver, C. J. The development of cortical connectivity as measured by EEG coherence and phase. International Society of Neuronal Regulation, San Diego, Calif, September 22, 2007.

Thatcher, R.W. North, D.W. and Biver, C.J. Intelligence and EEG coherence, phase and phase reset. AAPB, Annual Conference, Daytona Beach, Fl., May 17, 2008.

Thatcher, R.W., North, D.W. and Biver, C.J. Intelligence and EEG coherence, phase and phase reset. International Society for Neurofeedback and Research, Annual Conference, San Antonio, TX, August 27 - 31, 2008.

Cannon, R.L.,Thatcher, R.W., Baldwin, D.R. and Lubar, J.F. EEG LORETA and the Default Mode of the Brain (2009). Human Behavior-Computational Modeling and Interoperability (HB-CMI) conference at Oak Ridge National Laboratory. Published in the HB-CMI 2009 Conference Proceedings (IEEE).

Cannon, R.L.,Thatcher, R.W., Baldwin, D.R. and Lubar, J.F. EEG LORETA and the Default Mode of the Brain, 6th Annual World Congress for Brain Mapping and Image Guided Therapy. Harvard Medical School. Functional Integration of the electroencephalograph in the default mode of brain function. NeuroImage, 2009.

Thatcher, R.W., North, D., Neurbrander, J., Biver, C.J., Cutler, S. and DeFina, P. Autism and EEG phase reset: Deficient GABA mediated inhibition in thalamo-cortical circuits. ISNR, Indianapolis, IN, September 2009.

Keeser, D., S. Karch, V. Kirsch, J.R. Davis, A. Länger, A. Chrobok, F. Loy, T. Surmeli, H. Engelbregt, B. Minton, R.W. Thatcher, O.Pogarell EEG and functional connectivity in the sensor and source space of patients with major depression. Human Brain Mapping conference, Munich, Germany 2013.

Thatcher, R.W., (2013). Phase Reset between Brodmann areas of the default mode network. Society for Neurofeedback and Research, Annual conference, Dallas, Texas, September 2013.

Thatcher, R.W. (2014). Key Note speaker "Mechanisms of neuron selection and synchronization and why Psychiatry cannot afford to be neurophobic", ANT Neuromeeting, January 29-February 1, 2014, Beaune, Burgundy, France.

Thatcher, R.W. (2014). A LORETA brain-computer-interface for treatment of psychiatric disorders. ANT Neuromeeting, January 29-February 1, 2014, Beaune, Burgundy, France.

Thatcher, R.W., (2014). Functional connectivity, diffusion tensor imaging (DTI) and LORETA coherence, phase and co-modulation. Society for Neurofeedback and Research, Annual conference, San Diego, California, October 17, 2014.

Thatcher, R.W., (2014). On the relationship between EEG phase reset in the time domain and EEG power in the frequency domain. Society for Neurofeedback and Research, Annual conference, San Diego, California, October 18, 2014.

Thatcher, R.W. (2014). Neuropsychiatry and Quantitative Electroencephalography (qEEG) in the 21st Century: Why Psychiatry Cannot Afford to be Neurophobic. American Academy of Child and Adolescent Psychiatry, San Diego, CA.

Thatcher, R.W. (2014). Mechanisms of Neuron Selection and Synchronization and why Psychiatry Cannot Afford to be Neurophobic. Applied Neuroscience Society of Australasia (ANSA), Adelaide, Australia, August, 2014.

Thatcher, R.W. (2014). Neuropsychiatry and Quantitative Electroencephalography (qEEG) in the 21st Century: Why Psychiatry Cannot Afford to be Neurophobic. American Academy of Child and Adolescent Psychiatry, San Diego, CA.

Thatcher, R.W. (2016). Neuropsychiatry and Quantitative Electroencephalography (qEEG) in the 21st Century: Why Psychiatry Cannot Afford to be Neurophobic. Flemish Psychiatricv Association, Ghent, Belgium, March 4, 2016.

Thatcher, R.W. (2016). Linking Patient's Symptoms to Patient's Brain. Applied Psychophysiology and Biofeedback (AAPB) workshop. Seattle, WA, March 9, 2016

XVII. INVITED PRESENTATIONS AND SEMINARS

Krause, P., Walker, R., Lester, M.L. and Thatcher, R.W. Relations between two dietary recall instruments and hair mineral and metal concentrations. Poster presentation at the Twelfth Annual MBS Symposium, Wash. D.C., April, 1983 (abstract).

Purnell, K., Krause, P., Lester, M. and Thatcher, R.W. Interreliability and validity of 24hr recall vs long term food frequency surveys for nutritional assessment of children Poster presentation at the Twelfth Annual MBS Symposium, Wash. D.C., April, 1983 (abstract).

Hunter, S.M., Lester, M.L., and Thatcher, R.W. Genetic, nutritional and ecological factors affecting children's growth. Eighth Mid-Atlantic Regional MBRS Symposium, Virginia State University, Va., November, 1983 (Paper presentation and abstract).

Krause, P.J., Lester, M.L., and Thatcher, R.W. Hair element norms for children of normal intelligence. Eighth Mid-Atlantic Regional MBRS Symposium, Virginia State University, Va., November, 1983 (Paper presentation and abstract).

Thatcher, R.W., Cantor, D.S., McAlaster, R., Geisler, F., Meyer, W. and Salcman M. Comparisons between EEG, CT-Scan and Glasgow Coma Scale Predictors of Recovery of Function in Neurotrauma Patients. Proceedings of the American Association for Neurological Surgeons, San Francisco, April, 1984.

Krause, P.J., Lester, M.L., and Thatcher, R.W. Hair element norms for children. NIH/MBS National Research Symposium, Washington, D.C., April, 1984.

Cassidy, T.S., Cantor, D.S., Lester, M.L., and Thatcher, R.W. Predictive ability of ABSEP's in recovery from traumatic head injury. NIH/MBS National Research Symposium, Washington, D.C., April, 1984.

Hunter S.M., Lester, M.L., and Thatcher, R.W. Predictive validity and factor structure of the Minnesota Perceptual Diagnostic Test (MPDT-R). NIH/MBS National Research Symposium, Washington, D.C., April, 1984.

Fishbein, D., Thatcher, R.W., Lester, M.L. and Cantor D.S. Nutrition, trace elements and EEG in predicting behavior. Annual Convention of the American Society of Criminology, Denver, Colorado, November, 1983.

Thatcher, R.W. EEG Coherence: A Physiological Model, Presented at the Frontiers in Research Seminar Series, University of Maryland Eastern Shore, October 31, 1984.

Thatcher, R.W. Nutrition Environmental Toxins, and the use of Computerized EEG Analysis for Learning Disabled Children, Children, Keynote address of the ACLD Conference on Learning Disabilities, Phoenix, AZ, Oct. 12, 1984.

Thatcher, R.W. Predictive Diagnosis of Head Trauma Patients. Shock Trauma Grand Rounds, University of Maryland School of Medicine, Dec. 3, 1984.

Thatcher, R.W. Dietary Protective Agents Against Environmental Toxins in Children and Adolescents, Psychiatry Grand Rounds, University of Maryland School of Medicine, Dec. 4, 1984.

Thatcher, R.W. Mathematics and Brain Mechanism of Aesthetics. Invited Lecturer: Facultad de Psycologia, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico, Nov. 12, 1984.

Thatcher, R.W. The use of Factor Analysis to Describe Evoked Potentials in Children, Invited Lecturer: Facultad de Psycologia, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico, Nov. 13, 1984.

Thatcher, R.W. EEG Coherence and Intelligence in Children, Invited Lecturer: Facultad de Psycologia, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico, Nov. 14, 1984.

Thatcher, R.W. Nutrition, Environmental Toxins and Computerized EEG of Learning Disabled Children, Invited Lecturer: Facultad de Psycologia, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico, Nov. 15, 1984.

Thatcher, R.W. Predicting recovery of function in neurotrauma patients. International Neuropsychology Society Meeting, Denver, Colorado, February 1986.

Thatcher, R.W. Nutrition and Environmental Toxins: A Mini-Max Approach To Learning Disabilities. 39th Annual Association For Children With Learning Disabilities Conference. New York, New York, March, 1986.

Thatcher, R.W. Relations between trace elements, food intake and brain functions. Symposium on Trace Elements and Reproduction. Society for Trace Elements and Health. University of Amsterdam, Amsterdam, September, 1986.

Thatcher, R.W. Diagnostic value of evoked potentials in evaluating conversion syndrome in neurotrauma patients. Presented at the International Spinal Cord Monitoring Conf., Baltimore, Maryland, September, 1986.

Thatcher, R.W. Somatosensory evoked potential measures of nerve conduction in spinal cord patients. Presented at the International Spinal Cord Monitoring Conf., Baltimore, Maryland, September, 1986.

Thatcher, R.W. Aesthetics, Mathematics and Brain Function, Colloquium speaker, Department of Mathematics, Salisbury State College, October, 1986.

Thatcher, R.W., Walker, R.A. and Guidice, S. Ontogenetic development of the brain as

measured by EEG coherence in children. In: Proceedings of the South Eastern Research Conference on Child Development, Baltimore, Maryland, May, 1987.

Thatcher, R.W. An Electrophysiological Window into the Ontogenetic Development of the Human Brain. In: Conference Proceedings of Window on the Brain: Technological Frontiers in Neuropsychology, Mount Sinai Medical Center, New York, New York, October, 1987

Thatcher, R.W. EEG measures of cerebral development, Key Note Speaker, Institute for Training and Research in Auditory Conceptualization, Kansas City, November 21-22, 1988.

Thatcher, R.W. A phase-space model of human cerebral development. Harvard School of Graduate Education, Cambridge, Mass., February 22, 1989.

Thatcher, R.W. Non-linear dynamics of human cerebral development. First International Workshop on Machinery of the Mind, Havana, Cuba, February 28 - March 3, 1989.

Thatcher, R.W. Brain stimulation of comatose patients: Chaos and Non-linear dynamics of consciousness. First International Workshop on Machinery of the Mind, Havana, Cuba, February 28 - March 3, 1989.

Thatcher, R.W. Frontal lobe maturation: EEG coherence and phase measures. Symposium on the Role of Frontal Lobe Maturation in Cognitive and Social Development, Institute of Applied Human Development, Brock University, St. Catherines, Ontario, Canada, May 12, 1989.

Thatcher, R.W. Two compartmental model of human EEG coherence. Presentation at NIH Neurodynamics laboratory, February 21, 1990.

Thatcher, R.W. Maturation of the human frontal lobes: Physiological evidence for staging. International Neuropsychology Society Annual Meeting, Orlando, Florida, February 16, 1990.

Thatcher, R.W. Electrophysiological analyses of brain development. Presentation at the U.S.D.A. Human Nutrition Institute, San Francisco, Calif., June 14, 1990.

Thatcher, R.W. EEG discriminant analyses of mild head injury. International Society for Brain Electromagnetism, Toronto, Canada, July 27, 1991.

Thatcher, R.W. Mathematical analyses of EEG coherence. Human Motor Control Section, National Institutes of Health, September, 1991.

Thatcher, R.W. Cyclic cortical reorganization: Origins of human development. Presented at merge meeting, Human Motor Control Section, National Institutes of Health, March, 1992.

Thatcher, R.W. Multimodal registration of EEG, PET and MRI. Presented at the Interagency Committee for the Human Brain Project, National Institutes of Mental Health, June, 1992.

Thatcher, R.W. Multimodal registration of dipole histories using EEG coherence, PET and MRI. Presented at conference entitled Advances in Functional Neuroimaging, NIMH, NLM and NICHD sponsors, September, 1992.

Thatcher, R.W. Neural network switching during voluntary finger movement, Presented at NINDS Council meeting, December, 1992.

Thatcher, R.W. Advances in Multimodal registration of techniques. Presented at Neuroscan Workshop, McClain Va., January, 1993.

Thatcher, R.W. Neurophysiological foundations of the human EEG. Presented at workshop, Lexicor Medical Technologies, Atlanta, Ga., February, 1993.

Thatcher, R.W. Cyclic Cortical Reorganization during human development. Presentation at Center for Advanced Studies in Behavioral Sciences, Stanford, Calif, February, 1993.

Thatcher, R.W. Cyclic Cortical Morphogenesis: A nonlinear dynamical model of human development. Presented at Society for Research in Child Development, New Orleans, La., March, 1993.

Thatcher, R.W. Comprehensive predictions of outcome in head injured patients. Presented at workshop by Department of Defense Program on Rehabilitation of Head Injuries, Walter Reed Hospital, March, 1993.

Thatcher, R.W. , Toro, C., Pflieger, M.E. and Hallett, M. Multimodal registration of EEG, PET and MRI: Analyses of neural network switching, Proceedings of Society of Magnetic Resonance in Medicine: Functional MRI of the Brain, Arlington, VA, June 17-19, 1993.

Thatcher, R.W. The Multimodality Measurement of Brain Activity: An Overview of Critical Conceptual and Technical issues Related to the Application of Functional MRI, PET, SPECT and EEG. The Frontiers in Neuroimaging Workshop, National Institutes of Child Development, Bethesda, MD, July 14-16, 1993.

Thatcher, R.W. Developmental Neuroimaging and Cyclic Cortical Development. Invited lecture at the Brain & Behavioral Group of Harvard University, Cambridge, Mass., March 15, 1994.

Thatcher, R.W. Tomographic EEG/MEG. An invited lecture at the 46th Annual Meeting of the American Academy of Neurology, Washington, D.C., May 2, 1994.

Thatcher, R.W. and Camacho, M. The Neurotrauma Digital Imaging Project, Invited

presentation at the Center for Engineering and Medical Image Analysis (CEMIA), University of South Florida, Tampa, FL., May 16, 1994.

Thatcher, R.W. Human neural network switching using co-registration of EEG, PET and MRI. Presented at Workshop On Multimodal Registration, Neuroscan and the University of Chicago, Chicago, Ill, June 24-25, 1994.

Thatcher, R.W. Cyclic reorganization of prefrontal cortex during human postnatal development. Presented at workshop on The Prefontal Cortex: Evolution, Neurobiology and Behavioral Development, National Institutes of Child Health and Development, Bethesda, Md, September 19-20, 1994.

Thatcher, R.W. Human neural network switching during motor movements. Presented at the University of South Florida College of Medicine, Department of Physiology and Biophysics Seminar, Oct. 10, 1994.

Thatcher, R.W. A nonlinear dynamical model of human cerebral development. Presented at Conference on Dynamical Systems in Development, The Pennsylvania State University, October 20-21, 1994.

Thatcher, R.W. Human Neural Network Dynamics Using Multimodal Registration of EEG, PET and MRI. Neurology Grand Rounds Presentation, University of South Florida College of Medicine, February 9, 1995.

Thatcher, R.W. Human Neural Network Dynamics Using Multimodal Registration of EEG, PET and MRI. Department of Rehabilitation Medicine Grand Rounds Presentation, Hines VA Medical Center and Chicago Loyola University, February 17, 1995.

Thatcher, R.W. Applications of EEG Normative Data Bases and Discriminant Functions in Biofeedback. Twenty-Sixth Annual Meeting of the Association for Applied Psychophysiology and Biofeedback, Cincinnati, Ohio, March 12, 1995.

Thatcher, R.W. Human neural network switching using co-registration of EEG, PET and MRI. Presented at Workshop On Advancements in Electrophysiology, Neuro Scan, ACCSA, Mexico City, Mexico, March, 1995.

Thatcher, R.W. Cyclic reorganization of prefrontal cortex during human postnatal development. National Institutes of Health Conference on The Prefontal Cortex: Evolution, Neurobiology and Behavioral Development. September, 19-20, 1994.

Thatcher, R., Pflieger, M., Toro, C. and Hallett, M. Human Neural Network Dynamics Using Multimodal Registration of EEG, PET and MRI. First International Conference on Functional Mapping of the Human Brain, Paris, France, June 26-20, 1995.

Thatcher, R. W., Camacho, M., Walker, R.A., Salazar, A.M., Gosche, K. and Biver, C. Comparison of Brain Imaging and QEEG Findings in Patients with Brain Injury: A

Multisite Qantitative Study. Abstract for the Association for Applied Psychology and Biofeedback 27th Annual Meeting, Albuquerque, N.M., March, 1996.

Thatcher, R.W. Human neural network switching using co-registration of EEG, PET and MRI. Presented at Workshop On Advancements in Electrophysiology, Neuro Scan, University of Tokyo, Tokyo, Japan, May 1996.

Thatcher, R. W., Biver, C., Camacho, M., Salazar, A.M., and Walker, R.A. Multimodal Integration of MRI and EEG Coherence in Trauamtic Brain Injured Patients. Second International Conference on Functional Mapping of the Human Brain, Boston, MA, June 26-20, 1996.

Thatcher, R.W. Quantitative MRI Analyses in Alzheimer's patients and traumatic brain injured patients. University of South Florida College of Medicine Neurology Grand Round Conference, April 29, 1997.

Thatcher, R. W., Biver, C., Camacho, M., McAlaster, R and Salazar, A.M. Biophysical linkage between MRI, EEG and Cognition in traumatic brain injury. 14th Internal Congress of EEG and Clinical Neurophysiology, Florence, Italy, August 24-30, 1997.

Thatcher, R.W. Zero Phase Locking, Volume Conduction and Measures of Neural Network Switching in Human Subjects. Presented at Workshop On Advancements in Electrophysiology, Neuro Scan, Munich, German, September 12, 1997.

Thatcher, R. W., Biver, C., and Salazar, A.M. Biophysical Integration of MRI, EEG and Cognition in TBI Patients. Society of Neuronal Regulation Annual Meeting, Aspen, Colorado, September 16-21, 1997.

Thatcher, R.W. Molecular Neurobiology of Child Development. University of South Florida College of Medicine Psychiatry Grand Round Conference, March 13, 1998.

Thatcher, R.W. Combined Computerized MRI and Computerized EEG Analyses of Traumatic Brain Injury. Key Note Speaker: Association for Applied Psychophysiology and Biofeedback, April 1 to 5, 1998, Orlando, Florida.

Thatcher, R.W., Biophysical Linkage Between MRI and EEG in Closed Head Injury. Presented at Workshop On Advancements in Multimodal Neuroimaging, Neuro Scan, Nat. Inst. of Health, Bethesda, Md, April 17 to 19, 1998.

Thatcher, R.W., Multimodal Registration: Dynamics of Human Neural Networks. Key Note Speaker: The Sixth Annual Meeting of the American Psychiatric Electrophysiology Association, May 30 to 31, 1998, Toronto, Canada.

Thatcher, R.W., Applications of Multimodal Integration of EEG, fMRI, PET, SPEC and MRI. Key Note Speaker: The Fourth International Conference on Functional Mapping of the Human Brain. June 7-12, 1998, Montreal, Quebec, Canada.

Thatcher, R.W. Neural Dynamics of Traumatic Brain Injury. Key Note Speaker, Sixth National Future Health Workshop. February 9, 1999, Palm Springs, California.

Thatcher, R.W., Biver, C., J. Gomez M, and Salazar, A.M. 3-Dimensional Vector Analysis of MRI Relaxometry and Current Source Localization (LORETA) of EEG in Traumatic Brain Injury. 5th International Conference on Functional Mapping of the Human Brain, Dusseldorf, Germany, June 7 – 12, 1999.

Thatcher, R.W. Frontal Lobe Consequences of Traumatic Brain Injury. Florida Psychological Association, 1999 Summer Convention, Palm Beach, Florida, July 8-11, 1999.

Thatcher, R.W. Biophysical Linkage Between MRI, EEG and Cognition in Traumatic Brain Injury. Florida Psychological Association, 1999 Summer Convention, Palm Beach, Florida, July 8-11, 1999.

Thatcher, R.W. Key Note Speaker - Clinical Applications of EEG Coherence, 10th World Congress of the International Society for Brain Electromagnetic Topography, Oct. 10-13th, 1999, Adelaide South Australia.

Thatcher, R.W. Key Note Speaker – A Cyclic Cortical Reorganization Theory of Brain Development, 4th Annual Meeting of the Australian Society for Neuronal Regulation, Cairns, Australia June 2000.

Thatcher, R.W. Neurophysiological Foundations of the Human EEG. Presentation: Association for Applied Psychophysiology and Biofeedback, July 26th, 2000, Denver Colorado.

Thatcher, R.W. Key Note Speaker – EEG Severity Index of Traumatic Brain Injury. Society for Neuronal Regulation, Minneapolis, MN, September 23, 2000.

Thatcher, R.W. – 3-Dimensional EEG Biofeedback using LORETA., Society for Neuronal Regulation, Minneapolis, MN, September 23, 2000.

Thatcher, R.W. (2000) "An EEG Least Action Model of Biofeedback" 8th Annual ISNR conference, St. Paul, MN, September.

Thatcher, R.W. EEG Severity Index of Traumatic Brain Injury, VA Medical Center Research Day, Bay Pines, Fl, April 17, 2001.

Thatcher, R.W., Biver, C., J. Gomez M, North, D., and Salazar, A.M. Normative LORETA EEG database validations and reliability measures. EEG and Clinical Neuroscience Society, Monterey, Calf., 2001.

Thatcher, R.W., Biver, C., J. North, D, and Salazar, A.M. EEG analyses of traumatic brain injury: History and summary of relevant results. EEG and Clinical Neuroscience

Society, Monterey, Calf., 2001.

Thatcher, R.W. NeuroGuide EEG analysis workshop. International Society of Neuronal Regulation Annual Meeting, Scottsdale, Arizona, September 16-21, 2002.

Thatcher, R.W., North, D., Biver, C. EEG normative databases of the differences between eyes open vs. eyes closed conditions. International Society of Neuronal Regulation Annual Meeting, Houston, Texas, September, 2003.

Thatcher, R.W., North, D., Biver, C. EEG discriminant analyses of children with learning disabilities. International Society of Neuronal Regulation Annual Meeting, Houston, Texas, September, 2003.

Thatcher, R.W., North, D., Biver, C. EEG inverse solutions and parametric vs. non-parametric statistics of Low Resolution Electromagnetic Tomography (LORETA). International Society of Neuronal Regulation Annual Meeting, Houston, Texas, September, 2003.

Thatcher, R.W., North, D., Biver, C. EEG analyses of children with learning disabilities. Eleventh Annual Future Health Congress, Palm Springs, California, February, 2004.

Thatcher, R.W., North, D., Biver, C. EEG and Intelligence: Univariate and Multivariate Comparisons Between EEG Coherence, EEG Phase Delay and Power, European International Society of Neuronal Regulation, Winterthur, Switzerland, February 24 – 28, 2004.

Thatcher, R.W., North, D., Biver, C. EEG and Intelligence: The Frontal Lobes and EEG Coherence and Phase Delays, VA Medical Center Research Seminar Series, Bay Pines, Florida, August 23, 2004.

Thatcher, R.W., North, D., Biver, C. EEG and Intelligence: The Frontal Lobes and EEG Coherence and Phase Delays, International Society of Neuronal Regulation, Ft. Lauderdale, Florida, August 28, 2004.

Thatcher, R.W., Biver, C., J. and North, D. LORETA Analyses of Alzheimer's Disease: Hippocampal Gyrus analyses. EEG and Clinical Neuroscience Society, Irvine, Calf., August, 2004.

Thatcher, R.W., North, D., Biver, C. Cortical connectivity and low resolution electromagnetic tomography, VA Medical Center Research Seminar Series, Bay Pines, Florida, August 8, 2005.

Thatcher, R.W. Thoughts on Consciousness. AAPB, Annual Conference, Monterrey Calif, Feb. 12, 2006.

Thatcher, R.W. The development of cortical connectivity as measured by EEG coherence

and phase. International Society of Neuronal Regulation, San Diego, Calif, September 22, 2007.

Thatcher, R.W. Intelligence and EEG coherence, phase and phase reset. AAPB, Annual Conference, Daytona Beach, Fl., May 17, 2008.

Thatcher, R.W., North, D.W. and Biver, C.J. Intelligence and EEG coherence, phase and phase reset. International Society for Neurofeedback and Research, Annual Conference, San Antonio, TX, August 27 - 31, 2008.

Thatcher, R. W., North, D. M., Neubrander, J., Biver, C. J., Cutler, S., and DeFina, P. Autism and EEG Phase Reset: A Unified Theory of Deficient GABA Mediated Inhibition in Thalamo-Cortical Connections. International Society for Neurofeedback and Research, Annual Conference, Indianapolis, IN, September 2009.

Thatcher, R.W., Biver, C.J. and North, D.W. (2009). 19 channel Z score EEG Biofeedback. International Society for Neurofeedback and Research, Annual Conference, International Society for Neurofeedback and Research, Annual Conference, Indianapolis, IN, September 2009.

Thatcher, R.W. (2009). Cycles of brain maturation and human cognitive development. Institute of Developmental Physiology of the Russian Academy of Education, Russian Academy of Sciences, Moscow, Russia, June 21-28, 2009.

Cannon, R.L, Thatcher, R.W., Baldwin, D.R. and Lubar, J.F. (2009). EEG LORETA and the Default Mode of the Brain (2009). Human Behavior-Computational Modeling and Interoperability (HB-CMI) conference at Oak Ridge National Laboratory. Oak Ridge, Tennessee June 2009.

Cannon, R.L.,Thatcher, R.W., Baldwin, D.R. and Lubar, J.F. (2011). EEG LORETA and the Default Mode of the Brain, 6th Annual World Congress for Brain Mapping and Image Guided Therapy. Harvard Medical School. Functional Integration of the electroencephalograph in the default mode of brain function.

Thatcher, R.W. (3013). Workshop on Functional Neuroimaging and the history of neuroscience. Psychiatric Institute, Ghent, Belgium, July, 2013.

Thatcher, R.W., (2013). Phase Reset between Brodmann areas of the default mode network. Society for Neurofeedback and Research, Annual conference, Dallas, Texas, September 2013.

Thatcher, R.W. (2014). Key Note speaker "Mechanisms of neuron selection and synchronization and why Psychiatry cannot afford to be Neurophobic", ANT Neuromeeting, January 29-February 1, 2014, Beaune, Burgundy, France.

Thatcher, R.W. (2014). A LORETA brain-computer-interface for treatment of psychiatric disorders. ANT Neuromeeting, January 29-February 1, 2014, Beaune, Burgundy, France.

Thatcher, R.W. (2014). Clinical Applications of the EEG: A Practical and hands on approach: From Clinical History to EEG Acquisition to Editing to Analysis to LORETA to Discriminant Functions to Brain Behavior mapping to Clinic Report Writing and Neurotherapy Recommendations. Hosted by: Prof. Dr. Oliver Pogareli and Daniel Keeser, Ph.D., LMU University Munich, Clinic for Psychiatry and Psychotherapy, Munich, Germany July 18-20, 2014.

Thatcher, R.W. (2014). EEG Neurofeedback: New Technologies for Treatment of Psychiatric and Neurological Disorders. Key Note Speaker: Xuanwu Hospital, Beijing Geriatric Clinical & Research Center. Beijing, China, August, 2014.

Thatcher, R.W., (2014). Functional connectivity, diffusion tensor imaging (DTI) and LORETA coherence, phase and co-modulation. Society for Neurofeedback and Research, Annual conference, San Diego, California, October 17, 2014.

Thatcher, R.W., (2014). On the relationship between EEG phase reset in the time domain and EEG power in the frequency domain. Society for Neurofeedback and Research, Annual conference, San Diego, California, October 18, 2014.

Thatcher, R.W. (2014). Mechanisms of Neuron Selection and Synchronization and why Psychiatry Cannot Afford to be Neurophobic. Applied Neuroscience Society of Australasia (ANSA), Adelaide, Australia, August, 2014.

Thatcher, R.W. (2014). Neuropsychiatry and Quantitative Electroencephalography (qEEG) in the 21st Century: Why Psychiatry Cannot Afford to be Neurophobic. American Academy of Child and Adolescent Psychiatry, San Diego, CA.

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