CURRICULUM VITAE

Claudia D. Tesche, Ph.D

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DEGREES

B.A. Physics, University of California, Berkeley, USA 1965
M.A. Physics, University of California, Berkeley, USA 1971
Ph.D. Physics, University of California, Berkeley, USA 1979

RESEARCH AND PROFESSIONAL EXPERIENCE

1965–1966: Teaching Assistant, University of California, Berkeley, CA, USA
1966–1968: Professor of Physics, Universidad de Pereira, Colombia, S.A.
1968–1970: Teaching Assistant, University of California, Berkeley, CA, USA
1970–1971: Research Assistant, University of California, Berkeley, CA, USA
1975–1979: Research Assistant, University of California, Berkeley, CA, USA
1979–1979: Research Scientist, Applied Physics Systems, Palo Alto, CA, USA
1979–1981: Research Staff, LuTec, Berkeley, CA, USA
1981–1993: Research Staff Member, IBM, Yorktown Heights, NY, USA
1996–1997: Guest Professor, Department of Psychology, University of Salzburg, Austria
1991–1992: Senior Scientist, LTL, Helsinki University of Technology, Espoo, Finland
1992–2000: Visiting Professor, Helsinki University of Technology, Espoo, Finland
2000– present: Professor, Department of Psychology, University of New Mexico, USA
2000– present: Adjunct Professor, Department of Neurosciences, University of New Mexico, USA
2000–2006: Area Head, Doctoral Program Cognition, Brain and Behavior, Department of Psychology, University of New Mexico
2012– present: Director, Transcranial Stimulation Laboratory, Department of Psychology, University of New Mexico, USA

HONORS AND PRIZES:

NSF Graduate Fellowship: 1965 (honorable mention)
IBM First Invention Achievement Award, 1986
IBM Second Invention Achievement Award, 1991
IBM First Patent Award, 1991
Fellowship McDonnel-Pew Center for Cognitive Neuroscience 1994
Fellow: American Physical Society, 1994 *"For work in understanding noise and the limits of sensitivity of superconducting quantum interference devices and their application in neuromagnetism"*
Honorary Doctorate: Aalto University, Espoo, Finland, 2014

PROFESSIONAL ASSOCIATIONS:

Organization for Human Brain Mapping
Society for Neuroscience (USA)
American Physical Society (Fellow)

CONSULTING GRANT REVIEW

National Institutes of Health (NIH)
National Science Foundation (NSF)
Knut och Alice Wallenbergs Stiftelse
Natural Sciences and Engineering Research Council of Canada (NSERC)
Wellcome Trust

CONSULTING PROMOTION AND TENURE REVIEW

University of Salzburg

CONSULTING MANUSCRIPTS REVIEW

Audiology Neuro-Otology
Brain Research
Cerebral Cortex
Cognitive Brain Research
European Journal of Neuroscience
Experimental Brain Research
Hippocampus
Human Brain Mapping
Journal of Cognitive Neuroscience
Journal of Neurophysiology
Journal of Neuroscience Methods
Neurobiology of Learning and Memory
NeuroImage
Neuropsychologia
Neuropsychopharmacology
Neuroscience
Neuroscience Letters
Science
Schizophenia Research
The Journal of Neuroscience
The Journal of Physiology

FUNDING (1998 - present):

NIH Tesche (PI) 06/01/1998 – 05/31/2000
"Noninvasive MEG Evaluation of Hippocampal Activity"
The goal is to extend the range of MEG to include subcortical areas.
Role: PI

The MIND Institute Tesche (PI) 01/01/2001 – 12/31/2001
"MEG and Temporal Information Processing"
The goal is to study brain dynamics in MEG during entrained movement, attention, aversive conditioning and spatial working memory.
Role: PI

The MIND Institute Aine (PI) 01/01/2002 – 12/31/2002
"Studies of Information Processing in Normal Subjects"
The goal is to study brain dynamics in MEG during entrained movement, attention, aversive conditioning and spatial working memory.
Role: Co-PI

NSF Yates (PI) 01/01/2003 – 09/31/2005
"Southwest Center for the Science of Learning"
The goal is to develop a cross-disciplinary effort to investigate individual differences in learning. My project involves a combined MEG/EEG/TMS study of learning.
Role: Co-P.I.

The MIND Institute Tesche (PI) 01/01/2003 – 12/31/2003
"Magnetoencephalographic Studies of Information Processing in Normal Subjects"
The goal is to characterize brain dynamics during entrained movement, attention, aversive conditioning and spatial working memory using magnetoencephalography (MEG).
Role: PI

The MIND Institute Tesche (PI) 01/01/2004 – 12/31/2004
"Magnetoencephalographic Studies of Information Processing in Normal Subjects"
The goal is to characterize brain dynamics during entrained movement, attention, aversive conditioning and spatial working memory using magnetoencephalography (MEG).
Role: PI

The MIND Institute Tesche (PI) 01/01/2005 – 12/31/2005
"Magnetoencephalographic Studies of Information Processing in Normal Subjects
The goal is to characterize brain dynamics during entrained movement, attention, aversive conditioning and spatial working memory with magnetoencephalography (MEG).
Role: PI

NIH Weisend (PI) 07/01/2005 – 06/31/2007
"A new way to study cortical networks in working memory"
The goal is to investigate a new way of using magnetoencephalography (MEG) to characterize brain dynamics during performance of working memory tasks.
Role: Consultant

NIH/NIAAA Thoma (PI) 10/01/2006 – 10/1/2011
"Brain and behavior Impairment in Alcohol Dependence and Schizophrenia"
The goal is to use multiple neuroimaging methods to study alcohol dependence and schizophrenia.
Role: Mentor

DARPA NBCHC070103 Clarke (PI) 06/25/2007 – 01/31/2008
"Brain Stimulation to Accelerate Learning of Threat Detection"

The goal is to enhance threat detection through the use of transcranial direct current stimulation.
Role: Investigator

Sandia National Laboratory Schwindt (PI) 10/1/2007 – 09/29/2010
"Atomic Magnetometer for Human Magnetoencephalography"
The goal is to build a magnetometer based on the spin precession of alkali atoms for application to human magnetoencephalography.
Role: Investigator

1 P20 AA017068-01 Savage (PI) 07/1/2008 – 06/30/2013
"Fetal Ethanol-induced Behavioral Deficits: Mechanisms, Diagnoses and Intervention "
This Exploratory/Developmental Center Grant is for the development of a multidisciplinary program: The New Mexico Alcohol Research Center. Component 6 will involve a behavioral and magnetoencephalographic (MEG) study of the effects of a motor training intervention on manual sequencing in children with FASD.
Role: Investigator

P20RR021938 Calhoun (PI) 07/01/2008 – 06/30/2013
"Neural Mechanisms of Schizophrenia: Use of Multiple Neuroimaging Tools to Examine Dysfunctions in Neural Integration"
The goal is to utilize multiple neuroimaging methods to characterize neurophysiological and genetic factors which contribute to schizophrenia.
Role: Mentor

1R21DA025135 Tesche (PI) 06/01/2009 – 05/31/2012
"The Neuroscience of Motivational Interviewing Change Talk"
The goal is to characterize the neurophysiological basis for motivational interviewing (MI), a directive, client-centered therapeutic method for the treatment of substance abuse, using MEG.
Role: PI

5 U24 AA014811-06 Riley (PI) 11/30/2009 – 07/30/2013
"Collaborative Initiative on Fetal Alcohol Spectrum Disorders (CIFASD) "
"Developmental Project: Network Connectivity and Dynamics in FASD"
The goal of the developmental project is to characterize brain network dynamics using magnetoencephalography (MEG) in adolescents with FASD.
Role: PI on developmental sub-award

UNM/MRN RAC Tesche (PI) 01/17/2013 – 07/31/2014
University of New Mexico
Mind Research Network
"Modulating Attention with Transcranial Stimulation"
The goal is to utilize transcranial stimulation to modulate global/local attention.
Role: PI

G20RR030839 Ortega (PI) 04/01/2010 – 03/31/2015
"Clinical Neuroscience Core Renovation for Psychology at University of New Mexico"
The goal is to renovate laboratory and office space in the clinical neuroscience area, including the purchase and support of a stereotactic transcranial magnetic stimulation (TMS) and transcranial direct current (tDCS/tACS) facility.
Role: Director, Transcranial Stimulation Laboratory

K01AA021431-01A1 Houck (PI) 04/01/2013 – 03/31/2018
Imaging Brain Activity in Substance Use Treatment
The goal was to provide career development in the areas of alcohol use endophenotypes, analysis of MEG data, longitudinal data, and skills in scientific and grant writing to Dr. Jon Houck.
Role: Mentor

Grice Award Tesche(PI) 04/06/2018– 04/05/2021
University of New Mexico, Department of Psychology
"Transcranial Direct Current Stimulation Combined with Social Skills Interventions for Individuals with High Functioning Autism Spectrum Disorder"
The goal is to utilize transcranial direct current stimulation to enhance social skills training in individuals with high-functioning Autism Spectrum Disorder
Role: PI

P30GM122734 Mayer (PI) 06/28/2021 – 07/27/2022
NIH COBRE III Pilot Project Yr 4: Mind Research Network
"Transcranial Stimulation to Facilitate Social Learning in Autism Spectrum Disorder"
The goal is to utilize a whole-scalp MEG scanner to characterize brain dynamics following both sham and verum transcranial direct current stimulation (tDCS) in a cohort of adolescents and young adults with ASD and individuals with autistic traits (AT). Individuals with ASD are known to have atypical brain morphology and dynamics. Investigating the changes induced in brain dynamics by tDCS may give insight into parameters of transcranial electrical stimulation that could facilitate social skills learning in individuals with ASD/AT.
Role: PI

U54CA272167-01 Smith, Salinas (PIs) 08/29/2022 – 08/28/2027
UNM FIRST: Promoting Inclusive Excellence in Neuroscience and Data Science
The goal of NIH FIRST awards is to enhance and maintain a culture of inclusion and excellence in biomedical research.
Role: Mentor
MPIs: Jane Ellen Smith and Irene Salinas (Biology Dept.)

SUMMARY OF RESEARCH

Claudia Tesche received a Ph.D. in Physics from the University of California, Berkeley, followed by ten years as a research scientist at the IBM T.J. Watson Research Laboratory in Yorktown Heights, NY. Her research interests included the optimization of Superconducting Quantum Interference Device (SQUID) magnetic sensors with applications in the foundations of quantum mechanics and the imaging of neuronal activity in the brain. Dr. Tesche initiated a joint project between IBM and the Helsinki University of Technology to develop multichannel DC SQUID-based magnetoencephalographic (MEG) arrays. She spent eight years in Finland utilizing the first whole-scalp MEG arrays to characterize human brain dynamics, with a particular interest in frequency-domain analysis of oscillatory activity and the detection of MEG signals from deep brain structures. Dr. Tesche joined the Department of Psychology at the University of New Mexico as Professor in 2000. She is presently serving as the Director of the Transcranial Stimulation Laboratory. Her present research interests include MEG characterization of network dynamics in adolescents with fetal alcohol spectrum disorder (FASD), the use of transcranial direct current stimulation (tDCS) to enhance social skills in adults and older adolescents with autism spectrum disorder (ASD), and the

utilization of MEG to characterize the effects of transcranial alternating current stimulation (tACS) on brain dynamics.

MOST SIGNIFICANT PUBLICATIONS

Theory and Optimization of DC SQUID Magnetometers

"DC SQUID: Noise and Optimization", **C.D. Tesche** and J. Clarke, J. Low Temp. Phys. **29**, 304 (1977).

"A Thermal Activation Model for Noise in the DC SQUID", **C.D. Tesche**, J. Low Temp. Phys. **44,** 119 (1979).

"Parameter Fluctuations and Low Frequency Noise in Josephson Junction Devices", **C.D. Tesche**, Appl. Phys. Lett. **41**, 99 (1982).

"Optimization of dc SQUID Linear Amplifiers and the Quantum Noise Limit", C**.D. Tesche**, Appl. Phys. Lett. **41**, 490 (1982).

Applications of DC SQUIDs to the Quantum Theory of Measurement

"Schroedinger's Cat is out of the Hat", **C.D. Tesche**, Science **290**, 720 (2000).

"Can a Noninvasive Measurement of Magnetic Flux be Performed with Superconducting Circuits?", **C.D. Tesche**, Phys. Rev. Lett. **64**, 2358 (1990).

"Macroscopic Quantum Coherence: An Experimental Strategy", **C.D. Tesche**, Superconducting Quantum Interference Devices and their Applications, H.D. Hahlbohm and H. Lübbig, Eds., Walter de Gryter (1985).

"Measurement of the Intrinsic Sub-gap Dissipation in Josephson Junctions", J.R. Kirtley, **C.D. Tesche**, W.J. Gallagher, A.W. Kleinsassar, R.L. Sandstrom, S.I. Raider, and M.P.A. Fisher, Phys. Rev. Lett. **61**, 2372 (1988).

Development of MEG Hardware and Analysis Methods

"Detecting Activity from Deep Brain Areas with MEG Arrays", **C.D. Tesche**, Biomedizinische Technik **42,** 60–63 (1997).

"*Signal-space projections of MEG Data Characterize both Distributed and Well-localized Neuronal Sources*", **C.D. Tesche**, M A. Uusitalo, R.J. Ilmoniemi, M. Huotilainen, M. Kajola and O. Salonen, Electroenceph. Clin. Neurophysiol. **95,** 189–200 (1995).

"122-channel SQUID Instrument for Investigating the Magnetic Signals from the Human Brain", A.I. Ahonen, M.S. Hämäläinen, J.E.T. Knuutila, M.J. Kajola, P.P. Laine, O.V. Lounasmaa, L.T. Parkkonen, J.T. Simola and **C.D. Tesche**, Physica Scripta **T49**, 198-205 (1993).

"A 24-SQUID Gradiometer for Magnetoencephalography", S. Ahlfors, A. Ahonen, G. Ehnholm, M. Hämäläinen, R. Ilmoniemi, M. Kajola, M. Kiviranta, J. Knuutila, O. Lounasmaa, J. Simola, **C. Tesche**, and V. Vilkman, Physica B **165 & 166** p. 97 (1990).

"Large-area Low-noise Seven-channel dc SQUID Magnetometer for Brain Research", J. Knuutila, S. Ahlfors, A. Ahonen, J. Hallstrom, M. Kajola, O.V. Lounasmaa, V. Vilkman, and **C.D. Tesche**, Review of Scientific Instruments **58**, (11) 2145–2156 (1987).

"Practical dc SQUIDs with Extremely Low 1/f Noise", **C.D. Tesche**, K.H. Brown, A.C. Callegari, M.M. Chen, J.H. Greiner, H.C. Jones, M.B. Ketchen, K.K. Kim, A.W. Kleinsasser, H.A. Notarys, G. Proto, R.H. Wang, and T. Yogi, IEEE Trans. Magn. **MAG-21**, 1032 (1985).

Investigations of Neuronal Dynamics in Human Hippocampus and Amygdala

"Theta Oscillations Index Human Hippocampal Activation During a Working Memory Task", **C.D. Tesche** and J. Karhu, PNAS **97 (2),** 919–924 (2000).

"Interactive Processing of Sensory Input and Motor Output in Human Hippocampus", **C.D. Tesche** and J. Karhu, J. Cogn. Neurosci. **11 (4),** 424-436 (1999).

"Non-invasive Detection of Ongoing Neuronal Population Activity in Normal Human Hippocampus", **C.D. Tesche**, Brain Res. **749,** 53–60 (1997).

"*Non-invasive Detection of Neuronal Population Activity in Human Hippocampus*", **C.D. Tesche**, J. Karhu and S.O. Tissari, Cogn. Brain Res. **4,** 39–47 (1996).

"Simultaneous Measurement of Magnetic and Electrical Response of in vitro Hippocampal Slices", **C.D. Tesche**, L. Krusin-Elbaum and W.D. Knowles, Brain Res. **462,** 190 (1988).

"Dynamic neural activity recorded from human amygdala during fear conditioning using magnetoencephalography', S.N. Moses, J.M. Houck, T. Martin, F.M. Hanlon, J.D. Ryan, R.J. Thoma, M.P. Weisend, E.M. Jackson, E. Pekkonen, **C.D. Tesche**, Brain Research Bulletin **71(5),** 452-60 (2007). Epub 2006 Nov 20.

"Bilateral hippocampal dysfunction in schizophrenia", F.M. Hanlon , J.M. Houck, C.J. Pyeatt, S.L. Lundy, M.J. Euler, M.P. Weisend, R.J. Thoma, J.R. Bustillo, G.A. Miller, **C.D. Tesche**, *Neuroimage* 58(4), 1158–1168 (2011).

Investigations of Neuronal Dynamics in Human Cerebellum

"Interval Timers and Coupled Oscillators Both Mediate the Effect of Temporally Structured Cueing" T. Martin, J.M. Houck, D. Kičić, **C.D. Tesche**, *NeuroImage* **40(4),** 1798–1806 (2008).

"Early cerebellar activation predicts response time", J.M. Houck, T. Martin, J.P. Bish, S.N. Moses, C.C. Woodruff, D. Kičić, **C.D. Tesche**, International Congress Series 1300, 413-416 (2007).

"MEG Reveals Different Contributions of Motor Cortex and Cerebellum to Simple Reaction Time Following Temporally-structured Cues", T. Martin, J.M. Houck, J. Pearson Bish, D. Kičić , C.C. Woodruff, S.N. Moses, D.C. Lee, **C.D. Tesche**, *Human Brain Mapping* **27(7),** 552-61 (2006).

"Anticipatory Cerebellar Responses During Somatosensory Omission in Man", **C.D. Tesche** and J. Karhu, Human Brain Mapping **9,** 119–142 (2000).

"Somatosensory Evoked Magnetic Fields Arising from Sources in the Human Cerebellum", **C.D. Tesche** and J. Karhu, Brain Res. **744,** 23–31 (1997).

Investigation of Neuronal Dynamics in Human Thalamus

"Non-invasive Imaging of Neuronal Population Dynamics in Human Thalamus", **C.D. Tesche**, Brain Research **729**, 253–258 (1996).

"Phase shift detection in thalamocortical oscillations using magnetoencephalography in humans", J. Pearson-Bish, T. Martin, J. Houck, R.J. Ilmoniemi and **C. Tesche**, Neuroscience Letters **362,** 48-52 (2004).

PUBLICATIONS

A complete list of publications can be found at:

https://www.ncbi.nlm.nih.gov/sites/myncbi/claudia.tesche.1/bibliography/40390839/public/?sort=date&direction= descending

"Disruptions in global network segregation and integration in adolescents and young adults with fetal alcohol spectrum disorder." Rodriguez CI, Vergara VM, Calhoun VD, Savage DD, Hamilton DA, **Tesche CD**, Stephen JM. Alcohol Clin Exp Res. 45(9):1775-1789 (2021).

"Transcranial Direct Current Stimulation (tDCS) Improved Empathy and Recognition of Facial Emotions Conveying Threat in Adults with Autism Spectrum Disorder (ASD)." Joan Esse Wilson, Michael C Trombo, **Claudia D Tesche**. NeuroRegulation 8(2):87–95 (2021).

"Discordant Alpha-band Transcranial Alternating Current Stimulation (tACS) Affects Cortico-cortical and Cortico-cerebellar Connectivity." **Tesche CD**, Houck J. Brain Connectivity 10(4):170–182 (2020).

"Transcranial direct current stimulation (tDCS) over right temporoparietal junction (rTPJ) for social cognition and social skills in adults with autism spectrum disorder (ASD)." Joan Esse Wilson, Michael C. Trombo, J. Kevin Wilson, **Claudia D. Tesche.** Journal of Neural Transmission 125(12):1857–1866 (2018).

"*Transcranial Direct Current Stimulation to the Right Temporoparietal Junction for Social Functioning in Autism Spectrum Disorder: Case Report*." J. Esse Wilson, D.K. Quinn, J.K. Wilson, C.M. Garcia, **C.D. Tesche.** J ECT 34(1):e10–e13 (2018).

"Aberrant development of post-movement beta rebound in adolescents and young adults with fetal alcohol spectrum disorders." A.A. Vakhtin, P.W. Kodituwakku, C.M. Garcia, **C.D. Tesche**. Neuroimage Clinical 9:392–400 (2015).

"Sex-related differences in auditory processing in adolescents with fetal alcohol spectrum disorder: A magnetoencephalographic study", **C.D. Tesche,** P.W. Kodituwakku, C.M. Garcia, J.M Houck. *Neuroimage Clinical* 7:571–587 (2014).

"Topological dynamics in spike-timing dependent plastic model neural networks", D.B. Stone, **C.D. Tesche.** *Frontiers in Neural Circuits* 7(70), 1–18 (2013).

"Through a glass darkly: some insights on change talk via magnetoencephalography", J.M. Houck, T.B. Moyers, **C.D. Tesche**. *Psychology of Addictive Behavior* 27(2),489–500 (2013).

"Fronto-temporal Anatomical Connectivity and Working-Relational Memory Performance Predicts Everyday Functioning in Schizophrenia", F.M. Hanlon, J. M. Houck, S.D. Klimaj, A. Caprihan, A.R. Mayer, M.P. Weisend, J.R. Bustillo, D.A. Hamilton, **C.D. Tesche**, *Psychophysiology* 49(10), 1340–1352 (2012).

"Consensus paper: roles of the cerebellum in motor control--the diversity of ideas on cerebellar involvement in movement.", M. Manto, J.M. Bower, A.B. Conforto, J.M. Delgado-García, S.N. Farias da Guarda, M. Gerwig, C. Habas, N. Hagura, R.B. Ivry, P. Mariën, M. Molinari, E. Naito, D.A. Nowak, N.O. Ben Taib, D. Pelisson, **C.D. Tesche**, C. Tilikete, D. Timmann, *Cerebellum* 11(2), 457–487 (2012).

"Bilateral hippocampal dysfunction in schizophrenia", F.M. Hanlon , J.M. Houck, C.J. Pyeatt, S.L. Lundy, M.J. Euler, M.P. Weisend, R.J. Thoma, J.R. Bustillo, G.A. Miller, **C.D. Tesche**, *Neuroimage* 58(4), 1158–1168 (2011).

"Oscillatory brain activity related to client speech during motivational interviewing sessions", J.M. Houck, T.B. Moyers, **C.D. Tesche.** *Alcoholism-Clinical and Experimental Research* 34(6) suppl. 171A–171A (2010).

"Transcranial direct current stimulation modulates shifts in global/local attention", D.B. Stone, **C.D. Tesche**, *NeuroReport* **20(12),** 1115–1119 (2009).

"Interval Timers and Coupled Oscillators Both Mediate the Effect of Temporally Structured Cueing", T. Martin, J.M. Houck, D. Kičić, **C.D. Tesche**, *NeuroImage* **40(4),** 1798–1806 (2008).

"Brain regions and their dynamics in prospective memory retrieval: a MEG study", T. Martin, M.A. McDaniel, M.J. Guynn, J.M. Houck, C.C. Woodruff, J.P. Bish, S.N. Moses, D. Kicic, **C.D. Tesche**, *International Journal of Psychophysics* **64(3),** 247–258 (2007).

"Dynamic neural activity recorded from human amygdala during fear conditioning using magnetoencephalography', S.N. Moses, J.M. Houck, T. Martin, F.M. Hanlon, J.D. Ryan, R.J. Thoma, M.P. Weisend, E.M. Jackson, E. Pekkonen, **C.D. Tesche**, *Brain Research Bulletin* **71(5),** 452-60 (2007). Epub 2006 Nov 20.

"Early cerebellar activation predicts response time", J.M. Houck, T. Martin, J.P. Bish, S.N. Moses, C.C. Woodruff, D. Kičić, **C.D. Tesche**, *International Congress Series* 1300, 413-416 (2007).

"Dynamics of Frontal and Cerebellar Activation During Aversive Conditioning: A MEG Study", **C.D. Tesche**, S.N. Moses, J.M. Houck, T. Martin, F.M. Hanlon, E. Jackson, D. Kičić, *International Congress Series* 1300, 437-440 (2007).

"Assessment of lateralized hippocampal function in schizophrenia", F.M. Hanlon, A.P. Jones, R.M. Bantz, S.L. Lundy, R.J. Thoma, M.P. Weisend, A.R. Mayer, J.R. Bustillo, G.A. Miller, **C.D. Tesche**, *Schizophrenia Bulletin* 33(2), 369–370 (2007).

"MEG Reveals Different Contributions of Motor Cortex and Cerebellum to Simple Reaction Time Following Temporally-structured Cues", T. Martin, J.M. Houck, J. Pearson Bish, D. Kičić , C.C. Woodruff, S. N. Moses, D.C. Lee, **C.D. Tesche**, *Human Brain Mapping* 27(7), 552-61 (2006).

"The C50m Response: Conditioned Magnetocerebral Activity Recorded from the Human Brain", S.N. Moses, T. Martin, J.M. Houck, R.J. Ilmoniemi, **C.D. Tesche**, *NeuroImage* **27(4),** 778–788 (2005).

"*Chronometric Evidence for Entrained Attention",* T. Martin, R. Egly, J. Houck, J. Pearson-Bish, B. Barrera, D. Lee, **C. Tesche**, *Perception & Psychophysics* 67(1), 168-84 (2005).

"*SQUIDs from Physics to Brain Research",* **C. Tesche**, *Journal of Low Temperature Physics* 135(4-5), 773-791 (2004).

"Phase shift detection in thalamocortical oscillations using magnetoencephalography in humans", J. Pearson-Bish, T. Martin, J. Houck, R.J. Ilmoniemi and **C. Tesche**, *Neuroscience Letters* 362, 48-52 (2004).

"Frontal Theta Activity in Humans Increases with Memory Load in a Working Memory Task", O. Jensen and **C.D. Tesche**, *European Journal of Neuroscience* **15,** 1–6 (2002).

"Theta Oscillations Index Human Hippocampal Activation During a Working Memory Task", **C.D. Tesche** and J. Karhu, *PNAS* **97 (2),** 919–924 (2000).

"Anticipatory Cerebellar Responses During Somatosensory Omission in Man", **C.D. Tesche** and J. Karhu, *Human Brain Mapping* 9, 119–142 (2000).

"Schroedinger's Cat is out of the Hat", **C.D. Tesche**, *Science* 290, 720 (2000).

"Evidence for Somatosensory Evoked Responses in Human Temporal Lobe", **C.D. Tesche**, *Neuroreport* 11(12), 2655-8 (2000).

"Interactive Processing of Sensory Input and Motor Output in Human Hippocampus", **C.D. Tesche** and J. Karhu, *Journal of Cognitive Neuroscience* 11 (4), 424-436 (1999).

"Simultaneous Early Processing of Sensory Input in Human Primary (SI) and Secondary (SII) Somatosensory Cortecies", J. Karhu and **C.D. Tesche**, *Journal of Neurophysiology* 81(5), 2017-2015 (1999).

“Neural Processing of Human Faces: a Magnetoencephalographic Study”, S.J. Swithenby, A.J. Bailey, S. Bräutigam, O.E. Josephs, V. Jousmäki and **C.D. Tesche**, *Experimental Brain Research* 118, 501–510 (1998).

"Somatosensory Evoked Magnetic Fields Arising from Sources in the Human Cerebellum", **C.D. Tesche** and J. Karhu, *Brain Research* 744, 23–31 (1997).

“Non-invasive Detection of Ongoing Neuronal Population Activity in Normal Human Hippocampus”, **C.D. Tesche**, *Brain Research* 749, 53–60 (1997).

“Detecting Activity from Deep Brain Areas with MEG Arrays”, **C.D. Tesche**, *Biomedizinische Technik* 42, 60–63 (1997).

"Non-invasive Imaging of Neuronal Population Dynamics in Human Thalamus", **C.D. Tesche**, *Brain Research* 729, 253–258 (1996).

"MEG Imaging of Neuronal Population Dynamics in the Human Thalamus", **C.D. Tesche**, in *Visualization of Information Processing in the Human Brain: Recent Advances in MEG and Functional MRI.* EEG Suppl. 47, 81–90 (1996).

"*Non-invasive Detection of Neuronal Population Activity in Human Hippocampus*", **C.D. Tesche**, J. Karhu and S.O. Tissari, *Cognitive Brain Research* 4, 39–47 (1996).

"*Characterizing the Local Oscillatory Content of Spontaneous Cortical Activity During Mental Imagery*", **C.D. Tesche**, M.A. Uusitalo, R.J. Ilmoniemi and M.J. Kajola, *Cognitive Brain Research* 2, 243–249 (1995).

"*Signal-space Projections of MEG Data Characterize both Distributed and Well-localized Neuronal Sources*", **C.D. Tesche**, M A. Uusitalo, R.J. Ilmoniemi, M. Huotilainen, M. Kajola and O. Salonen, *Electroencephalography clinical Neurophysiology* 95, 189–200 (1995).

"A Comparison of the Localization of Spontaneous Neuromagnetic Activity in the Frequency and Time Domains", **Claudia Tesche** and Matti Kajola, *Electroencephalography clinical Neurophysiology* 87, 408–416 (1993).

"Independence of Steady-state 40-Hz Response and Spontaneous 10-Hz Activity in the Human Auditory Cortex", **C.D. Tesche** and R. Hari, *Brain Research* 629, 19-22 (1993).

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MASTER'S THESIS AND DISSERTATION PROJECTS SUPERVISED

Brigitte Stevens, M.A. "Client Heart Rate Variability in Motivational Interviewing for Alcohol Use" (Spring 2021)

Nickolas Mertens, M.A. " Effects of Anodal tDCS on Neural Correlates of Cognitive Control in Mild-to-Moderate Traumatic Brain Injury" (Spring 2020)

Andrei A. Vakhtin, Ph.D. "Relationship between structure and functional connectivity within the default mode network" (Spring 2017)

Andrei A. Vakhtin, M.A. "Aberrant Development of Post-Movement Beta Rebound in Young Adults with Fetal Alcohol Spectrum Disorders" (Spring 2015)

Christopher M. Garcia, M.A. "Frontal Parietal Network Function During a Visuomotor Task in Fetal Alcohol Spectrum Disorder: A Magnetoencephalographic Study " (Spring 2016)

Daniel L. Rudder, M.A. "Transcranial Direct Current Stimulation for the Reduction of Alcohol Craving" (Fall 2013)

David Stone, Ph.D. "Topological dynamics of spike-timing dependent plastic neural networks" (Fall 2012)

David Stone, M.A. "Transcranial direct current stimulation modulates shifts in global/local attention" (2009)

Jon Houck, M.S. "A magnetoencephalographic analysis of early cerebellar activation during mental rotation task" (Spring 2006)

Jon Houck, Ph.D. "The neuroscience of motivational interviewing change talk" (Spring 2011)

Eric Jackson, M.A. "Cerebellar activation during encoding for object and spatial working memory tasks" (Spring 2006)

Tim Martin, Ph.D. "Relating psychological mechanisms of dynamic attention and interval timing to brain activity with MEG" (Fall 2005)

Sandra Naomi Moses, Ph.D. "Neural substrates of human associative learning measured with magnetoencephalography" (Spring 2004)

Joel Pearson Bish, Ph.D. “The effect of stimulus onset asynchrony on cross-modal integration” (Fall 2003)

Christopher Chad Woodruff, Ph.D. “Object- and space-based attention differentially influence the contingent magnetic variation” (Fall 2003)

COURSES TAUGHT

Functional Neuroimaging MEG/EEG

Introduction to Functional Neuroimaging

Transcranial Stimulation

EEG Laboratory

Transcranial Stimulation Laboratory

Biological Bases of Behavior

Functional Neuroanatomy

Human Electrophysiology

Biological Basis of Memory

Cerebellum and Cognition

Seminar in Physiological Psychology