## Frank Andrew Kozel, M.D., M.S.C.R.

Director of TMS Service James A. Haley Veterans Hospital 13000 Bruce B. Downs Blvd. Tampa, FL 33612

Courtesy Core Associate Professor Department of Psychiatry and Behavioral Neurosciences University of South Florida

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### **Education**

Yale University: New Haven, Ct 1985-1989;

Graduated Cum Laude with a B.A. in Psychology-Biology

Honors: Roosevelt Thompson Award - Given to graduating senior of Yale

in recognition of humanitarian accomplishments.

Lipkind Prize - Given to graduating senior of Berkeley College

in recognition of character.

Dwight Hall Humanitarian Award - Given in recognition of a human service project.

University of Virginia School of Medicine: Charlottesville, Va 1989-1993;

Graduated with an M.D.

NBME Part 1 Passed 74th percentile NBME Part 2 Passed 92nd percentile

Wilford Hall Medical Center: Lackland AFB, Tx 1993-1994;

NBME Part 3 Passed 88-92 percentile

Completed an internship in psychiatry June 30, 1994.

United States Air Force School of Aerospace Medicine: Brooks AFB, Tx Summer 1994; Completed Aerospace Medicine Primary Course.

United States Air Force School of Aerospace Medicine: Brooks AFB, Tx Fall 1994;

Completed Aircraft Mishap Investigation & Prevention Course.

Board member for F-117 mishap June 95 Local Board member T-34 mishap Dec. 96

- Armed Forces Radiobiology Research Institute: Bethesda, Md Winter 1995; Completed Medical Effects of Nuclear Weapons Course.
- Combat Casualty Care Course: Camp Bullis, Tx. Spring 1995;
  Completed Advanced Trauma Life Support and Field exercises.
- Medical University of South Carolina: Charleston, SC. July 1998 to June 2001; Residency in Psychiatry
  - Honors: American Psychiatric Association Research Colloquium for Junior Investigators May 2001
    - HealthEmotions Research Institute Scholar Wisconsin Symposium on Emotion April 2001
    - American Psychiatric Institute for Research and Education/ Janssen Scholars in Research on Severe Mental Illness Fellowship 2000-2001
    - Resident Research Award from the Medical University of South Carolina for 2000-2001
    - Selected Chief Resident 2000-2001
    - Benjamin Riggs Award for Best Resident Paper 2000-2001 "Regional Brain Correlates of Deception: A Pilot fMRI Study in Healthy Young Men"
    - Benjamin Riggs Award for Best Resident Paper 1999-2000 "Detection of Deception"
    - J.J. Cleckley Award for Best Clinical Paper 1998-1999 "How the Distance from Coil to Cortex Relates to Age, Motor Threshold and Possibly the Antidepressant Response to Repetitive Transcranial Magnetic Stimulation"
    - Circle of Excellence Award for Outstanding Teaching in the Psychiatry Clerkship 1998-1999
    - Wyeth-Ayerst Resident Reporter for May 1999 American Psychiatric Association Meeting
    - MUSC Applause Program for quality patient care April 1999
- Medical University of South Carolina: Charleston, SC. July 2001 to June 2003
  Research Fellow in Neuroimaging and Brain Stimulation
  Honors: K-30, Clinical Research Curriculum Award Fall 2001
  MUSC Applause Program for quality patient care October 2001
  American Psychiatric Association Research Colloquium for
  Junior Investigators May 2003
- Medical University of South Carolina: Charleston, SC. Fall 2001 to August 23, 2003

  Master of Science in Clinical Research, 4.0 GPA

  Honors: MUSC Student Research Day 2<sup>nd</sup> Place Masters Section

  Presentation November 2001

## **Employment**

- James A Haley VA: Tampa, FL, Aug 2013 to Present
- University of South Florida: Tampa, FL, July 2011 to Present
  Associate Professor Department of Psychiatry and Behavioral Neurosciences
  Adjunct starting Sept 2013 April 2014
  Courtesy Core Faculty May 2014 to present
- University of Texas Southwestern Medical Center: Dallas, Tx, July 2005 to July 2011 Assistant Professor – Department of Psychiatry
- Medical University of South Carolina: Charleston, SC, July 2005 to June 2008
  Adjunct Assistant Professor Department of Psychiatry
  Brain Stimulation Lab & Center for Advanced Imaging Research
- Medical University of South Carolina: Charleston, SC, July 2003 to June 2005
  Assistant Professor Department of Psychiatry
  Brain Stimulation Lab & Center for Advanced Imaging Research
  Honors: Selected Future Leaders in Psychiatry Meeting April 2004
- Ralph H. Johnson VA: Charleston, SC, July 2002 to June 2005 VA Special Fellowship in Psychiatric Research/Neuroscience
- Medical University of South Carolina: Charleston, SC, July 2001 to Jun 2003
   Instructor Institute of Psychiatry
   Fellow Brain Stimulation Lab & Center for Advanced Imaging Research
   Faculty Preceptor for the Preceptorship Depression Education Program for
   Pharmaceutical Representatives, Summer & Fall 2002
- Ralph H. Johnson VA: Charleston, SC, July 2001 to June 2002 Staff Psychiatrist (part-time)
- Charleston/Dorchester Community Mental Health Center: Charleston, SC, August 1999 to September 2001. Staff Psychiatrist (part-time)
- Medical University of South Carolina: Charleston, SC, July 1998 to June 2001. Chief Resident – Fourth Year
  - Fellow (part time) Brain Magnetic Stimulation Laboratory & Functional Neuroimaging Research Division, Fall 1998 to 2001
  - Objective Structural Clinical Evaluation (OSCE) Preceptor for third year medical students doing psychiatry rotation, Fall 1999 to 2001
  - Gross Neuroanatomy Lab Assistant for First Year Medical Students, Winter 2000 Faculty Preceptor for the Preceptorship Depression Education Program for Pharmaceutical Representatives, Summer and Winter 2000, Spring 2001

Brain Stimulation Laboratory: Medical University of South Carolina, January 2001 Instructor for Introduction to Transcranial Magnetic Stimulation mini-fellowship

Designated Medical Examiner for Berkeley/Charleston/Dorchester County Probate Court: August 1998 to November 2000

United States Air Force: Active Duty Captain.

Flight Surgeon. Officer in charge of flight medicine and/or physical exams and standards at 42 AMDS, Maxwell AFB, Al, July 96 to June 98

Flight Surgeon. Officer in charge of flight medicine and the 9th BS medical element, Dyess AFB, Tx, September 1994 to June 96

Psychiatry Intern. Wilford Hall Medical Center, Lackland AFB, Tx, June 1993 - August 1994

United States Air Force: Reserve, Second Lieutenant, 1989-1993, Health Professions Scholarship Program

Association of Artisan Able to Cane: Spring 1988 - Summer 1989, Co-founder & Co-director of a transitional work program for the mentally and emotionally disabled

New Haven Halfway House (NHHH): Jan. 1988 to Jan. 1989, Counselor

Dwight Hall Summer Intern: Summer 1988, Counselor at NHHH and participated in various human services projects

Yale Summer Program: Summer 1987 & 1988, Counselor

Yale University Dining Services: Spring 1987-Summer 1989, Bartender, dishwasher, food server, and cleaning

Norwich Savings Society: Summers 1985-1987, Coordinator business checking, customer complaints, and personal checking clerk

## **Journals & Grants**

### Editorial:

Associate Editor:

Frontiers in Neuropsychiatric Imaging and Stimulation - 03/2010 to present

### Ad hoc Reviewer Journal:

Acta Psychiatrica Scandinavica

Annals of General Psychiatry

Journal of Affective Disorders

American Journal of Psychiatry

Archives of General Psychiatry

Biological Psychiatry

Bipolar Disorders - An International Journal of Psychiatry and Neurosciences

Brain Stimulation - Basic, Translational, and Clinical Research in Neuromodulation

Cerebral Cortex

Clinical Neurophysiology

Comprehensive Psychiatry

Depression and Anxiety

ExpertReview of Neurotherapeutics

The Journal of Clinical Psychiatry

Journal of Clinical Psychopharmacology

Journal of Geriatric Psychiatry and Neurology

Journal of the International Neuropsychological Society

Journal of Psychiatric Practice

Journal of Psychiatric Research

**Human Brain Mapping** 

Human Psychopharmacology: Clinical and Experimental

International Journal of Neuropsychopharmacology

The International Journal of Psychiatry in Medicine

Molecular Psychiatry

NeuroImage

Neurosurgery

Neuropsychopharmacology

**PLoS ONE** 

**Psychiatry Research** 

Psychological Medicine

Social Neuroscience

### Grant Reviewer:

Veterans Affairs RR&D SPiRE Reviewer (Spring 2014)

NIH – CSR NPAS Jun 04, Oct 05 (Temporary Member)

Department of Defense Polygraph Institute

Research Grant Council of Hong Kong

United States-Israel Binational Science Foundation (BSF)

American Institute of Biological Sciences (AIBS) for proposal directed to US Army Medical Research and Materiel Command (USAMRMC)

Economic & Social Research Council (ESRC)

### **Memberships**

Organization of Human Brain Mapping: January 2003 to present

Society of Biological Psychiatry: January 2001 to present

The American Psychiatric Association: 1993 to 1995, 1999 to present

The Florida Psychiatric Association: 2011 to Present

American College of Neuropsychopharmacology (Associate): January 2007 to December 2013

Texas Society of Psychiatric Physicians: 2005 to 2011

Society for Neuroscience: December 2006 to December 2012 International Society for Neurostimulation: Dec 2009 to 2011

International Society for Transcranial Stimulation: March 2002 to Dec 2009 (merged to

become International Society for Neurostimulation)

American Neuropsychiatric Association: July 2001 to 2009

Diplomate of the American Board of Psychiatry and Neurology: October 2002 to present Diplomate of the National Board of Medical Examiners: July 1995

License to Practice Medicine in Florida: June 2011 to present License to Practice Medicine in Texas: June 2005 to present

License to Practice Medicine in South Carolina: July 1998 to present

License to Practice Medicine in the Commonwealth of Virginia: 1995-1998

### **Commitees**

## Current:

University of South Florida IRB June 2014 to present

James A. Haley Research and Development Committee. Dec 2013 to present.

Data Safety Monitoring Board – (PI: Colleen Loo) Sponsor: University of New South Wales - A Controlled Trial of Transcranial Direct Current Stimulation as a Treatment for Unipolar and Bipolar Depression. May 2013 to present

## **Completed/Past**:

National Network of Depression Centers: rTMS Task Group – August 2009 to July 2011

UTSW IRB #4 Alternate Member – Sept 2007 to July 2011

Data Safety Monitoring of Study - P60 (PI: Rick Silver) NIH/NIAMSA - Pilot Study of TMS Effects on Pain and Depression in Patients with Fibromyalgia. 3 July 07 to (Study PI – E. Baron Short)

Imaging Committee - NIMH Optimization of TMS for Depression 1R01MH069896 01A1 (PI - Mark George) – Jan 2005 to July 2005

Stanley Medical Research Institute (SMRI) Center Executive Committee, July 06 - Mar 07 (PI - John Rush)

Data Safety Monitoring Board - NIMH Combined Pharmaco/Behavior Therapy in Adolescent Smokers, February 2005 to October 2008, (PI – Himanshu Upadhyaya)

Data Safety Monitoring Board – Chair - Quetiapine for Bipolar Disorder and Alcohol Dependence, Aug 2007 to May 2010 (PI - E. Sherwood Brown)

- Data Safety Monitoring Board Chair Ziprasidone in Pediatric Bipolar Disorder: A 6-Week, Open-Label Comparison of Rapid vs. Slow Dose Titration, December 2007 to 2010 (PI Kirti Saxena)
- Data Safety Monitoring Board Chair Citicoline for Bipolar Disorder and Cocaine Dependence, NIDA 1 R01 DA022460-01A2, Mar 2008 to May 2013 (PI – E. Sherwood Brown)
- Advanced Imaging Research Center Protocol Review Committee July 2008 to September 2010

### Research

### **Peer Reviewed Manuscripts**

### 1999

1) George MS, Nahas Z, **Kozel FA**, Goldman J, Molloy M, Oliver NC: Improvement of Depression Following Transcranial Magnetic Stimulation. *Current Psychiatry Reports* 1999, 1: 114-124.

### 2000

- 2) **Kozel FA**, Nahas Z, deBrux C, Molloy M, Lorberbaum J, Bohning D, Risch SC, George M: Coil-Cortex Distance relates to Age, Motor Threshold, and Antidepressant Response to Repetitive Transcranial Magnetic Stimulation. *The Journal of Neuropsychiatry and Clinical Neurosciences* 2000; 12: 376-384.
- 3) Nobler MS, Teneback CC, Nahas Z, Bohning DE, Shastri A, **Kozel A**, George MS: Structural and Functional Neuroimaging of ECT and TMS. *Depression and Anxiety* 2000; 12: 144-156.

- 4) Nahas Ziad, Teneback Charlotte C, **Kozel Andy**, Speer Andrew M., DeBrux Cart, Molloy Monica, Stallings Lauri, Spicer Kenneth M, Arana George, Bohning Daryl E, George Mark S: Brain Effects of Transcranial Magnetic Stimulation Delivered Over Prefrontal Cortex in Depressed Adults: The Role of Stimulation Frequency and Distance from Coil to Cortex. *The Journal of Neuropsychiatry and Clinical Neurosciences* 2001; 13: 459-470.
- 5) McConnell KA, Nahas Z, Shastri A, Lorberbaum JP, **Kozel FA**, Bohning DE, George MS: The Transcranial Magnetic Stimulation Motor Threshold Depends on the Distance from Coil to Underlying Cortex: A Replication in Healthy Adults Comparing Two Methods of Assessing the Distance to Cortex. *Biological Psychiatry* 2001; 49: 454-459.

6) Chae Jeong-Ho, Li Xingbao, Nahas Ziad, **Kozel F. Andrew**, George Mark S.: A review of the minimally invasive brain stimulation techniques in psychiatry. *Rev Bras Psiquiatr* 2001; 23 (2): 100-109.

### 2002

- 7) **Kozel FA**, George MS: Meta-Analysis of Left Prefrontal Repetitive Transcranial Magnetic Stimulation (rTMS) to Treat Depression. *Journal of Psychiatric Practice* 2002; 8: 270-275.
- 8) George Mark S, Nahas Ziad, Bohning Daryl E., **Kozel F. Andrew**, Anderson Berry, Chae Jeong-Ho, Lomarev Mikhael, Denslow Stewart, Li Xingbao, Mu Chiwen: Vagus Nerve Stimulation: A Research Update. *Neurology* (supplement 4) in VNS, 5 Years After Approval, Wheless and Shachter (eds); 59:S56-S61.
- 9) George Mark S, Nahas Ziad, Li Xiangbao, **Kozel F. Andrew**, Anderson Berry, Yamanaka Kaouri, Chae Jeong-Ho, Foust Milton: Novel Treatments of Mood Disorders Based on Brain Circuitry. Tucker (ed); *Seminars in Clinical Neuropsychiatry* 2002; 7: 293-304.
- 10) George Mark S, Nahas Ziad, Li Xiangbao, **Kozel F. Andrew**, Anderson Berry, Yamanaka Kaori: Potential New Brain Stimulation Therapies in Bipolar Ilness: Transcranial Magnetic Stimulation (TMS) and Vagus Nerve Stimulation (VNS). in a special volume entitled Depression in Bipolar Illness: The Stepchild. Robert M. Post, (ed), *Clinical Neuroscience Research* 2002; 2: 256-265.
- 11) George MS, Nahas Z, **Kozel FA**, Li X, Denslow S, Yamanaka K, Mishory A, Foust MJ, Bohning DE: Mechanisms and State of the Art of Transcranial Magnetic Stimulation. *J. ECT.* 2002;18: 170-181.

## 2003

- 12) Nahas Ziad, **Kozel F. Andrew**, Li Xingbao, Anderson Berry, George Mark S.: Left Prefrontal Transcranial Magnetic Stimulation (TMS) Treatment of Depression in Bipolar Affective Disorder: A Pilot Study of Acute Safety and Efficacy. *Bipolar Disorders An International Journal of Psychiatry and Neurosciences*. 2003; 5: 40-47.
- 13) George MS, Nahas Z, **Kozel FA**, Li X, Yamanaka K, Mishory A, Hill S, Bohning DE. Mechanisms and State of the Art of Transcranial Magnetic Stimulation (TMS). In of *CNS Spectrums*. 2003; 8(7): 496-502, 511-514.
- 14) George MS, Nahas Z, Lisanby SH, Schlaepfer T, **Kozel FA**, Greenberg BD. Transcranial magnetic stimulation. *Neurosurg Clin N Am.*, Rezai, Rasmussen and Greenberg, eds., W.B. Saunders Company, Philadelphia, 14 (2) 2003, pp 283-301.

### 2004

15) **Kozel FA**, Revell LJ, Lorberbaum JP, Shastri A, Elhai JD, Horner MD, Smith A, Nahas Z, Bohning DE, George MS: A Pilot Study of Functional Magnetic Resonance

- Imaging Brain Correlates of Deception in Healthy Young Men. *Journal of Neuropsychiatry and Clinical Neurosciences*. 2004; 16(3): 295-305.
- 16) **Kozel FA**, George MS, Simpson K. Decision Analysis of Cost Effectiveness of Repetitive Transcranial Magnetic Stimulation (rTMS) versus Electroconvulsive Therapy (ECT) for Treatment of Non-psychotic Severe Depression. *CNS Spectrums*. 2004; 9: 476-482.
- 17) Li X, Nahas Z, **Kozel FA**, Anderson B, Bohning DE, George MS: Acute left prefrontal TMS in Depressed Patients is Associated with Immediately Increased Activity in Prefrontal Cortical as well as Subcortical Regions. *Biological Psychiatry*. 2004; 55: 882-890.
- 18) Li X, Nahas Z, Anderson B, **Kozel FA**, George MS: Can rTMS be used as a maintenance treatment for bipolar depression? *Depression and Anxiety*. Case Report. 2004; 20: 98-100.
- 19) **Kozel FA**, Padgett T, George MS: A Replication Study of the Neural Correlates of Deception. *Behavioral Neuroscience*. 2004; 118: 852-856.
- 20) Nahas, Z., Li, X., **Kozel, F.A.**, Mirski, D., Mamon, M., Miller, K., Yamanaka, K., Kapp, R., Chae, JH., Bohning, D., Mintzer, J., George, M.: Beneficial effects of Distance-Adjusted Prefrontal TMS in Geriatric Depression. *Depression and Anxiety* 2004 19(4): 249-56
- 21) Mishoury, A, Molnar CE; Stroud Z; Li X, Koola J, **Kozel FA**, Myrick H, Nahas Z, George MS. The Maximum-Likelihood Strategy (MLS) for Determining TMS Motor Threshold, using Parameter Estimation by Sequential Testing (PEST) is Faster than Conventional Methods, With Similar Accuracy. *The Journal of ECT*. 2004; 20: 160-165.
- 22) Li Xingbao, Teneback Charlotte, Nahas Ziad, **Kozel F. Andrew**, Large Charles, Cohn Jeffrey, Bohning Daryl E., and George Mark S.: Interleaved Transcranial Magnetic Stimulation/functional MRI Confirms that Lamotrigine Inhibits Cortical Excitability in Healthy Young Men. *Neuropsychopharmacology*. 2004; 29: 1395–1407.
- 23) George MS, Nahas Z, Bohning DE, Mu Q, **Kozel FA**, Borckhardt J, Denslow S. Mechanism of Action of Vagus Nerve Stimulation (VNS). *Clinical Neuroscience Research*. 2004; 4: 71-79.

- 24) **Kozel FA** and George MS. Neuroimaging and Depression with Inadequate Treatment Response. *Primary Psychiatry*. 2005; 12: 30-34.
- 25) **Kozel FA**, Nahas Z, Bohning DE, George MS. Functional Magnetic Resonance Imaging and Transcranial Magnetic Stimulation. *Psychiatric Annals*. 2005; 35: 131-136.

- 26) Mu Q, Mishoury A, Johnson KA, Nahas Z, **Kozel FA**, Yamanaka K, Bohning DE, George MS. Decreased Brain Activation During a Working Memory Task at Rested Baseline Is Associated with Vulnerability to Sleep Deprivation. *Sleep*. 2005; 28: 433-446.
- 27) Borckardt, J.J., **Kozel, F.A.,** Anderson, B., Walker, A., and George, M.S. Vagus nerve stimulation affects pain perception in depressed adults. *Pain Research and Management*. 2005; 10: 9-14.
- 28) **Kozel FA**, Johnson KA, Mu Q, Grenesko E, Laken SJ, and George MS. Detecting Deception using Functional MRI. *Biological Psychiatry*. 2005; 58(8): 605-613. PMID: 16185668

### 2006

- 39) Borckardt JJ, Anderson BA, **Kozel FA**, Nahas Z, Smith AR, Thomas KJ, Kose S, George MS. A case report of acute and long-term effects on pain and depression. *Neurocase*. 2006 Aug; 12(4): 216-20.
- 30) Borckardt JJ, Weinstein M, Reeves ST, **Kozel FA**, Nahas Z, Smith AR, Byrne KT, Morgan K, George MS. Post-Operative Left Prefrontal Repetitive Transcranial Magnetic Stimulation Reduces Patient-Controlled Analgesia Use. *Anesthesiology*. 2006 Sep; 105(3): 557-62.
- 31) KA Johnson, Z Nahas, **FA Kozel**, D Ramsey, DE Bohning, B Anderson, HA Sackeim, MS George and the OPT-TMS Study Group. Using Imaging to Target the Prefrontal Cortex for TMS Studies in Treatment Resistant Depression. *Dialogues in Clinical Neuroscience*, 2006, 8(2).

### 2007

- 31) Nahas Z, Teneback C, Chae JH, Mu Q, Molnar C, **Kozel FA**, Walker J, Anderson B, Koola J, Kose S, Lomarev M, Bohning DE, George MS. Serial Vagus Nerve Stimulation Functional MRI (VNS/fMRI) in Treatment Resistant Depression. *Neuropsychopharmacology*, 2007, Aug; 32(8): 1649-1660.
- 32) Mu Q, Johnson K, Morgan P, Grenesko E, Molnar C, Anderson A, Nahas Z, **Kozel FA**, Kose S, Knable M, Fernandes P, Nichols D, Mailman R, George MS. A single 20 mg dose of the full D1 dopamine agonist dihydrexidine (DAR-0100) increases prefrontal cortical perfusion in schizophrenia. *Schizophrenia Research*. 2007 Aug; 94(1-3): 332-41.
- 33) Borckardt JJ, Smith AR, Reeves ST, Weinstein M, **Kozel FA**, Nahas Z, , Shelley N, Branham RK, Thomas KJ, George MS. Fifteen minutes of left prefrontal repetitive transcranial magnetic stimulation acutely increases thermal pain thresholds in healthy adults. *Pain Res Manag.* 2007 Winter; 12(4): 287-90.

### 2008

34) **Kozel FA**, Trivedi MH, Wisniewski SR, Miyahara S, Husain MM, Fava M, Lebowitz B, Zisook S, Rush AJ. Treatment outcomes in older depressed patients with earlier vs.

- late onset of first depressive episode: A STAR\*D Report, 2007, *American Journal of Geriatric Psychiatry*. 2008 January; 16 (1): 58-64. PMID: 18165462
- 35) Johnson K, George MS, **Kozel FA**. Detecting Deception Using Functional Magnetic Resonance Imaging. *Directions in Psychiatry*, 2008, 28; Special Report, pp. SR1-SR10.
- 36) **Kozel FA** and Trivedi M. Neuroimage and Crime: Developing a Neuropsychiatric Functional Brain Imaging Test. *Neurocase*. 2008, 14 (1): 52-53. PMID: 18569731
- 37) Borckardt JJ, Reeves ST, Weinstein M, Smith AR, Shelley N, **Kozel FA**, Byrne KT, Morgan K, George MS. Significant Analgesic Effects of One Session of Postoperative Left Prefrontal Cortex Repetitive Transcranial Magnetic Stimulation: A replication study. *Brain Stimulation*. April 2008, 1 (2): 122-127.

- 38) **Kozel FA**, Johnson KA, Grenesko EL, Laken SJ, Kose S, LuX, Pollina D, Ryan A, and George MS. Functional MRI Detection of Deception After Committing a Mock Sabotage Crime. *The Journal of Forensic Sciences*. 2009, 54 (1): 220-231. PMID: 19067772
- 39) **Kozel FA**, Johnson KA, Laken SJ, Grenesko EL., Walker J, and George MS. Can Simultaneously Acquired Electrodermal Activity Improve Accuracy of fMRI Detection of Deception? *Social Neuroscience*. 2009, 4 (6): 510-517. PMID: 18633826
- 40) **Kozel FA**, Laken SJ, Johnson KA, Boren B, Mapes K, Morgan PS, and George MS. Replication of Functional MRI Detection of Deception. *The Open Forensic Science Journal*. 2009, 2: 6-11. PMID: 19844599
- 41) Simpson KN., Welch MJ, **Kozel FA**, Demitrack, MA, Nahas Z. Cost Effectiveness of Transcranial Magnetic Stimulation (TMS) in the Treatment of Major Depression: A Health Economic Analysis. *Advances in Therapy*. 2009, 26:3: 346-68. PMID: 19330495
- 42) Jin B, Strasburger A, Laken SJ, **Kozel FA**, Johnson KA, George MS, Lu X. Feature Selection for fMRI-based Deception Detection, *BMC Bioinformatics*. 2009 Sep 17;10 Suppl 9:S15. PMID: 19761569
- 43) **Kozel FA**, Tian F, Dhamne S, Craorkin P, McClintock SM, Elliott A, Mapes KS, Husain MM, Liu H. Using Simultaneous Repetitive Transcranial Magnetic Stimulation/Functional Near Infrared Spectroscopy (rTMS/fNIRS) to Measure Brain Activation and Connectivity. *NeuroImage*. 2009 Oct 1;47(4): 1177-84. PMID: 19446635
- 44) Tian F, Sharma V, **Kozel FA**, Liu H. Functional Near Infrared Spectroscopy to Investigate Hemodynamic Responses to Deception in the Prefrontal Cortex. *Brain Research*. 2009; 1303: 120-30. PMID: 19782657

### 2010

- 45) Short EB, Kose S, Mu Q, Borckardt J, Newberg A, George MS, **Kozel FA**. Regional brain activation during meditation shows time and practice effects: a functional MRI study. *Evidence-Based Complementary and Alternative Medicine*. 2010 [2007 Oct 27 Epub ahead of print doi:10.1093/ecam/nem163] 7(1): 121-127. PMID: 18955268
- 46) Johnson KA, Baylis GC, Powell DA, **Kozel FA**, Miller SW, George MS. Conditioning of transcranial magnetic stimulation: Evidence of sensory-induced responding and prepulse inhibition. *Brain Stimulation*. 2010; 3(2): 78-86. PMID: 20633436
- 47) Croarkin PE, Wall CA, McClintock SM, **Kozel FA**, Husain MM, Sampson SM. The Emerging Role for Repetitive Transcranial Magnetic Stimulation in Optimizing the Treatment of Adolescent Depression. *J ECT*. 2010; 26: pp. 323-329. PMID: 20418774
- 48) **Kozel FA** Identifying phronotypes in psychiatry. *Front Psychiatry*. 2010;1:141. PMID: 21423450

#### 2011

- 49) **Kozel FA**, Johnson KA, Nahas Z, Nakonezny PA, Morgan PA, Anderson BA, Kose S, Li X, Lim K, Trivedi M, George M. Fractional Anisotropy Changes After Several Weeks of Daily Left High-Frequency Repetitive Transcranial Magnetic Stimulation of the Prefrontal Cortex to Treat Major Depression. *J ECT*. 2011; 27 (1), pp 5-10. PMID: 20559144
- 50) **Kozel FA**, Rao U, Hanzhang L, Nakonezny PA, Grannemann B, McGregor T, Croarkin PE, Mapes KS, Tamminga CA, Trivedi MH (2011) Functional connectivity of brain structures correlates with treatment outcome in Major Depressive Disorder. *Front. Psychiatry* **2**:7. PMID: 21556277
- 51) Wall CA, Croarkin PE, Sim LA, Husain MM, Janicak PG, **Kozel FA**, Emslie GJ, Dowd SM, Sampson SM. Adjunctive Use of Repetitive Transcranial Magnetic Stimulation in Depressed Adolescents. *J Clin Psychiatry*. 2011 Sep;72(9):1263-9. PMID: 21951987
- 52) Croarkin PE, CA Wall, King JD, **Kozel FA**, Daskalakis ZJ. Pain during transcranial magnetic stimulation in youth. *Innovations in Clinical Neuroscience*. 2011; 8(12):18–23.

### 2012

53) Croarkin PE, CA Wall, Nakonezny PA, Buyukdura JS, Husain MM, Sampson SS, Emslie GJ, **Kozel FA**. Increased Cortical Excitability with Prefrontal High Frequency Repetitive Transcranial Magnetic Stimulation (rTMS) in Adolescents with Treatment Resistant Major Depressive Disorder (MDD). *Journal of Child and Adolescent Psychopharmacology*. 2012 Feb;22(1):56-64.

- 54) Bobb DS, Adinoff B, Laken SJ, McClintock SM, Rubia K, Huang H, Husain MM, Mapes KS, Tamminga C, Cullum CM, Gopinath K, Trivedi MH, **Kozel FA**. Neural Correlates of Successful Response Inhibition in Unmedicated Patients with Late Life Depression. *The American Journal of Geriatric Psychiatry*. 2012 Dec;20(12):1057-1069
- 55) Tian F, **Kozel FA**, Yennu A, Croarkin PE, McClintock SM, Mapes KS, Husain MM, Liu H. Test-retest assessment of cortical activation induced by repetitive transcranial magnetic stimulation with brain atlas-guided optical topography. *J Biomed Opt.* 2012 Nov;17(11):116020. doi: 10.1117/1.JBO.17.11.116020.

#### 2013

- 56) Croarkin PE, Nakonezny PA, Husain M, Melton T, Buyukdura JS, Kennard BD, Emslie GJ, **Kozel FA**, Daskalakis ZJ. Evidence for Increased Glutamatergic Cortical Facilitation in Children and Adolescents With Major Depressive Disorder. *JAMA Psychiatry*. 2013 Mar 1;70(3):291-9. doi: 10.1001/2013.jamapsychiatry.24.
- 57) Kip K, Sullivan KL, Lengacher CA, Rosenzweig L, Hernandez DF, Kadel R, **Kozel FA**, Shuman A, Girling SA, Hardwick MJ, Diamond DM. Brief Treatment of Co-Occurring Post Traumatic Stress and Depressive Symptoms By Use of Accelerated Resolution Therapy (ART®). 2013 *Front. Psychiatry* **4**:11. doi: 10.3389/fpsyt.2013.00011
- 58) **Kozel FA**, Croarkin PE, Mapes KS. A non-epileptiform event in the course of rTMS: A case for close physician monitoring. *Brain Stimulation*. 2013 Nov;6(6):970-2. doi: 10.1016/j.brs.2013.04.003. Epub 2013 Apr 28.
- 59) Almeida JRC, Mourao-Miranda J, Aizenstein HJ, Versace A, **Kozel FA**, Lu H, Marquand A, LaBarbara EJ, Brammer M, Trivedi M, Kupfer DJ, Phillips ML. Pattern recognition analysis, using arterial spin labeling measures of anterior cingulate cortical resting blood flow, accurately classifies depressed individuals with bipolar I versus unipolar depression. *British Journal of Psychiatry*. 2013 Oct;203:310-1. doi: 10.1192/bjp.bp.112.122838. Epub 2013 Aug 22.

- 60) Croarkin PE, Nakonezny PA, Husain M, Port JD, Melton T,, Kennard BD, Emslie GJ, **Kozel FA**, Daskalakis ZJ. Evidence for Pretreatment LICI Deficits among Depressed Children and Adolescents with Nonresponse to Fluoxetine. *Brain Stimul*. 2014 Mar-Apr;7(2):243-51. doi: 10.1016/j.brs.2013.11.006. Epub 2013 Dec 3.
- 61) Fernandez JW, Philpot RM, Marsh PJ, Hartney KE, **Kozel FA**. The Need to Expand Access to Electroconvulsive Therapy: A Retrospective Analysis of a New Academic Service. *Journal of Psychiatric Practice*. in press Nov 2013

## **Chapters**

### 2000

1) George MS, Nahas Z, Bohning DE, Shastri A, Teneback C, Roberts DR, Speer A, Lorberbaum J, Vincent DJ, Owens SD, **Kozel FA**, Molloy M, Risch SC: Transcranial Magnetic Stimulation and Functional Neuroimaging in <u>Transcranial Magnetic Stimulation in Neuropsychiatry</u>, Edited by George MS and Belmaker RH. Washington, D.C., American Psychiatric Press, 2000, pp 253-268.

### 2002

- 2) George MS, **Kozel FA**. Other Antidepressant Therapies Light Therapy, ECT, TMS, VNS. in <u>Advances in the Management and Treatment of Depression</u>. Thase and Potokar (Editors), Martin Dunitz Publishing, 2002.
- 3) George MS, Nahas Z, Bohning DE, **Kozel FA**, Anderson B, Chae J, Li X, Mu Q. Potential Mechanisms of Action of VNS for Depression. In <u>Vagus Nerve Stimulation</u> (2nd Ed), Schachter and Schmidt (Eds), Martin Dunitz Publisher. 2002.
- 4) George MS, Nahas Z, **Kozel FA**, Li X, Yamanaka K, Mishory A, Hill S, Bohning DE. Repetitive Transcranial Magnetic Stimulation (rTMS) for Depression and Other Indications. In <u>Bioelectromagnetic Medicine</u>, P. Rosch and M. Markov (Eds).

### 2005

- 5) George MS, Nahas Z, **Kozel FA**, Li X, Yamanaka K, Mishory A, Hill S, Bohning DE. Potential Therapeutic Uses of TMS in Psychiatric Disorders. In <u>Magnetic Stimulation in Clinical Neurophysiology</u>, Hallett and Chokroverty (Eds). Butterworth-Heineman publishers, Mass, pp 311-328, 2005
- 6) Nahas Ziad, Lorberbaum Jeffery P, **Kozel Frank A**, George Mark S. Somatic Treatments in Psychiatry. In <u>Textbook of Biological Psychiatry</u>, Jaak Panksepp (Ed.) John Wiley & Sons, Inc. 2004: pp 521-548.

### 2006

- 7) George MS, Nahas Z, Bohning DE, **Kozel FA**, Anderson B, Mu Q, Borckardt J, Li X. Vagus Nerve Stimulation and Deep Brain Stimulation. In <u>Textbook of Mood Disorders</u>, Stein, Kupfer, Schatzberg (Ed.). American Psychiatric Publishing, Inc. 2006: pp 337-349.
- 8) Nahas Z, **Kozel FA**, Molnar C, Ramsey D, Holt R, Ricci R, Johnson K, Koola J, George M. Methods of Administering Transcranial Magnetic Stimulation. In <u>TMS in Clincial Psychiatry</u>, American Psychiatric Press, 2006.

### **Abstracts and Presentations**

### 1999

1) **Kozel FA**, Nahas Z, deBrux C, Molloy M, Lorberbaum J, Bohning D, Risch SC, George M: Scalp to prefrontal cortex distance increases with age and might influence the

- antidepressant effect of left prefrontal rTMS. American Psychiatric Association Annual Meeting 1999; NR#181: p.112. (Abstract)
- 2) McConnell Kathleen A., Nahas Ziad, **Kozel F. Andrew**, Lorberbaum Jeffery P., Shastri Ananda, Bohning Daryl E.: The TMS Motor Threshold Depends on the Distance from Coil to Underlying Cortex. M.U.S.C. Student Research Day 1999; NR#088.(Abstract)

### 2000

- 3) **Kozel, F. Andrew**, Revell, Letty J., Lorberbaum, Jeffery P., Shastri, Ananda, Nahas, Ziad, Bohning, Daryl E., George, Mark S.: Regional Brain Correlates of Deception: A Pilot fMRI Study in Healthy Young Adults. American College of Neuropsychopharmacology (ACNP) 2000; 39th Annual Meeting, Dec. 12, 2000, San Juan, Puerto Rico (p. 138). NR#87.(Abstract)
- 4) Nahas Ziad, Teneback Charlotte C, **Kozel F. Andrew**, Speer Andrew M., Molloy Monica, Stallings Lauri, Vincent Diana J, Bohning Daryl E, Spicer Kenneth M, Cheng KT, Risch S Craig, George Mark S: 1999. The Roles of Frequency and Distance to Cortex in rTMS's Effects on rCBF. Human Brain Mapping, Dusseldorf, Germany, poster no. 236. (Abstract)
- 5) George MS, Nahas Z, Olivere NC, Molloy M, **Kozel FA**, Lorberbaum JP, Lomarev M, Li X: Recent Advances in TMS as an Antidepressant. Part of a symposium on 'An Update on New Somatic Treatments for Depression' (M George Chair). *Biological Psychiatry* 2000 (Abstract).

- 6) **Kozel FA**, Revell L, Lorberbaum JP, Shastri A, Nahas Z, Horner MD, Vincent DJ, Lomarev M, Bohning DE, George MS: Brain Regions Involved in Deception; an fMRI study in healthy volunteers. Journal of Neuropsychiatry and Clinical Neurosciences 2001, 13; P63: p.147. (Abstract)
- 7) **Kozel, F. Andrew**, Revell, Letty J., Lorberbaum, Jeffery P., Shastri, Ananda, Nahas, Ziad, Horner, Michael D., Elhai, Jon D., Bohning, Daryl E., George, Mark S.: Regional Brain Correlates of Deception: A Pilot fMRI Study in Healthy Young Men. M.U.S.C. Student Research Day 2001; NR#123.(Abstract)
- 8) George MS, Nahas Z, Li X, Chae JH, **Kozel FA**: The role of rtMS in Treatment Resistant Depression. In a Panel: Treatment Resistant Depression: The Role of Innovative Treatments. American College of Neuropsychopharmacology (ACNP) 40<sup>th</sup> Annual Meeting, Dec. 10, 2001, Waikoloa, Hawaii.
- 9) Teneback CC., George MS, Li X, Nahas Z, **Kozel FA**, Large C, Cohn J, Bohning DE, George MS: Lamotrigine Increases the TMS Motor Threshold and Using Interleaved TMS/fMRI, Inhibits the BOLD Response to TMS over Motor and Prefrontal Cortex.

- American College of Neuropsychopharmacology (ACNP) 40<sup>th</sup> Annual Meeting, Dec. 9, 2001, Waikoloa, Hawaii.
- 10) Teneback, Charlotte C., Li, Xingbao, Nahas, Ziad, **Kozel, F. Andrew**, Bohning, Daryl E., George, Mark S.: Transcranial Magnetic Stimulation, Alone or Combined with Functional MRI, Reveals the Inhibitory Brain Effects of Lamotrigine. M.U.S.C. Student Research Day 2001; NR#109.(Abstract)
- 11) Nahas, Z., Mirski, D., **Kozel, F.A.,** Molloy, M., Mintzer, J., George, M.S.: Left Prefrontal rTMS in Geriatric Depression in the Acute Phase. AAGP, 14th Annual Meeting Feb. 2001 San Fransisco, CA. (Abstract)
- 12) Teneback, Charlotte C., Li, Xingbao, Nahas, Ziad, **Kozel, F. Andrew**, Bohning Daryl E., George, Mark S. Transcranial Magnetic Stimulation, alone or combined with functional MRI, reveals the inhibitory brain effects of lamotrigine. M.U.S.C. Student Research Day 2001; NR#109.(Abstract)
- 13) George MS, Nahas Z, Li X, Chae JH, **Kozel FA**: The Role of Repetitive Transcranial Magnetic Stimulation (rTMS) in Treatment. American College of Neuropsychopharmacology (ACNP) 40th Annual Meeting, Dec., 2001. (Panel Abstract)
- 14) George MS, Nahas Z, Li X, Chae JH, Yamanaka K, **Kozel FA**: A New, Non-invasive Method for Influencing Brain Function, Transcranial Magnetic Stimulation (TMS) Has Potential Therapeutic Indications, Particularly in Treating Major Depression. 2001 International Symposium on Electromagnetics in Biology and Medicine, Tokyo, Japan, pp. 55-56. (Abstract)

- 15) **Kozel F. Andrew**, Revell Letty J., Lorberbaum Jeffery P., Shastri Ananda, Smith Adam, Nahas Ziad, Nadeau Brian, Bohning Daryl E, George Mark S: Regional Brain Correlates of Electrodermal Activity: a Pilot fMRI Study in Healthy Young Men. Society of Biological Psychiatry Annual Meeting May 2002; NR #255. (Abstract)
- 16) Li X, Teneback CC, Nahas Z, **Kozel FA**, Large C, Cohn J, Bohning DE, George MS: Lamotrigine Inhibits the Functional Magnetic Resonance Imaging Response to Transcranial Stimulation Magnetic Stimulation in Healthy Adults. Society of Biological Psychiatry Annual Meeting May 2002; NR #567. (Abstract)
- 17) **Kozel FA**, Revell LJ, Lorberbaum JP, Shastri A, Elhai JD, George MS, et al: Regional Brain Correlates of Deception: A Functional Magnetic Resonance Imaging Study in Healthy Young Men. As part of Symposium "Emerging Technologies in Credibility Assessment" (Chair Andrew Ryan) 11<sup>th</sup> World Congress of Psychophysiology. Montreal 2002; International Journal of Psychophysiology 2002, 45; Symposium 10: 29.

18) George MS, Li Xingbao, Nahas Z, Bohning DE, **Kozel FA**, Mu Qiwen, Anderson B. Using interleaved TMS/fMRI over prefrontal cortex in depressed patients to understand TMS antidepressant mechanisms of action in terms of local effects on prefrontal cortex, secondary effects in anterior limbic structures, and the relationship between the two. American College of Neuropsychopharmacology (ACNP) 41st Annual Meeting, Dec., 2002.

### 2003

- 19) **Kozel, FA**. Lie Detection Past, Present, & Future. Forensic Day of Discovery, MUSC, March 2003., Charleston, SC.
- 20) Li X, Nahas Z, Anderson, B, **Kozel FA**, Yamanaka, K, Bohining DE, George MS. Transcranial Magnetic Stimulation delivered over the left prefrontal cortex of depressed patients increases local cortical activity as well as in the right orbitofrontal cortex, hippocampus, insula and thalamus. Society of Biological Psychiatry Annual Meeting May 2003; (Abstract).
- 21) **Kozel FA**, Padgett T, George MS. Measuring Brain Changes Associated with Deception Using 3T BOLD Functional MRI. #455. Human Brain Mapping, New York, NY (Abstract).
- 22) **Kozel FA**: TMS in geriatric depression does it work and what does it tell us about the disease and the technology. Part of a symposium on 'Enhancing the Human Connection in the Age of New Technologies: Implications and Opportunities for the Aging' (M George Chair). S016, International Psychogeriatric Association's Eleventh International Congress. Chicago, Il, August 2003 (Abstract).
- 23) Bachman D, **Kozel FA**, Granholm-Bently L, Wagner M. Contoversies in Alzheimer's Disease. Part of the Twelfth Annual Nat Rosenfeld Memorial Conference on Alzheimer's Disease. Charleston, SC, September 2003 (Panel).
- 24) **Kozel, FA**. Transcranial Magnetic Stimulation as a Treatment for Depression. Part of A Day of Discovery: Advances in Treatment-Resistant Depression. MUSC, Charleston, SC, October 2003.
- 25) Borckardt JJ, **Kozel FA**, George MS. Do Different Vagal Nerve Stimulation (VNS) Setting Parameters Have Differential Effects on Acute Pain Perception? #107 (pg 227) American College of Neuropsychopharmacology (ACNP) 42nd Annual Meeting, Dec., 2003 (Abstract).

- 26) **Kozel FA**. Transcranial MagneticStimulation as a Research Tool. Continuing Education Program. International Neuropsychological Society 32<sup>nd</sup> Meeting, Feb. 2004.
- 27) **Kozel FA**. VNS for Resistant Depression. Psychiatry Grand Rounds. East Tennessee State University. Johnson City, Tn. April 2004.

- 28) **Kozel FA.** Brain Imaging in Neuropsychiatry. Brain Stimulation Techniques in Neuropsychiatry. Both lectures part of *Advances in Neuropsychiatry* Course #20. American Psychiatric Association 157<sup>th</sup> Meeting, NY, NY May 2004.
- 29) Li X, Nahas Z, **Kozel FA**, Teneback C, Bohining DE, George MS, Large C, Cohn J. Non-invasive Functional Connectivity: A Direct Comparison of the Secondary Activations Induced by Prefrontal versus Motor Cortex Stimulation using the Interleaved TMS/fMRI Technique in Healthy Young Men. Society of Biological Psychiatry Annual Meeting May 2004; #134: 39S (Abstract).
- 30) Morgan PS, **Kozel FA**, George MS, Johnson KA, Baylis GC, Rorden C. "Optimal SENSE factor for BOLD fMRI at 3T" In Proceedings of the ISMRM 12th scientific meeting (Kyoto) page 1030 (2004).
- 31) **Kozel, FA**. Using Functional Magnetic Resonance Imaging (fMRI) to Detect Deception. Part of Session #5140 -Credibility Assessments-Technology Impact for Law Enforcement Applications. American Psychological Association. Hawaii July 2004.
- 32) **Kozel FA**, Johnson KA, Mu Q, Grenesko E, Laken SJ, and George MS. Developing Functional MRI Detection of Deception. *Neuropsychopharmacology*. Vol 29, Supplement 1, #47; pp S84-S85. American College of Neuropsychopharmacology (ACNP) 43nd Annual Meeting, Dec., 2004 (Abstract).
- 33) George MS, Nahas Z, Anderson B, **Kozel FA**, Jones L, Molnar C, Knable M, Nichold DE, Mailman R. A pilot study assessing the effects of DAR-0100 (a dopamine D1 full agonist) on regional brain activity and task-specific activation in patients with schizophrenia. *Neuropsychopharmacology*. Vol 29, Supplement 1, #138; pp S117. American American College of Neuropsychopharmacology (ACNP) 43nd Annual Meeting, Dec., 2004 (Abstract).
- 34) Nahas Z, Teneback C, Chae JH, Mu Q, Molnar C, **Kozel FA**, Walker J, Koola J, Lomarev M, Bohning DE, George MS. Serial Vagus Nerve Stimulation Functional MRI (VNS/fMRI) in Treatment-Resistant Depression. *Neuropsychopharmacology*. Vol 29, Supplement 1, #27; pp S191. American American College of Neuropsychopharmacology (ACNP) 43nd Annual Meeting, Dec., 2004 (Abstract).

- 35) **Kozel FA**, Nahas Z, Ramsey D, Molnar C, Johnson K, Grenesko E, George MS. Measuring Scalp to Cortex Distance In Order to Adjust TMS Stimulation Parameters. Society of Biological Psychiatry Annual Meeting May 2005;(Abstract).
- 36) Short EB, Kose S, Newberg A, George MS, **Kozel FA**. FMRI Investigation of Meditation. Society of Biological Psychiatry Annual Meeting May 2005;(Abstract).

- 37) Nahas Z, Molnar C, Ramsey D, Walker J, Denslow S, Koola J, Johnson K, **Kozel FA**, Li X, Bohning DE, George MS. Prefrontal cortical excitability in non-medicated schizophrenia subjects using interleaved TMS/fMRI. Society of Biological Psychiatry Annual Meeting May 2005;(Abstract).
- 38) Molnar C, Nahas Z, Ramsey D, Bohning P, Denslow S, Walker J, Johnson K, **Kozel FA**, Bohning DE, George MS. Prefrontal cortical excitability in non-medicated schizophrenia subjects using interleaved TMS/fMRI. Society of Biological Psychiatry Annual Meeting May 2005;(Abstract).
- 39) **Kozel, F.A.** Detection of Deception Using Functional MRI. Presentation part of Brain Imaging Center of Excellence Symposium: April 15th, 2005; Charleston S.C.
- 40) Morgan PS, George MS, **Kozel FA**, Fridriksson J, Baylis G, Martel AL, Auer DP, Moody AR. Dynamic Contrast Enhanced Whole Brain Perfusion using a Rapid 3D T<sub>1</sub>-weighted Sequence at 1.5T and 3T Proceedings of the ISMRM. 2005 13th Scientific Meeting (Miami) p.1258 (Abstract).
- 41) George MS, Nahas Z, Anderson B, **Kozel FA**, Mu Q, Molnar C, et al. A pilot study assessing the effects of Dar-0100 (A Dopamine Full Agonist) on regional brain activity and task-specific activation in patients with schizophrenia. *Neuropsychopharmacology*. Vol 30, Supplement 1, #125; pp S126. American American College of Neuropsychopharmacology (ACNP) 44nd Annual Meeting, Dec., 2005 (Abstract).
- 42) Borckardt J, Smith AR, Weinstein M, Reeves ST, Gilbert S, Barry A, **Kozel FA**, George MS. Effects of Left Prefrontal rTMS on Laboratory, Neuropathic and Post-Operative Pain. *Neuropsychopharmacology*. Vol 30, Supplement 1, #138; pp S131. American American College of Neuropsychopharmacology (ACNP) 44nd Annual Meeting, Dec., 2005 (Abstract).
- 43) Nahas Z, Molnar C, Ramsey D, Walker J, Koola J, Johnson K, Holt R, Horner M, **Kozel FA**, Denslow S, Bohning DE, George MS. Prefrontal Activity in Schizophrenia: An Interleaved TMS/fMRI Study. *Neuropsychopharmacology*. Vol 30, Supplement 1, #153; pp S204. American American College of Neuropsychopharmacology (ACNP) 44nd Annual Meeting, Dec., 2005 (Abstract)

- 44) **Kozel FA**, "Mechanism of Action for Transcranial Magnetic Stimulation" as part of Transcranial Magnetic Stimulation CME; American Psychiatric Association, May 2006, Toronto, Ontario
- 45) Kevin A Johnson, Mark S George, Qiwen Mu, Berry Anderson, **F Andrew Kozel**, Ziad Nahas, Emily Grenesko, Chris Molnar, Lori E Jones, Michael Knable, Prabhavathi B Fernandes, David E Nichols, Richard B Mailman: Effects of a Full D1 Agonist on Gadolinium Perfusion, BOLD fMRI, and Cognitive Performance in Schizophrenic Patients. In NeuroImage, 12th Annual Meeting of Human Brain Mapping (Florence)

- Volume 31, Supplement 1, page S48 (2006).
- 46) Borckardt JJ, Weinstein M, Reeves ST, Smith AR, **Kozel FA**, Nahas Z, Shelley N, George MS. The effects of Transcranial Magnetic Stimulation over the left prefrontal cortex on pain perception in healthy adults, Gastric Bypass Surgery Pateitns and Patients with Chronic Neuropathic Pain. Neuropsychopharmacology Vol 31, Supp 1, 2006 (Abstract)
- 47) Johnson KA, Baylis GC, **Kozel FA**, George MS. Classical Conditioning using Transcranial Magnetic Stimulation as the unconditional stimulus. Neuropsychopharmacology Vol 31, Supp 1, 2006 (Abstract)
- 48) **Kozel FA**, Trivedi MH, Wisniewski SR, Miyahara S, Husain MM, Fava M, Lebowitz B, Zisook S, Rush AJ. Treatment outcomes in older depressed patients with earlier vs. late onset of first depressive episode: A STAR\*D Report. Neuropsychopharmacology Vol 31, Supp 1, 2006 (Abstract)

- 49) **Kozel FA**: Neuroimaging: A Brief Overview. UTD Public Forum on Values in Medicine, Science, and Technology Ethics and Brain Imaging, UT Dallas, Richardson, Tx 9 Jan 2007.
- 50) Trevino K, McClintock SM, Lisanby SH, **Kozel A**, Nahas Z, McDonald W, Reardon J, Sampson S, Demitrack M, Husain MM. Efficacy and Safety of Transcranial Magnetic Stimulation (TMS) in Elderly Patients with Major Depressive Disorder, Poster Presentation, American Association for Geriatric Psychiatry, 20th Annual Meeting, New Orleans, LA, March 2007 (Abstract).
- 51) **Kozel FA**, Johnson KA, Nahas Z, Nakonezny PA, Morgan PA, Anderson BA, Kose S, Li X, Lim K, Trivedi M, George M. DTI Measures of Prefrontal Cortex White Matter Microstructure after Several Weeks of Daily Left High Frequency rTMS in Outpatients with Major Depression. Biological Psychiatry 2007;61:177S. (Abstract)
- 52) **Kozel FA**, "Mechanism of Action for Transcranial Magnetic Stimulation" as part of Transcranial Magnetic Stimulation CME; American Psychiatric Association, May 2007, San Diego, Ca.
- 53) **Kozel FA**, Johnson KA, Grenesko E, Laken SJ, Kose S, Lu X, Pollina D, Ryan A, and George MS. Detection of Deception Using fMRI After Committing A Mock Sabotage Crime. Human Brain Mapping. June 2007, Chicago, Il.
- 54) **Kozel FA**. Brain Stimulation in Psychiatry: Repetitive TMS Treatment of Depression. National Alliance on Mental Illness local chapter meeting, 5 July 2007; Dallas, Tx.

- 54) **Kozel FA**. Bipolar Disorder: Assessment, Management, and a Novel Treatment Option. Charleton Methodist Family Practice Resident and Attending Group, Sept 2007; Charleton Methodist Hospital; Dallas,Tx.
- 55) **Kozel FA**. Advances in Brain Stimulation for the Treatment of Mood Disorders. Depression Bipolar Support Alliance local chapter meeting, October 2007; Dallas, Tx.
- 56) **Kozel FA**. Functional MRI Application: Detecting Deception. Guest Lecture at UT Arlington Neuroimaging Course, November 2007; Arlington, Tx.
- 57) **Kozel FA**, Laken SJ, Johnson KA, Boren B, Mapes K, Morgan P,Patel K, Levine K, Fernald MP, and George MS. Replication of fMRI Detection of Deception at Two Independent Sites Using 3.0 Tesla and 1.5 Tesla MR Scanners. Annual Meeting American College of Neuropsychopharmacology, Dec 2007, Boca Raton, Fl.

### 2008

- 58) **Kozel FA**. Late-Life versus Early-Life Onset Geriatric Depression. 18th Annual Geriatric Psychiatry Update. UT Southwestern Medical Center, Feb 2008, Dallas, Tx.
- 59) Tian F, Dobbs R, Carmen AD, **Kozel FA**, Liu H. Can Functional Near-Infrared Spectroscopic (fNIRS) Imaging Detect Deception? 2008 Biomedical Optics Topical Meeting (BIOMED). March 2008, St. Petersburg, Florida, USA
- 60) Kose S, Johnson KA, Grenesko E, Arana A, Brogdon S, Laken SJ, George MS, **Kozel FA**. The Role of Personality on fMRI Assessment of Deception. Biological Psychiatry 2008;63:143S. (Abstract)
- 61) Johnson KA, Kose S, Laken SJ, Brogdon S, George MS, **Kozel FA**. Fatigue and Motivation Effects on fMRI Assessment of Deception. Biological Psychiatry 2008;63:162S. (Abstract)
- 62) Nahas Z, Simpson KN, McDonald, Welch MJ, **Kozel FA**, Demitrack MA. Costeffectiveness of transcranial magnetic stimulation (TMS) in the treatment of Major Depression: A Health Economic Analysis. US Psychiatry and Mental Health Congress October 30-Nov 1, 2008. (Abstract)
- 63) **Kozel FA**. Functional MRI Detection of Deception. Presentation at University of Arkansas MS, Nov 2008, Little Rock, AR.
- 64) **Kozel FA**, Tian F, Dhamne S, Craorkin P, McClintock SM, Elliott A, Mapes KS, Husain MM, Liu H. Using functional Near Infrared Spectroscopy (fNIRS) to measure brain changes associated with repetitive Transcranial Magnetic Stimulation (rTMS) of the Motor and Prefrontal Cortices. Annual Meeting American College of Neuropsychopharmacology, Dec 2008, Scottsdale, AZ. (Abstract)

- 65) Tian F, **Kozel FA**, McClintock S Dhamne S, Croarkin P, Mapes K, Husain M, Liu H. Bilateral responses of prefrontal and motor cortices to repetitive transcranial magnetic stimulation as measured by functional near infrared spectroscopy. Proceedings of SPIE Vol. 7161, 7161E-518 (2009). (Abstract)
- 66) **Kozel FA**. Repetitive Transcranial Magnetic Stimulation for the Treatment of Mood Disorders. Invited speaker for local meeting of Depression and Bipolar Support Alliance; Dallas, TX. 15 October 2009.
- 67) **Kozel FA**. Repetitive Transcranial Magnetic Stimulation in the Treatment of Mood Disorders. Invited speaker for UT Dallas BrainHealth lecture series; Dallas, TX. 9 November 2009.
- 68) Kruesi MJP, Johnson KA, Laken SJ, **Kozel FA**, Herbsman T, Morgan ,Christie D. Roper v. Simmons: An fMRI perspective study. American Academy of Child & Adolescent Psychiatry (AACAP) 56th Annual Meeting. Honolulu, Hawai'i. October 2009.
- 69) **Kozel FA**, Huang W, Adinoff B, Laken SJ, Tian F, McClintock SM, Husain MM, Mapes KS, Gopinath K, Bobb D, Cullum M, Tamminga C, Trivedi M. Neural correlates of successful inhibition in late life depression. Annual Meeting American College of Neuropsychopharmacology, Dec 2009, Hollywood, FL. (Abstract)

- 70) Fenghua Tian, Sameer Dhamne, George Alexandrakis, **F. Andrew Kozel**, Mauricio R. Delgado, and Hanli Liu "Spatiotemporal Analysis Developed for Functional Diffuse Optical Imaging and its Clinical Applications", in Biomedical Optics, OSA Technical Digest (CD) (Optical Society of America, 2010), paper BSuD75.
- 71) **Kozel FA.** Investigating repetitive transcranial magnetic stimulation (rTMS) with functional brain measures. #316, Annual Meeting of Society of Biological Psychiatry, May 2010. (Chair of Symposium)
- 72) **Kozel FA.** Using functional Near Infrared Spectroscopy (fNIRS) to measure brain changes associated with rTMS. #316, Annual Meeting of Society of Biological Psychiatry, May 2010. (Symposium Presenter)
- 73) **Kozel FA**. Repetitive Transcranial Magnetic Stimulation (rTMS) for the Treatment of Mood Disorders. Department of Psychiatry and Behavioral Sciences. The University of Texas Health Science Center at Houston; 3 Jun 2010.
- 74) Croarkin PE, Hines-Melton T, Buyukdura J, Kennard BD, Emslie GJ, **Kozel FA**, Daskalakis ZJ. Cortical Excitability and Inhibition In Adolescents with Major Depressive Disorder. AACAP's 57th Annual Meeting; October 2010.

- 75) Kruesi, M; Morgan, P; Herbsman, T; Johnson, K; **Kozel, FA**; Laken, SJ; Christie DK. White Matter Differences Associated with Lying in Conduct Disorder. AACAP's 57th Annual Meeting; October 2010.
- 76) **Kozel FA**, Rao U, Lu H, Nakonezny P, Grannemann B, McGregor T, Croarkin P, Mapes K, Tamminga C, Trivedi M. Connectivity of brain structures correlates with treatment outcome in Major Depressive Disorder. 49<sup>th</sup> Annual Meeting American College of Neuropsychopharmacology, Dec 2010, Miami, FL. (Abstract)

### 2011

- 77) **Kozel FA**, Therapeutic Mechanisms of Brain Stimulation in Major Depressive Disorder Society of Biological Psychiatry's 66th Annual Scientific Convention and Program, May 14, 2011 (Symposium Co-Chair).
- 78) **Kozel FA**, The Effects of rTMS in the Prefrontal Cortex in Depression: a Potential Biomarker in MDD Society of Biological Psychiatry's 66th Annual Scientific Convention and Program, May 14, 2011 (Symposium Presenter).
- 79) **Kozel FA**, Liu P, Rao U, Mapes KS, Marsh PK, de Almeida JRC, Croarkin PE, Tamminga CA, Trivedi MH, Lu H. Can ASL Measures of Anterior Cingulate Cortex Perfusion Predict Treatment Outcome in Major Depressive Disorder? 50<sup>th</sup> Annual Meeting American College of Neuropsychopharmacology, Dec 2011, Hawaii. (Abstract)

### 2012

- 80) **Kozel, FA**. Functional MRI Detection of Deception. USF Psychiatry and Behavioral Neurosciences Grand Rounds. Tampa, FL. Jan 2012
- 81) **Kozel, FA**. Neural Substrates of Deception. Invited to talk at Florida Psychiatric Society Meeting. Orlando, FL. April 2012.
- 82) **Kozel, FA**. Clinical Applications of Transcranial Magnetic Stimulation (TMS) in Patients with Depression. USF Lunch & Learn at STC. Tampa, FL. Nov 2012.
- 83) **Kozel, FA**. Clinical Applications of Transcranial Magnetic Stimulation (TMS) in Patients with Depression. Depression and Bipolar Support Alliance. Tampa, FL. Nov 2012.
- 84) Laken SJ, Lai A, Johnson FA, Morgan, PS, Levine K, Fernald M, Patel K, Chung-Haas K, Cahill J, **Kozel FA**. Stimuli Presentation Modification Improves Diagnostic Accuracy at the Individual Level for Functional MRI Detection of Deception. 51<sup>st</sup> Annual Meeting American College of Neuropsychopharmacology, Dec 2012, Hollywood, FL. (Abstract)

- 85) Croarkin PE, Nakonezny P, Melton T, Lewis C, Emslie G, **Kozel FA**, Daskalakis ZJ. GABA B deficits and depression severity in children and adolescents. #909; Annual Meeting of Society of Biological Psychiatry, May 2013. 73; p 290S.
- 86) **Kozel FA**, Spence JS, Christina Bass C, Morgan CR, Jones P, Schraufnagel C, Turner M, Hart J. Factors impacting functional disability and PTSD symptoms in OEF/OIF/OND veterans with PTSD. 52<sup>nd</sup> Annual Meeting American College of Neuropsychopharmacology, Dec 2013, Hollywood, FL. (Abstract)

### 2014

87) **Kozel, FA**. Clinical & Research Applications of Transcranial Magnetic Stimulation (TMS). HSRD/RRD CIDRR8 Research Topics Seminar; James A. Haley Veterans' Hospital; 7 January 2014.

## **Letters to the Editor**

### 2002

1) Risch SC, Baker S, **Kozel FA**: A Case of Risperidone-Ziprasidone-Associated Neuroleptic Malignant Syndrome Successfully Treated With Quetipine. The Journal of Psychotic Disorders: Reviews & Commentaries 2002, 6:18.

## **Other**

### 2000

1) **Kozel FA** and Schuyler D: When Brief Therapy Worked and Medication Did Not. *Primary Care Companion to the Journal of Clinical Psychiatry* 2000; 5: 181-182.

### 2003

- 2) Nahas Z, **Kozel FA**, Mu Q, Anderson B, Walker A, George MS: Vagus Nerve Stimulation (VNS) for Treatment-Resistant Depression. Psychiatric Times/CME. 2003
- 3) **Kozel A**. A case example. In <u>Cognitive Therapy: A Practical Guide</u>, Dean Schuyler (Ed.) New York: W.W Norton & Company, 2003.

## 2007

4) Johnson KA, **Kozel FA**, Laken SJ, George MS (2007): The neuroscience of functional magnetic resonance imaging fMRI for deception detection. *Am J Bioeth* 7:58-60. (Open Peer Commentary)

## 2010

**Kozel F Andrew**. Using Neuroimaging to Investigate the Neurobiology of Treatment in Mood Disorders. *Psychiatric Times*, April 2010; Vol. XXVII, No. 4.

## **Grant Funding/Support**

**Current Research Support** 

02/2011 – 04/2014 DM090122, (Hart PI)

Department of Defense

"Novel Treatment of Emotional Dysfunction in PTSD"

Role: Co-investigator (No Salary Support after Apr 2014)

This study will examine whether real versus sham rTMS given just prior to Cognitive Processing Therapy will improve the outcome of treatment in combat veterans with PTSD.

Completed/Past Research Support

09/30/10 – 06/30/14 1 U01MH092221-01, (Trivedi PI)

**NIMH** 

"Establishing Moderators and Biosignatures of Antidepressant

Response for Clinical Care (EMBARC)"

Role: Co-investigator (No Salary support after July 2011)

07/2005 – 06/2009 K23 NIMH 5 K23 MH070897-02

(no cost ext. 06/2010) Neuropsychiatry of Geriatric depression,

Total Direct Costs (4 years): \$674,488

Role: PI/Candidate

07/2008 – 06/2009 5 UL1 RR024982-02 Packer (PI)

NIH/NCRR

Using neuroimaging to investigate neurobiological correlates of treatment resistance associated with co-morbid anxiety in Major

Depressive Disorder

Direct Costs: \$25,000

Role: Pilot Award Recipient PI

09/2004 – 08/2007 Department of Defense Polygraph Institute - W74V8H-04-1-0010

Using BOLD fMRI to Detect Deception and Better Understand the Polygraph: Current Knowledge and a Focused, Applied Research

Agenda

Total Costs: \$600,384

Role: PI/local PI

01/2004 – 11/2006 Cephos Corporation – Functional MRI study of Detecting

Deception

Total Costs: \$190,564

Role: PI

08/2006 – 04/2008 Stanley Medical Research Institute Center 98-RC-301-12(PI Rush)

rTMS to treat depressed phase of Bipolar Disorder Type II

Role: Project PI All Centers funded by Stanley were abruptly discontinued 2007

07/2002 - 06/2005

Role: PI/Fellow

VA Special Fellowship in Psychiatric Research/Neurosciences

01/2005 - 06/2005

NIMH - Optimization of TMS for Depression, (PI George)

Role: Coinvestigator 1R01MH069896-01A1

07/2001 – 01/2005 Vagal Nerve Stimulation D-01/D-02/D-04/AN-01 (PI George)

These studies involve the invetigation of VNS for treatment of depression (D-01 open trial, D-02 double blind trial, D-04 non-

VNS comparitor group) and anxiety (AN-01 open trial).

Role: Coinvestigator

07/2003 – 01/2004 Deep Brain Stimulation and Functional MRI (PI George)

Investigating th safety of using fMRI to investigate the neurocicuitry of DBS inmplanted in patients with movement

disorders.

Role: Coinvestigator

07/2001 - 08/2003 Clinical Research Curriculum Award (K-30)

Program Director – L. Lyndon Key, M.D.

Provides funding for enrollment in the Master of Science in Clinical Research Program, special seminar series for clinical researchers, salary support for mentors, and guidance in preparing

an extramural grant application.

Role: Student

07/2002 – 06/2003 Interleaved TMS/fMRI investigation of lamotrigine effects on

neural activity (PI George)

Role: Coinvestigator

2000-2001 Resident Research Award from the Medical University of South

Carolina

Regional Brain Correlates of Deception: a Proof of Concept

Functional Magnetic Resonance Imaging Study in Healthy Young

Men

Study used BOLD fMRI to investigate brain changes during deception. In

addition, simultaneous electrodermal activity was aquired. The

electrodermal activity was correlated with brain changes.

Role: PI

### **Patents and Invention Disclosures**

System and Method of Detecting Deception by fMRI. Lead inventor. Invention Disclosure filed 12/20/01. Issued 03/01/2011. Patent # 7899524.

System and Method of Inhibiting the Ability to Deceive Using Functional Magnetic Resonance Imaging- guided TMS. Invention Disclosure filed 12/02/01. US no 10/868,045, international # PCT/US2005/020910.

## Mentoring/Supervision

Letty J. Revell – Medical University of South Carolina; Summer 2000; Summer Medical Student worked in fMRI research – Pursued Dermatology

Tamara Padgett – Medical University of South Carolina; Summer 2002; Stanley Summer Medical Student worked in fMRI research – Pursued Psychiatry

Baron Short – Medical University of South Carolina; 2003 - 2007; supervision as Resident & Junior Faculty in Psychiatry and Medicine – Faculty, MUSC

Kevin Johnson – Medical University of South Carolina; 2004 - Oct 2009; supervised during Neuroscience Graduate Studies and sat on Ph.D. committee – Post-doc at Stanford.

David Atkinson – UT Southwestern Medical Center; 2006-2007; supervised during 3<sup>rd</sup> year psychiatry resident on research track – supervised in fMRI data analysis project of working memory task before and after treatement with rTMS – pursued research tract of child fellowship at University of Alabama Birmingham.

Bryant Boren – UT Southwestern Medical Center; Summer 2007; supervised for UT Southwestern Medical Student Research Program; Analyzed the fMRI data for consistency of activation in motor task for an fMRI experiement – Radiology Residency at UTSW.

Mary (Molly) Camp - UT Southwestern Medical Center; July 2009 – August 2010; Cognitive Behavioral Therapy supervisor.

Sameer Dhamne – UT Arlington, Department of Biooengineering; Nov 2009; Committee member for Masters Defense. "Diffuse optical imaging of brain function under repetitive Transcranial Magnetic Stimulation and in children with cerebral palsy."

Amanda Reahard - UT Southwestern Medical Center; July 2009 – June 2010; Cognitive Behavioral Therapy supervisor.

Venkatagir (Giri) Krishnamurthy – UT Arlington, Department of Biooengineering; April 2010 – May 2011; Committee member for Ph.D. defense.

Afshan Khan - UT Southwestern Medical Center; August 2010 – June 2011; Cognitive Behavioral Therapy supervisor.

David Bobb – UT Southwestern Medical Center; 2008 – June 2011; supervise psychiatry resident on research tract, fMRI data analysis project of inhibition paradigm in geriatric depression – currently PGY 4. Dr. Bobb was awarded the prestigious Rappaport Fellowship in Forensic Psychiatry in 2010. He was also co-winner of the research award for graduating UTSW psychiatry residents 2011.

Michael Centorino – University of South Florida - Cognitive Behavioral Therapy supervisor - Aug 2011-June 2012.

Cory Klippel, M.D. - University of South Florida - Cognitive Behavioral Therapy supervisor - July 2012-June 2013.

### **Interests**

Kayaking, travel, SCUBA diving, and reading Hold a single engine land private pilot license (non-current)