

Andrew D. Krystal, M.D.

Curriculum Vitae

Professor, Department of Psychiatry  
Duke University Medical Center

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Mailing Address: Department of Psychiatry  
Duke University Medical Center  
Box 3309  
Durham, NC 27710

Date of Birth: 06/17/60      Place: Michigan

Citizen of: U.S.A.

Status: Married

Medical Licensure:      National Board of Examiners, 1989  
North Carolina License #33777, 1989

Specialty Certification:      American Board of Psychiatry and Neurology  
(Psychiatry) January, 1993.

American Board of Clinical Neurophysiology  
(EEG, Sleep, Evoked Potentials) September, 1995

American Board of Psychiatry and Neurology  
Added qualifications in Clinical Neurophysiology  
(EEG, Sleep, Evoke Potentials, and EMG) June 1997

American Board of Sleep Medicine April, 1999

American Board of Psychiatry and Neurology  
Added qualifications in Sleep Medicine January, 2008

### Scholarly Societies

Pi Tau Sigma (National Mechanical Engineering Honor Society)

Society of the Sigma Xi

Tau Beta Pi (National Engineering Honor Society)

<u>Education:</u>	<u>Place</u>	<u>Date</u>	<u>Degree</u>
High School	Michigan	6/78	Diploma
College	M.I.T.	8/83	B.S.
Graduate or	M.I.T.	8/83	M.S.E.
Professional School	Duke Univ.	5/87	M.D.

### Professional Training and Academic Career:

Neurophysiology

Research Assistant      Harvard Medical School 10/78-10/79

Rehab. Engineering

Research Assistant      M.I.T.      9/80-6/81

Engineering Research

Associate	M.I.T.	6/81-8/83
Dept. of Psychiatry Research Associate	Duke Univ. Medical Center	7/86-6/91
Psychiatry Residency	Duke Univ. Medical Center	7/87-6/91
Executive Chief Resident in Psychiatry	Duke Univ. Medical Center	7/90-6/91
Clin. Psych. Research Methodology Fellow	Duke Univ. Medical Center	7/91-7/93
Fellow, Sleep Disorders & Clinical Neurophysiol.	Duke Univ. Medical Center	7/91-7/92
Dept. of Psychiatry Clinical Associate	Duke Univ. Medical Center	9/91-11/93
Attending Physician, Sleep Disorders Center	Duke Univ. Medical Center	7/92-Present
Attending Physician, ECT Program	Duke Univ. Medical Center	11/93-Present
Associate Director, ECT Program	Duke Univ. Medical Center	3/96-Present
Director, Quantitative EEG Laboratory	Duke Univ. Medical Center	10/95-Present
Dept. of Psychiatry Assistant Professor	Duke Univ. Medical Center	12/93-8/2000
Director, Behavioral Neurosciences Study Program	Duke Univ. School of Medicine	7/97-Present
Director, Sleep Disorders Research Laboratory and Insomnia Program	Duke Univ. Medical Center	6/98-Present
Dept. of Psychiatry Associate Professor	Duke Univ. Medical Center	8/2000-8/2003
Dept. of Psychiatry Associate Professor With Tenure	Duke Univ Medical Center	8/2003-7/2008

Director, Course in Neurobiology and Human Behavior	Duke Univ. School of Medicine	7/1/03-Present
Director, Therapeutic Brain Stimulation Research Program	Duke Univ Medical Center	10/03/04-Present
Dept. of Psychiatry Professor	Duke Univ Medical Center	7/1/08-Present

Professional awards:

Undergraduate Research Award M.I.T. (1980)  
 Chairman's Award for Outstanding Achievement in the Department of Mechanical  
 Engineering M.I.T., (1980-1981)  
 North Carolina Foundation for Alcohol and Drug Abuse Medical Student Award (1986)  
 Duke University Department of Internal Medicine Overseas Medical Scholarship (1986)  
 American Psychiatric Association Resident's Scholarship, Upjohn Corporation (1990)  
 Outstanding Young Investigator Award, Upjohn Corporation (1990)  
 Laughlin Fellow, American College of Psychiatrists (1990-1991)  
 NARSAD Young Investigator Award (1993-1995)  
 NIMH Scientist Development Award for Clinicians (1994-1999)  
 NARSAD Young Investigator Award (1997-1999)  
 Outstanding Statistical Application Award, American Statistical Association (1999)  
 Teacher of the Year. Department of Psychiatry. Duke University Medical Center (2002-3)  
 American Psychiatric Assn/Assn of Chairs of Departments of Psychiatry Research Mentorship  
 Award (2007-8)

Publications

1. Krystal, A.D. The relationship of electrode spacing to the bandwidth of the myoelectric signal used for the control of a lower arm prosthesis. Undergraduate thesis, M.I.T., 1982.
2. Krystal, A.D. A non-linear micromechanical model of alligator lizard cochlear hair cells with free-standing stereocilia. M.S. thesis, M.I.T., 1983.
3. Krystal, A.D., Krishnan, K.R.R., Ratiere, M., Poland, R., Ritchie, J.C., Dunnick, N.R., Hanada, K., and Nemeroff, C.B. The differential diagnosis and pathophysiology of Cushing's syndrome and primary affective disorder. J. Neuropsychiatr. and Clin. Neurosciences 2:34-43, 1990.
4. Krystal, A.D. and McEvoy, J.P. Shared features of neuroleptic malignant syndrome and complications of alcohol abuse. J. of Clin. Psychiatry 51: 523, 1990.

5. Krystal, A.D. and Weiner, R.D. The largest Lyapunov Exponent of the EEG in ECT seizures. IN: Measuring Chaos in the Human Brain (Duke, D. and Pritchard, W., Eds.), Singapore, World Scientific Publishing Co., pp. 113-127, 1991.
6. Weiner, R.D., Coffey, C.E., and Krystal, A.D. The monitoring and management of electrically induced seizures. IN: Psychiatric Clinics of North America. (Kellner, C., Ed.) W.B. Saunders Co., 14: 845-869, 1991.
7. McCall, W.V., Erwin, C.W., Edinger, J.D., Krystal, A.D., and Marsh, G.R. Ambulatory Polysomnography: Technical aspects and normative values. J. Clin. Neurophysiology 9:68-77, 1991.
8. Krystal, H. and Krystal, A.D. Psychoanalysis and neuroscience in relationship to dreams and creativity. IN: Creativity and Affect (Hoppe, K., Shaw, M., Runk, M.A., Eds.), New Jersey, Ablex Publishing Corporation, 1992.
9. Weiner RD, Krystal AD, Coffey CE, Smith P. The electrophysiology of ECT: relevance to mechanism of action. Clin Neuropharmacol. 1992;15 Suppl 1 Pt A:671A-672A.
10. Krystal, A.D., Weiner, R.D., Moffett, E., Coffey, C.E., Smith, P., and Arias, R. EEG evidence of more 'intense' seizure activity with bilateral ECT. Biological Psychiatry, 31:617-621, 1992.
11. Weiner, R.D. and Krystal, A.D. EEG Monitoring of ECT Seizures. IN: The Clinical Science of Electroconvulsive Therapy (Coffey, C.E., Ed.), Washington, D.C., American Psychiatric Press, Inc., pp. 93-109, 1993.
12. McCall, W.V., Edinger, J.D., Krystal, A.D., and Marsh, G.R. Ambulatory polysomnographic differences in healthy and insomniac older men. Ambulatory Monitoring 6:135-140, 1993.
13. Krystal, A.D. and Weiner, R.D. Low frequency ictal EEG activity and ECT therapeutic impact. (Letter to the Editor) Convulsive Therapy 9:220-224, 1993.
14. Krystal, A.D., Weiner, R.D., McCall, W.V., Shelp, F., Arias, R., and Smith, P. The effects of ECT stimulus dose and electrode placement on the ictal electroencephalogram: An intraindividual cross-over study. Biological Psychiatry 34:759-767, 1993.
15. Weiner, R.D., Krystal, A.D. The present use of electroconvulsive therapy. Annual Review of Medicine 45:273-281, 1994.
16. Krystal, A.D., Weiner, R.D. ECT seizure therapeutic adequacy. Convulsive Therapy 10:153-164, 1994.
17. Coffey, C.E., Lucke, J., Weiner, R.D., Krystal, A.D., Aque, M. Seizure threshold in electroconvulsive therapy I. Initial seizure threshold. Biological Psychiatry 37:713-720, 1995.
18. Krystal, A.D., Weiner, R.D., Coffey, C.E. The ictal EEG as a marker of adequate stimulus intensity with unilateral ECT. J. Neuropsychiatr. and Clin. Neurosciences 7:295-303, 1995.

19. Coffey, C.E., Lucke, J., Weiner, R.D., Krystal, A.D., Aque, M. Seizure threshold in electroconvulsive therapy (ECT) II. The anticonvulsant effect of ECT. Biological Psychiatry 37:777-788, 1995.
20. Edinger, J.D., Erwin, C.W., Fins, A.I., Marsh, G.R., Krystal, A.D. Ambulatory cassette polysomnography: Special applications and findings from a large cohort of drug-free insomnia patients. J. Clin. Neurophysiology 12:302-309, 1995.
21. Krystal, A.D., Weiner, R.D. ECT seizure duration: Reliability of manual and computer automated determinations. Convulsive Therapy 11:158-169, 1995.
22. Steffens, D.C., Krystal, A.D., Sibert, T.E., Moore, S.D., Weiner, R.D. Cost Effectiveness of Maintenance ECT (Letter to the Editor). Convulsive Therapy 11:283-284, 1995.
23. Krystal AD. Review of John S. Barlow, The Electroencephalogram: Its Patterns and Origins, MIT Press, Cambridge, 1993, Biomedical Instrumentation & Technology 29:363, 1995.
24. Krystal, A.D., Weiner, R.D., Gassert, D., McCall, W.V., Coffey, C.E., Sibert, T., Holsinger, T. The relative ability of 3 ictal EEG frequency bands to differentiate ECT seizures on the basis of electrode placement, stimulus intensity, and therapeutic response. Convulsive Therapy 12:13-24, 1996.
25. Krystal, A.D., Greenside, H.S., Weiner, R.D., Gassert, D. A comparison of EEG signal dynamics in waking, after anesthesia induction and during ECT seizures. Electroencephalography and Clinical Neurophysiology 99:129-140, 1996.
26. Krystal, A.D., Weiner, R.D., Coffey, C.E., McCall, W.V. The effect of ECT treatment number on the ictal EEG. Psychiatry Research 62:179-189, 1996.
27. Zoldi SM, Krystal AD, Greenside HS. Statistical analysis of redundancy and stationarity in multichannel EEG data. Jl Mathematical Psychol. 40:354-355, 1996.
28. Edinger, J.D., Fins, A.I., Goeke, J.M., McMillan, D.K., Gersh, T.L., Krystal, A.D., McCall, W.V. The empirical identification of insomnia subtypes: A cluster analytic approach. Sleep. 19:398-411, 1996.
29. Krystal, A.D., Coffey, C.E. Neuropsychiatric considerations in the use of Electroconvulsive Therapy. Journal of Neuropsychiatry and Clinical Neurosciences 9:283-292, 1997.
30. Krystal, A.D., Greenside, H.S. Low Dimensional Chaos in Bipolar Disorder? Arch. Gen. Psychiatry 55:275-276, 1998.
31. Krystal, A.D., Zaidman, C., Greenside, H.S., Weiner, R.D., Coffey, C.E. The largest Lyapunov exponent of the EEG during ECT seizures as a measure of therapeutic adequacy. Electroencephalography and Clinical Neurophysiology 103:599-606, 1997.

32. Krystal, A.D., Coffey, C.E., Weiner, R.D., Holsinger, T. Changes in seizure threshold over the ECT course affect therapeutic response and are detected by ictal EEG ratings. J. Neuropsychiatry & Clin. Neurosci. 10:178-186, 1998.
33. Krystal, A.D. The clinical utility of ictal EEG seizure adequacy models. Psychiatric Annals, 1:30-35, 1998.
34. Krystal, A.D., Watts, B.V., Weiner, R.D., Moore, S., Steffens, D., Lindahl, V. The use of flumazenil in the anxious and benzodiazepine dependent ECT patient. The Journal of ECT 14:5-14, 1998.
35. Krystal, A.D., (participant in the U.S. Modafinil in Narcolepsy Study Group). Randomized trial of modafinil for the treatment of pathological somnolence in narcolepsy. Annals of Neurology 43:88-97, 1998.
36. Krystal, A.D., (participant in the U.S. Modafinil in Narcolepsy Study Group). HLA-DBQB1\*0602 homozygosity increases relative risk for narcolepsy but not disease severity in two ethnic groups. Tissue Antigens. 51:96-100, 1998.
37. Weiner, R.D., Coffey, C.E., Krystal, A.D. Electroconvulsive Therapy in the Medical and Neurologic Patient in A Stoudemire, B.S. Fogel and D. Greenberg (Eds.) Psychiatric Care of the Medical Patient, 2<sup>nd</sup> Ed., Oxford University Press.
38. Krystal, A.D., Weiner, R.D. EEG Correlates of the response to ECT: A possible antidepressant role of brain derived neurotrophic factor, Journal of ECT, 15:27-38, 1999.
39. Krystal, A.D., Edinger, J., Wohlgemuth, W., Marsh, G.R. Sleep in peri-menopausal and post-menopausal women. Sleep Medicine Reviews, 2:243-253, 1998.
40. Krystal, A.D., Zoldi, S.M., Prado, R., Greenside, H.S., West, M. The spatiotemporal dynamics of generalized tonic-clonic seizure EEG data: Relevance to the clinical practice of electroconvulsive therapy. In Nonlinear Dynamics and Brain Functioning (eds. N. Pradhan, P.E. Rapp and R. Sreenivasan), New York: Novascience, in press.
41. Krystal, A.D., Prado, R., West, M. New methods of time series analysis of non-stationary EEG data: eigenstructure decompositions of time varying autoregression. Clinical Neurophysiology, 110:2197-2206, 1999.
42. Asnis, G.M., Chakraborty, A., DuBoff, E.A., Krystal, A.D., Londborg, P.D., Rosenberg, R., Roth-Schechter B, Scharf, M.B.,

- Walsh, J.K. Zolpidem for persistent insomnia in SSRI-treated patients, J. Clinical Psychiatry. 60:668-676,1999.
43. Krystal, A.D., Dean, M.D., Weiner, R.D., Connor, K.M., Lindahl, V.H., Massie, R.W. ECT stimulus intensity: Are present ECT devices too limited?, Amer. J. Psychiatry. 157:963-967, 2000..
44. Krystal, A.D., Holsinger, T., Weiner, R.D., Coffey, C.E., Prediction of the utility of a switch from unilateral to bilateral ECT in the elderly using treatment 2 ictal EEG indices. The Journal of ECT. 16:327-337, 2000.
45. Krystal, A.D., Weiner, R.D., Lindahl, V., Massie, R. The development and retrospective testing of an EEG seizure-quality based stimulus dosing paradigm with ECT. The Journal of ECT. 16:338-349, 2000.
46. Zoldi, S.M., Krystal, A.D., Greenside, H.S. Stationarity and Redundancy of Multichannel EEG Data Recorded During Generalized Tonic-Clonic Seizures, Brain Topography. 12:187-200, 2000.
47. Krystal, A.D., West, M., Prado, R., Greenside, H., Zoldi, S., and Weiner, R.D. The EEG effects of ECT: Implications for rTMS, Depression and Anxiety, 12:157-165, 2000.
48. West, M. Prado, R. and Krystal, A. Evaluation and comparison of EEG traces: Latent structure in non-stationary time series. Journal of the American Statistical Association, 94:375-387, 1999.
49. Weiner RD, Krystal AD. Electroconvulsive Therapy. In: Treatments of Psychiatric Disorders. (Ed. Gabbard GO). 3<sup>rd</sup> Edition. American Psychiatric Press, Inc. 2001. pp1267-1294.
50. Krystal AD. Sleep changes in peri- and post-menopausal women. The Psychiatric Times. In Press.
51. Krystal AD. (participant in the U.S. Modafinil in Narcolepsy Study Group). Randomized trial of modafinil as a treatment for excessive daytime somnolence in narcolepsy. Neurology. 54:1166-1175, 2000.
52. Krystal AD, Weiner RD. ECT failure among specific devices. Am. J. of Psychiatry. 2001;158:974-5.
53. Prado R, West M, Krystal AD Multichannel electroencephalographic analyses via dynamic regression models with time-varying lag-lead structure J. Royal Statistical Society C-APP Part I. 2001;50: 95-109.
54. Sackeim HA, Devanand DP, Lisanby SH, Nobler MS, Prudic J, Heyer EJ, Ornstein E, Weiner RD, Krystal AD, Coffey CE, Greenberg RM, Hussain M, Lite



MS, Fernandez P, Gaines GY. Treatment of the modal patient: Does one size fit nearly all? J. ECT. 2001;17;219-221.

55. Krystal AD. Insomnia in peri-menopausal and post-menopausal women. Psychiatric Times. 2001;Oct:48-51.

56. Krystal AD. Insomnia in peri-menopausal and post-menopausal women. Geriatric Times. 2001;2:3.

57. Krystal AD. Ressler IB. The use of valerian in neuropsychiatry. CNS Spectrums. 2001;6:841-7.

58. Krystal AD, Weiner RD. Medication effects on the EEG. In: Fundamentals of EEG Technology (Ed. Burgess RC, Klem GH, Luders HO) Lippincott, Williams, and Wilkins. In Press.

59. Krystal AD, Weiner RD, Dean MD, Lindahl VH, Tramontozzi III LA, Falcone G, Coffey CE. A comparison of the seizure duration, ictal EEG, and cognitive effects of ketamine and methohexital anesthesia with ECT. J. Neuropsychiatry Clin. Neurosci. 2003;15:27-34..

60. Krystal AD, Edinger JE, Wohlgemuth WK, Marsh G. Non-REM sleep EEG frequency spectral correlates of sleep complaints in primary insomnia subtypes. Sleep. 2002;25:630-640.

61. Edinger JD, Krystal AD. Subtyping primary insomnia: Is sleep state misperception a distinct clinical entity? Sleep Medicine Reviews. 2003;7:2-03-214.

62. Krystal AD, Edinger JE, Wohlgemuth WK, Sharp JM. Sleep and circadian rhythm disorders in geriatric psychiatry. In: American Psychiatric Press Publishing Textbook of Geriatric Psychiatry Eds.: Steffens DC, Blazer DG, Busse EW. American Psychiatric Publishing, Inc. Washington DC. 2004. pp. 339-350.

63. Weiner RD, Krystal AD. Electroconvulsive Therapy. In: American Psychiatric Press Publishing Textbook of Geriatric Psychiatry Eds.: Steffens DC, Blazer DG, Busse EW. American Psychiatric Publishing, Inc. Washington DC. 2004. pp. 413-426.

64. Cellucci CJ, Albano AM, Rapp PE, Krystal AD. Real time quantitative determination of abrupt changes in dynamical systems: Illustration via identification of seizure termination in generalized tonic-clonic seizure EEG data. International Journal of Bifurcation and Chaos. 2003;9:2641-2655.

65. Krystal AD. Insomnia in Women. Clinical Cornerstone. 2003;5:41-48.

66. Krystal AD, Walsh JK, Laska E, Caron J, Amato DA, Wessel TC, Roth T. Sustained efficacy of eszopiclone over six months of nightly treatment: Results of a randomized, double-blind, placebo controlled study in adults with chronic insomnia. Sleep. 2003;26:793-799.

67. Krystal AD, Roth T. Definitions, Measurements, and Management in Insomnia. J. Clin Psychiatry. 2004;65(Supplement 8):5-7.

68. Krystal AD. The Changing Perspective of Chronic Insomnia Management. *J. Clin Psychiatry*. 2004;65(Supplement 8):20-25.
69. Singh J, Zarate Jr. C, Krystal A. Successful riluzole augmentation therapy in treatment-resistant bipolar depression following the development of rash with lamotrigine. *Psychopharmacology*. 2004;173:227-8.
70. Krystal AD, Walsh JK, Laska E, Caron J, Amato DA, Wessel TC, Roth T. Sustained efficacy of eszopiclone over six months of nightly treatment: Response to Letter to the Editor. *Sleep*. 2004;27:346-7.
71. Ancoli-Israel S, Benca RM, Edinger JD, Krystal AD, Mendelson W, Moldofsky H, Petrie J, Roth T, Walsh JK, Winkelman J. Panel Discussion: Changing How We Think About Insomnia. *J Clin Psychiatry*. 2004;65(Supplement 8):44-46.
72. Perlis M, McCall WV, Krystal AD, Walsh J. Long-term, Non-nightly administration of zolpidem in the treatment of patients with primary insomnia. *J. Clinical Psychiatry*. 2004;65:1128-1137.
73. Krystal AD. Depression and Insomnia in Women. *Clinical Cornerstone* 2004;6(Supplement 1B):19-28.
74. Krystal AD. The Impact of Insomnia Definitions, Terminology, and Classifications on Clinical Practice. *J. American Geriatrics Society*. 2005;53(7 Suppl):S258-63.
75. Krystal AD. The Possibility of Preventing Functional Impairment Due to Sleep Loss by Pharmacologically Enhancing Sleep. *Sleep*. 2005;28:16-7.
76. Wohlgemuth WK, Krystal AD. Hypnotics should be used for the initial treatment of chronic insomnia. *Jl Clinical Sleep Medicine*. 2005;1:120-124.
77. Krystal AD. Managing chronic insomnia with long-term pharmacotherapy. *Sleep Medicine Alert*. 2004;9:1-5.
78. McCall WV, Perlis ML, Tu X, Groman AE, Krystal AD, Walsh JW. A comparison of placebo and no treatment during a hypnotic clinical trial. *International Journal of Clinical Pharmacology and Therapeutics* 2005; 43: 355-359.
79. Roth, T, Walsh, JK, Krystal A, Wessel T, Roehrs TA. An Evaluation of the Efficacy and Safety of Eszopiclone Over 12 Months in Patients with Chronic Primary Insomnia. *Sleep Med*. 2005;6:487-495.
80. Edinger JD, Wohlgemuth WK, Krystal AD, Rice JR. Behavioral Insomnia Therapy for Fibromyalgia Patients: A Randomized Clinical Trial. *Archives of Internal Medicine*. 2005;165:1-9.

81. Walsh JK, Perlis M, Rosenthal , Krystal AD, Jiang , Roth T. Tiagabine increases slow wave sleep in a dose-dependent fashion, without affecting traditional efficacy measures in adults with primary insomnia. *J Clin Sleep Med.* 2006;2:35-41.
82. Krystal AD, Thakur M, McCall WV. Psychiatric Disorders and Sleep. In: *Clinical Sleep Disorders* (Eds: Carney PR, Berry RB, Geyer JD. Lippincott Williams and Wilkins. Philadelphia. 2005. pp. 363-388.
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87. Vitiello M, Krystal AD. Recent Developments in the Pharmacological Treatment of Insomnia: Implications for Older Patients. *Drugs and Aging.* In Press.
88. McCall WV, Erman, M, Krystal AD, Rosenberg R, Scharf M:, Zammit GK. A polysomnography study of eszopiclone in elderly patients with insomnia. *Current Medical Research and Opinion.* 2006;22:1633-1642
89. Krystal AD, Rogers S, Fitzgerald MA. Long-term pharmacotherapy in the management of chronic insomnia. *J Nurse Pract.* 2006; 2:S621-S632.
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91. Krystal AD, Fava M, Rubens R, Wesel T, Caron J, Wilson P, Roth T, McCall WV. Evaluation of Eszopiclone Discontinuation after Co-therapy with Fluoxetine for Insomnia with Co-existing Depression. *J Clin Sleep Med.* 2007;3:48-55.
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94. Krystal AD, Thase ME, Tucker VL, Goodale EP. Bupropion HCL and sleep in patients with depression. *Clin Psych Rev. Current Psychiatry Reviews*, 2007, 3, 123-128.
95. Krystal AD, Davidson JRT. The use of prazosin for the treatment of trauma nightmares and sleep disturbance in combat veterans with post-traumatic stress disorder. *Biol Psychiatry*. 2007 Apr 15;61(8):925-7.
96. Walsh JK, Krystal AD, Amato DA, Rubens R, Caron J, Wessel TC, Schaefer K, Roach J, Wallenstein G, Roth T. Nightly treatment of primary insomnia with eszopiclone for six months: Effect on sleep, quality of life and work limitations. *Sleep*. 2007;30(8):959-68.
97. Stanford AD, Sporn A, Krystal AD, Weiner RD, Lisanby SH. Convulsive and other somatic therapies. In: *Treatments of Psychiatric Disorders*. Ed. Gabbarad GO. American Psychiatric Publishing. Inc. Washington DC. 2007. pp. 449-466.
98. Krystal, AD, Thakur, M, Roth T. Sleep disturbance in psychiatric disorders: Effects on function, quality of life, in mood disorders, alcoholism, and schizophrenia. *Psychiatric Annals*. 2008 Jan-Mar;20(1):39-46.
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101. Lim L, Krystal A. Psychotic disorder in a patient with central and extrapontine myelinolysis. *Psychiatry Clin Neurosci*. 2007 Jun;61(3):320-2.
102. Roth T, Krystal AD, Lieberman JA III. Long-Term Issues in the Treatment of Sleep Disorders. *CNS Spectr*.

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103. Krystal AD, Goforth H, Roth T. Effects of antipsychotic medications on sleep in schizophrenia. *Intl Clinical Psychopharmacology*. 2008;65:551-62.
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108. Chiang A, Krystal A. Report of Two Cases Where Sleep Related Eating Behavior Occurred With the Extended-Release Formulation but Not the Immediate-Release Formulation of a Sedative-Hypnotic Agent. *J Clin Sleep Med*. 2008;4(2):155-156.
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Manuscripts Submitted:



1. Zhang W, Krystal AD, Davidson JRT, Connor KM. The Effects of Tiagabine on PTSD-Related Disturbances of Sleep.
2. Krystal AD, Zhang W, Davidson JRT, Connor KM. The sleep effects of tiagabine on the first night of treatment predict PTSD response at three weeks.

Published abstracts:

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2. Krystal, A.D., Weiner, R.D., Moffett, E., Coffey, C.E., Smith, P., and Arias, R. Computer analysis of electrically induced seizures. Electroenceph. and Clin. Neurophys., 79(2), 30 pp., 1990.
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#### Presentations

1. Krystal, A.D., Weiner, R.D., Moffett, E., Coffey, C.E., Smith, P., Arias, R. Physiologic markers of ECT seizure generalization. Annual Meeting of the American Psychiatric Association, New York, NY. May 14, 1990.
2. Krystal, A.D. Computer analysis of ECT seizures. Grand Rounds. Department of Psychiatry, Duke University Medical Center, Durham, NC. July 5, 1990.

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5. Weiner, R.D., Krystal, A.D., Coffey, C.E., Smith, P.K., Arias, R. EEG monitoring of electrically induced seizures. Annual Meeting of the American Psychiatric Association, New Orleans, LA. May 16, 1991.
6. Krystal, A.D., Weiner, R.D., Coffey, C.E., Smith, P., Arias, R. The effects of ECT on EEG coherence. Annual Meeting of the American Psychiatric Association, New Orleans, LA. May 16, 1991.
7. Krystal, A.D., Weiner, R.D., Coffey, C.E., Smith, P., Arias, R. EEG coherence before and after ECT. Meeting of the American EEG Society, Philadelphia, PA. December 13, 1991.
8. Krystal, A.D., Weiner, R.D., Smith, P., Arias, R., Coffey, C.E. Ictal EEG effects of ECT stimulus intensity. Annual Meeting of the American Psychiatric Association, Washington, D.C. May 4, 1992.
9. Weiner, R.D., Krystal, A.D., Coffey, C.E. Quantitative EEG in electroconvulsive therapy. Annual Meeting of the American Psychiatric Association, Washington, D.C. May 7, 1992.
10. Weiner, R.D., Krystal, A.D., Coffey, C.E., Smith, P. The electrophysiology of ECT: Relevance to mechanism of action. XVIIIth CINP Congress, Nice, France. July 2, 1992.
11. Krystal, A.D., Weiner, R.D., Wade, J.P. An efficient new method for improving digital inter-signal time delay measurement accuracy. Meeting of the American EEG Society, San Francisco, CA. September 18, 1992.
12. Krystal, A.D. Bipolar disorder: A primary care update. Symposium on Depression Awareness, Recognition, and Treatment. Atlanta, GA. February 13, 1993.
13. Krystal, A.D. Sleep disorders. Symposium on Depression Awareness, Recognition, and Treatment. Atlanta, GA. February 14, 1993.
14. Krystal, A.D. Sleep disorders. Greensboro Area Health Education Center, Greensboro, NC. April 20, 1993.
15. Krystal, A.D., Weiner, R.D., Coffey, C.E. Ictal EEG markers of ECT Treatment adequacy. Annual Meeting of the American Psychiatric Association, San Francisco, CA. May 23, 1993.
16. Krystal, A.D., Weiner, R.D., McCall, W.V., Shelp, F., Smith, P., Arias, R. Ictal EEG effects of different ECT types. Annual Meeting of the American Psychiatric Association, San Francisco, CA. May 25, 1993.

17. Krystal, A.D., Weiner, R.D., Coffey, C.E. Ictal EEG markers of therapeutic efficacy with ECT. Annual Meeting of the American Psychiatric Association, San Francisco, CA. May 25, 1993.
18. Krystal, A.D. Spatiotemporal analysis of electroconvulsive therapy seizures. Dynamical Systems in the Neurosciences. (Invited speaker.) A satellite symposium of the Annual Meeting of the Society for Neuroscience, Washington, D.C. November, 1993.
19. Krystal, A.D. Computer analysis of EEG data. Duke Cognitive Science Program. Durham, NC. February 16, 1994.
20. Krystal, A.D. Minor depression, grief and personality disorders. Depression in Primary Care: Detection, Diagnosis, and Treatment. Southern Medical Association, Hilton Head, DC. March 19, 1994.
21. Krystal, A.D. Iatrogenic causes of depression and clinical guidelines. Depression in Primary Care: Detection, Diagnosis, and Treatment. Southern Medical Association, Hilton Head, DC. March 19, 1994.
22. Krystal, A.D., Greenside, H.S., Weiner, R.D., Gassert, D. Spatiotemporal Dynamic Analysis of Electroconvulsive Therapy Seizures. Annual Meeting of the American Encephalographic Society, Chicago, IL September 19-20, 1994.
23. Krystal, A.D. The Use of EEG for Improving the Effectiveness and Safety of ECT. Annual NARSAD Scientific Symposium, Chicago, IL September 30, 1994.
24. Krystal, A.D., Coffey, C.E., Weiner, R.D., Holsinger, T., Sibert, T. Ictal EEG reflects changes in ECT stimulus dose. American Psychiatric Association Annual Meeting, Miami, FL. May 22, 1995.
25. Krystal, A.D. The role of seizure monitoring in defining ECT treatment adequacy. Association for Convulsive Therapy Annual Meeting, Miami, FL. May 21, 1995.
26. Krystal, A.D., Weiner, R.D., McCall, W.V., Coffey, C.E. Studies on the potential of ictal EEG measures as an index of ECT seizure adequacy. Association for Convulsive Therapy Annual Meeting, Miami, FL. May 21, 1995.
27. Krystal, A.D., Weiner, R.D., McCall, W.V., Coffey, C.E. The effect of treatment on the ictal EEG. Association for Convulsive Therapy Annual Meeting, Miami, FL. May 21, 1995.
28. Krystal, A.D., Weiner, R.D. Reliability of manual and computer automated ECT seizure duration measurements. Association for Convulsive Therapy Annual Meeting, Miami, FL. May 21, 1995.
29. Krystal, A.D., Greenside, H.S. Karhunen-Loeve decomposition of multichannel EEG data recorded during ECT seizures and waking. Spatiotemporal Dynamics. The 3rd Bryn Mawr Conference, Bryn Mawr, PA, 1995.

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31. Krystal, A.D., Greenside, H.S., Weiner, R.D. Spatiotemporal analysis of EEG data using the Karhunen-Loeve decomposition. *Annual Meeting of the American Electroencephalographic Society, Washington, D.C. September 7-12, 1995.*
32. Krystal, A.D. ECT seizure adequacy and the Ictal EEG, Yale Department of Psychiatry Affective Disorders Group, West Haven, CN, November 27, 1995.
33. Krystal, A.D. Advances in electro-convulsive Therapy, Grand Round Sinai Hospital Department of Psychiatry, Detroit, MI, April 17, 1996.
34. Zoldi, S.M., Krystal, A.D., Greenside, H.S. Statistical analysis of redundancy and stationarity in multi-channel EEG, 29th Annual Meeting of the Society of Mathematical Psychology, Chapel Hill, NC, August 1-4, 1996.
35. Krystal, A.D. Redundancy and stationarity of 21-channel EEG data recorded during ECT seizures. *Annual Meeting of the American Clinical Neurophysiology Society, Boston, MA, September, 8-9, 1996.*
36. Krystal, A.D. ECT management of the anxious and Benzodiazepene dependent patient. Durham, NC, October 2, 1996, sponsored by Roche Pharmaceuticals.
37. Krystal, A.D., Coffey, C.E., Weiner, R.D., Rapp, P.E., Albano, A., Greenside, H.S., DeMasi, M., Cellucci, C. EEG Correlates of the Response to ECT. *Annual Meeting of the Society for Biological Psychiatry. San Diego, CA, May, 1997.*
38. Krystal AD. EEG correlates of major depression and the response to ECT. *Grand Rounds. Duke University Medical Center Department of Psychiatry. August, 1997.*
39. Krystal AD. Spatiotemporal Dynamics of generalized tonic-clonic seizures. *International Symposium on Non-linear dynamics and brain function. January, 1998. Bangalore India.*
40. Krystal AD. The role of the ictal EEG in optimizing the dosing of ECT. *Grand Rounds. National Institute of Mental Health and Neurologic Disease. Bangalore, India. January, 1998.*
41. Weiner, R. Krystal A., Sackeim, H., Gangadhar, B. The electrophysiology of ECT: An Introductory overview. *Annual Meeting of the American Psychiatric Electroencephalography Association, Toronto, Ontario, Canada, May 30, 1998.*
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43. Krystal, A.D., Weiner, R.D., Krishnan, R. Magnetic Resonance Spectroscopic Correlates of the Response to ECT. Association for Convulsive Therapy Annual Meeting, Washington DC, May 16, 1999. *Journal of ECT* 15:103, 1999.
44. Weiner, R.D., Krystal, A.D. ECT and Anticonvulsant Medications. Association for Convulsive Therapy Annual Meeting, Washington DC, May 16, 1999.
45. Krystal AD. Optimizing The Administration of ECT. Symposium Chair. American Psychiatric Association. May 1999, Washington DC.
46. Krystal A.D. Optimizing ECT stimulus dosing using the ictal EEG. American Psychiatric Association Meeting. May, 1999, Washington DC.
47. Krystal, A. D. New Approaches in the Treatment of Insomnia, Durham NC, September 29, 1999.
48. Krystal, A. D. Pharmacologic Management of Insomnia, Durham NC, September 30, 1999.
49. Krystal, A. D. New Approaches in Pharmacologic Management of Insomnia, Cary NC, October 5, 1999.
50. Krystal A. D. The Pharmacologic Management of Insomnia, Charleston SC, October 10, 1999.
51. Krystal A.D. The Pharmacologic Management of Insomnia, Greenville NC. October 19, 1999.
52. Krystal A.D. The Pharmacologic Management of Insomnia, Myrtle Beach SC. November 11, 1999.
53. Krystal A.D. New Approaches in the Pharmacologic Management of Insomnia. Anderson SC. November 16, 1999.
54. Krystal A.D. An Overview of Sleep and Its Disorders. Grand Rounds. Department of Community and Family Medicine. Greenville-Spartanburg Regional Hospital. Spartanburg SC. November 19, 1999.
55. Krystal A.D. The spatio-temporal dynamics of generalized tonic-clonic seizures. The Center for Non-linear and Complex Systems. Duke University. November 23, 1999.
56. Krystal A.D. New Approaches in the Pharmacologic Management of Insomnia. Raleigh NC. December 7, 1999.
57. Krystal A.D. Background EEG Correlates of the Response to ECT. American College of Neuropsychopharmacology. Acapulco, Mexico. December, 1999.
58. Krystal A.D. An Overview of Sleep and Its Disorders. Grand Rounds. John Umstead Hospital. Butner NC. February 4, 2000.



59. Krystal AD. The Management of Insomnia. Grand Rounds. Department of Family Medicine. Duke University. Durham, NC. February 11, 2000.
60. Krystal AD. Pharmacologic Management of Insomnia. Carolina Sleep Society. Greenville NC. April 6, 2000.
61. Krystal AD. The Diagnosis and Management of Sleep Disorders in Women. Health Care for Mid-Life Women. The Duke Program in Women=s Health. Chapel Hill, NC. April 8, 2000.
62. Krystal AD. Update on Insomnia. Grand Rounds. Department of Psychiatry. Louisiana State University. Shreveport, Louisiana, April 28, 2000.
63. Krystal AD, Weiner RD, Luber B, Prudic J Devanand DP, Sackeim HA. The role of the ictal EEG in ECT stimulus dosing. Association for Convulsive Therapy Annual Meeting, May 14, 2000. Chicago, Ill.
64. Krystal AD. The Medication Management of Insomnia. Grand Rounds. John Umstead Hospital. Butner, NC. September, 11, 2000.
65. Krystal AD. Shift Work. Employee Health weekly seminar. Duke University Medical Center. Durham, NC. September 14, 2000.
66. Krystal AD. The use of stimulant medication in neuropsychiatry. Raleigh, NC. September 28, 2000.
67. Krystal AD. The diagnosis and management of sleep disorders in the elderly. Geropsychiatry Seminar. Duke University Department of Geriatric Medicine and Psychiatry. Durham, NC. October 24, 2000.
68. Krystal AD. The role of the ictal EEG in optimizing ECT stimulus dosing. Grand Rounds. Dorthea Dix Hospital. Raleigh, NC. October 27, 2000.
69. Krystal AD. The role of the ictal EEG in optimizing ECT stimulus dosing. Grand Rounds. Department of Psychiatry. The University of North Carolina at Chapel Hill. Chapel Hill, NC. October 27, 2000.
70. Krystal AD. The use of stimulant medication in neuropsychiatry. Fayetteville, NC. November 1, 2000.
71. Krystal AD. The use of stimulant medication in neuropsychiatry. Greensboro, NC. November 16, 2000.
72. Krystal AD. An update on insomnia. The North Carolina Nurses Association. Raleigh NC. April 17, 2001.
73. Taylor WD. Krystal AD, Weiner RD. Predicting Response to 2.25 times threshold unilateral ECT. American Psychiatric Association Meeting. May 7, 2001. New Orleans LA.

74. Noll AR, Krystal AD, Hamilton J. Event-related potential response to performance feedback: A marker for anhedonia? American Psychiatric Association Meeting. May 7, 2001. New Orleans LA.
75. Krystal AD, Holsinger T, Weiner, R.D., Steffens DC, Coffey CE. A naturalistic study of maintenance ECT: Implications for optimizing the inter-treatment interval. Association for Convulsive Therapy Annual Meeting, May 6, 2001. New Orleans LA.
76. Krystal A.D., Edinger JD, Wohlgemuth WK, Marsh GR, A pilot study of the sleep EEG power spectral effects of behavioral therapy in primary insomniacs. Associated Professional Sleep Societies Annual Meeting June 8, 2001 Chicago, Ill.
77. Krystal AD. An Overview of the Pharmacologic Management of Insomnia. Fayetteville NC. December 11, 2001.
78. Krystal AD. An Introduction to ECT. Grand Rounds. Department of Anesthesia. Duke University Medical Center. Durham, NC. December 12, 2001.
79. Krystal AD. The Diagnosis and Treatment of Insomnia. Duke Department of Psychiatry Clinical Update Series. A Therapeutic Challenges in Clinical Psychiatry@. Durham, NC. March 10, 2001.
80. Krystal AD. Overview of the Diagnosis and Treatment of Sleep Disorders. Duke Department of Psychiatry Clinical Update Series. A Sleep Disorders@. Durham, NC. November 17, 2001.
81. Krystal AD. Update on Insomnia. April 27, 2002. Charlotte NC.
82. Krystal AD. Psychosis related to seizures. Grand Rounds. Department of Psychiatry. Duke University Medical Center. Durham, NC. May 2, 2002.
83. Krystal AD. Sleep Disorders in Women. Annual Meeting of the Associated Professional Sleep Societies Seattle Washington. June 10, 2002.
84. Krystal AD, Edinger JD, Wohlgemuth WK, Michaels C. A within-subject study of the relationship of non-REM EEG spectral amplitude and the agreement between subjective and objective assessments of sleep time. Annual Meeting of the Associated Professional Sleep Societies. Seattle Washington. June 11, 2002.
85. Krystal AD, Perlis ML, McCall WV, Zammit G, Hirshkowitz M. Three-month non-nightly use of zolpidem for the treatment of primary insomnia. Annual Meeting of the Associated Professional Sleep Societies. Seattle Washington. June 11, 2002.
86. Krystal AD. Overview of Sleep Apnea and Narcolepsy. Duke/North Carolina Area Health Coalition Symposium on Sleep. February 20, 2003.
87. Krystal AD. Overview of Insomnia. Bristol Tennessee. March 15, 2003.
88. Krystal AD. The Pharmacologic Management of Alcohol Withdrawal. Duke University Department of Psychiatry Pharmaceutical Preceptorship. March 17, 2003.

89. Krystal AD. Overview of Clonazepam. Duke University Department of Psychiatry Pharmaceutical Preceptorship. March 17, 2003.
90. Krystal A, Walsh J, Roth T, Amato DA, Wessel T. The sustained efficacy of eszopiclone over six months of nightly treatment: A placebo-controlled study in patients with chronic insomnia. Annual Meeting of the American Psychiatric Association. San Francisco, CA. May 26, 2003.
92. Krystal AD. Ketamine anesthesia with ECT. Annual Meeting of the Association for Convulsive Therapy. San Francisco, CA. May 24, 2003.
93. Krystal A, Walsh J, Roth T, Amato DA, Wessel T. The sustained efficacy of eszopiclone over six months of nightly treatment: A placebo-controlled study in patients with chronic insomnia. Annual Meeting of the Associated Professional Sleep Societies. Chicago, Ill. June 5, 2003.
94. Walsh JK, Lankford DD, Krystal A, Roth T, Jochelson P, Garber ;:M, Alexander T, Burke J. Efficacy and Tolerability of four doses of Indiplon (NBI-34060) Modified-Release in elderly patients with sleep maintenance insomnia. Annual Meeting of the Associated Professional Sleep Societies. Chicago Ill. June 4, 2003.
95. Wohlgemuth WK, Edinger JD, Krystal AD, Rice JR. Behavioral insomnia therapy for patients with fibromyalgia: An update. Annual Meeting of the Associated Professional Sleep Societies. Chicago Ill. June 4, 2003.
96. Krystal AD. What is Sleep, Why do we Sleep, and Why do we have Sleep Disorders? Teacher of the Year Lecture. Duke University Department of Psychiatry. June 12, 2003.
97. Krystal AD. Insomnia: Symptom or Disease. August 10, 2003. Raleigh NC.
98. Krystal AD. The Diagnosis and Management of Insomnia. October 1, 2003. Raleigh NC.
99. Krystal AD. Investigación en Terapia Electroconvulsiva y sus Repercusiones Clínicas. Annual Meeting of the Spanish Psychiatric Society. Mallorca, Spain. October 24, 2003.
100. Krystal AD. What is insomnia and why treat it? U.S. Psychiatric and Mental Health Congress. Orlando Florida. November 7, 2003.
101. Krystal AD. The evolution of the medication treatment of insomnia: From sedative hypnotics to anti-insomnia agents. American Insomnia Association Scientific Writer Roundtable. New York, New York. December 5, 2003.
102. Krystal AD. Advances in the Treatment of Insomnia. Grand Rounds. The Mayo Clinic. Scarsdale Arizona. July, 29, 2005.
103. Krystal AD. New Developments in Insomnia Research and Treatment. Grand Rounds. Yale University. October, 2005.
104. Krystal AD. The Pharmacologic Treatment of Insomnia in the Elderly. Consensus Conference

on Sleep and Healthy Aging. International Longevity Center. New York, New York.  
November 2, 2005.

105. Krystal AD. The Diagnosis and Treatment of Insomnia. University of Pennsylvania.  
Advances in Diagnosis and Treatment of Sleep Apnea and Snoring. Orlando Florida. February 18,  
2006.

106. Krystal AD. The long-term pharmacologic treatment of insomnia. European College of  
Neuropsychopharmacology. Consensus conference on the Treatment of Insomnia. Nice France.  
March 15, 2006.

107. Krystal AD. The pharmacologic Treatment of Insomnia. American Academy of Sleep  
Medicine Insomnia Course. Tampa, Fla. March, 2006.

108. Krystal AD. The Pharmacologic Treatment of Insomnia. National Sleep Medicine Course.  
American Academy of Sleep Medicine. Chicago, Ill. August 12, 2006.

109. Krystal AD. Insomnia Associated with Medical and Psychiatric Disorders. National Sleep  
Medicine Course. American Academy of Sleep Medicine.  
Chicago, Ill. August 12, 2006.

110. Krystal AD. Insomnia: The Year in Review. Associated Professional Sleep Societies Meeting.  
Baltimore, MD. June. 2008.

111. Krystal AD. The Treatment of Insomnia: Best Practices. Associated Professional Sleep  
Societies Meeting. Baltimore, MD. June. 2008.

112. Krystal AD. The Pharmacology of H1 Anti-histamines: Don't We Already Know about  
Antihistamines? Associated Professional Sleep Societies Meeting. Baltimore, MD. June.  
2008.

113. Krystal AD. Contrasting Placebo-controlled Trials of Insomnia Therapy in H1 Antihistamines  
and Benzodiazepines. Associated Professional Sleep Societies  
Meeting. Baltimore, MD. June. 2008.

114. Krystal AD. A Review of ECT. Grand Rounds. University of British Columbia. Vancouver,  
Canada. February, 19, 2009.

115. Krystal AD. Sleeping with One Eye Open: Sleep in PTSD. Alumni Trauma Symposium.  
Wayne State University. Detroit, Michigan. May 1, 2009.

#### Consultant Appointments:

1. NIMH Extramural Research Review Committees 1994-Present  
(reviewer, ad hoc member)
2. NIAA Special Emphasis Review Committee ZAA1 BB 03 Alcohol and Sleep 2000

3. NIMH Special Emphasis Panel/Scientific Review Group 2009/01 ZMH1 ERB-D (01) R  
 “Innovative Approaches to Personalizing Treatment of Depression”. 2008.
4. NIMH Member, Interventions Committee for Adult Disorders (ITVA) Initial Review Group.  
 May 1, 2009-  
 June 30, 2013.

Inventions and Patents:

1. U.S. Patent #5,626,627, Krystal AD, Weiner RD. Electroconvulsive therapy method using ictal EEG data as an indicator of ECT seizure adequacy. Awarded May 6, 1997.
2. U.K. Patent #9615902.5 Krystal AD, Weiner RD. Electroconvulsive therapy method using ictal EEG data as an indicator of ECT seizure adequacy. Awarded September 22, 1999.

Organizations and Participation:

Admissions Committee, Duke University School of Medicine (1998-2002)  
 American Academy of Sleep Medicine  
 American Board of Clinical Neurophysiology  
     Examiner (1995-2000)  
     Board Member (2000-Present)  
 American Medical Association  
 American Psychiatric Association  
 American Association for the Advancement of Science  
 Association for Convulsive Therapy:  
     Treasurer (1997)  
     Secretary (1998)  
     Vice President (1998-2000)  
     President (2000-2002)  
     Board of Directors (2002-Present)  
 American Clinical Neurophysiology Society:  
     Sleep Medicine Committee member  
     Medical Instrumentation Committee member  
 Biological Psychiatry (Journal)  
     Editorial Board (2006-Present)  
 Center for Nonlinear and Complex Systems, Duke University (1995-present)  
     Member of Steering Committee  
 Center for Cognitive Neuroscience, Duke University (1999-Present)  
     Faculty Fellow  
 CNS Neuroscience and Therapeutics  
     Editorial Board (2008-Present)  
 Convulsive Therapy:

Editorial Board (1996-1998)  
Current Psychiatry Reviews  
Editorial Board (20101-Present)  
Duke General Clinical Research Center,  
Scientific Advisory Committee, (1997-2000)  
Frontiers in Sleep and Chronobiology (2010-Present)  
Editorial Board  
The International Journal of Sleep Disorders (03/01/06-2009)  
Clinical Editor  
Journal of ECT:  
Editorial Board (1998-Present)  
Mind and Brain (Journal)  
Editorial Board (2009-Present)  
SLEEP (Journal)  
Associate Editor (2007-Present)  
Editorial Board (2006-Present)  
Sleep Medicine Education Institute (2005-2009)  
Secretary/Treasurer (2005-2009)  
Trustee (2005-2009)  
Society for Behavioral Sleep Medicine  
Co-Chair, Education Committee (2010-Present)  
Sleep Research Society  
Research Committee (2007-Present)  
Chair, Research Committee (2008-Present)

### Scientific Reviewer

American Federation of Aging Research  
American Institute of Biological Sciences  
American Journal of Geriatric Psychiatry  
American Journal of Psychiatry  
Archives of General Psychiatry  
Archives of Internal Medicine  
Arthritis and Rheumatism  
Biological Psychiatry (Editorial Board)  
Brain Research  
CNS Drugs  
Clinical Neurophysiology  
CNS Neuroscience and Therapeutics (Editorial Board)  
Convulsive Therapy (Editorial Board)  
Current Psychiatry Reviews (Editorial Board)  
Electroencephalography and Clinical Neurophysiology  
European Archives of Psychiatry and Clinical Neuroscience  
European Psychiatry  
International Journal of Neuropsychopharmacology  
International Journal of Sleep Disorders (Clinical Editor)  
Journal of the American Geriatrics Society  
Journal of Clinical Neurophysiology

Journal of Clinical Sleep Medicine  
Journal of Cognitive Neuroscience  
Journal of ECT (Editorial Board)  
Journal of Neuropsychiatry and Clinical Neurosciences  
Journal of Personality Disorders  
Journal of Practical Psychiatry & Behavioral Health  
Mind and Brain (Editorial Board)  
Neuropsychopharmacology  
Neuropsychopharmacology and Biological Psychiatry  
Physiology & Behavior  
Psychiatry Research  
Psychopharmacology  
SLEEP (Associate Editor; Editorial Board)  
Sleep Medicine Reviews  
Southern Medical Journal  
Undersea & Hyperbaric Medicine  
U.S. Army Medical Research and Material Command

Courses taught:

1997-present Neurobiological Basis of Behavior (Psychiatry 223, Duke University)  
1997-present Director, Behavioral Neuroscience Study Track; Duke University School of Medicine;  
Third Year Curriculum  
1999-2003 Topics in Nonlinear and Complex Systems (Center for Non-linear and Complex  
Systems 201S/Physics 201S) Duke University  
2003-present Brain and Behavior – Course Co-Chair; Duke University School of Medicine; First  
Year Curriculum

Fellowships and Mentorships:

Raquel Prado, PhD (1995-1999) Department of Statistics, Duke University (Faculty Mentor and Oral  
Exam Committee, PhD May 1999)

Scott Zoldi, PhD (1993-1996) Department of Physics, Duke University (Faculty Mentor)

Amy Noll (1999-2002) Department of Psychology, Duke University (Faculty Mentor)

Tomas Watanabe (2000-2005) Department of Physiology, Medical College of Pennsylvania (Oral  
Exam Committee, PhD).

Jazkaran Singh, M.D. (2001-2004) Department of Psychiatry, University of Vermont/National  
Institute of Mental Health (Faculty Mentor).

Xavier Preud'homme, M.D. (2002-present) Departments of Psychiatry and Internal Medicine, Duke  
University Medical Center (Faculty Mentor)

Mugdha Thakur, M.D. (2003-Present) Department of Psychiatry Duke University Medical Center  
(Faculty Mentor)

Colleen Carney, Ph.D. (2004-2008) Department of Psychiatry Duke University Medical Center  
(Faculty Mentor)

Harold Goforth, M.D. (2004-Present) Department of Psychiatry, Duke University Medical Center  
(Faculty Mentor)

Simone Litsch, MD (2004-2006) Department of Psychiatry, Duke University Medical Center  
(Faculty Mentor)

Otema Adade (2005-2007) School of Medicine and Department of Psychology Duke University  
(Faculty Mentor and M.S. Oral Exam Committee)

Jarred Kiddoe (2005-2007) School of Medicine and Department of Psychology Duke University  
(Faculty Mentor and M.S. Oral Exam Committee)

Sarah Richey, MD (2006-Present) Department of Psychiatry, Duke University Medical Center  
(Faculty Mentor)

Toma Omonuwa (2007-2008) Duke University School of Medicine (Research Mentor)

Ellen Walker, MD (2009-2010) Department of Psychiatry, Duke University School of Medicine  
(Research Mentor)

Yinghui Low (2009-2010) Duke-NUS School of Medicine (Research Mentor)