

Irma Gvilia, Ph.D.; D.Sci.

CURRICULUM VITAE

EDUCATION:

In 1991, awarded the degree of Biologist, Teacher of Biology and Chemistry - equivalent to an integrated bachelor's degree and master's degree in biology from a regionally accredited college or university in the United States. Diploma with Honors is issued by Tbilisi State University in Tbilisi, Georgia.

In 1995, awarded the degree of Candidate of Science in Biology - equivalent to a doctor of philosophy degree in biology from a regionally accredited college or university in the United States. Diploma of a Candidate of Science is issued by I. Beritashvili Institute of Physiology of the Georgian Academy of Sciences in Tbilisi, Georgia.

In 2006, awarded the degree of Doctor of Sciences* in Biology - equivalent to completion of post-doctoral research in biology from a regionally accredited college or university in the United States. Diploma of Doctor of Sciences is issued by the Institute of Molecular Biology and Biological Physics in Tbilisi, Georgia.

CURRENT POSITION: Full Professor, Ilia State University, Tbilisi, Georgia

PREVIOUS POSITIONS:

1991-1994	PhD student, Department of Neurobiology of Sleep-wakefulness Cycle I. Beritashvili Institute of Physiology, Tbilisi, Georgia;
1994-1995	Junior Research Scientist, Department of Neurobiology of Sleep-wakefulness Cycle I. Beritashvili Institute of Physiology, Tbilisi, Georgia;
1995-2002	Research Scientist, Department of Neurobiology of Sleep-wakefulness Cycle, I. Beritashvili Institute of Physiology, Tbilisi, Georgia;
2000, 2001	Visiting Scientist, Department of Neurology, Clinic Erfurt, Germany;
2002 – 2011	Senior Research Scientist, Department of Neurobiology of Sleep-wakefulness Cycle I. Beritashvili Institute of Physiology, Tbilisi, Georgia
2003-2006	Postdoctoral Fellow, Departments of Medicine and Neurobiology, University of California, Los Angeles (UCLA)
2007 - 2013	Associate Professor, Ilia State University, Tbilisi, Georgia

TEACHING EXPERIENCE

2013 – present: Professor of Neurophysiology at Ilia State University in Tbilisi, Georgia

Doctoral Program, designed and taught:

- Neurobiology of Functional Systems (6 credits, 32 contact hours)

- Neurobiology of Sleep: Recent Findings (6 credits, 32 contact hours)
- Professional Development and Integration into Neuroscience (6 credits, 32 contact hours)

Master's Program, designed and taught:

- The Limbic System: Anatomy and Functions (6 credits, 35 contact hours)
- Neurobiology of Sleep and Wakefulness (12 credits, 62 contact hours)
- Human Sleep, Aging and Sleep (6 credits, 32 contact hours)

Bachelor's Program, designed and taught:

- Human Organism and Health (6 credits, 30 contact hours)

RECENT PROFESSIONAL TRAININGS:

2012 Dept. of Psychiatry, Harvard Medical School, VA Boston (PI, Radhika Basheer).
2015 Dept. of Psychiatry and Behavioral Sciences, Stanford University (PI, Luis De Lecea).

PROFESSIONAL ACTIVITIES:

Recent Symposiums/Lectures at Professional meetings:

2013 - Symposium on “*Sleep and Brain Maturation: Development of Sleep-Regulatory Mechanisms and Interactions between Sleep and Brain Maturation*” at “SLEEP 2013,” the 27th Annual Meeting of the Associated Professional Sleep Societies, LLC, June of 2013, Baltimore, MD
The Role: The Chair and a Speaker;

2013 - Symposium on “*Critical Periods in Sleep Development*” at International Sleep Training Summer School “Kazbegi 2013”
July of 2013, Tbilisi, Georgia
The Role: The Chair and a Speaker;

2013 - Symposium on “*Sleep and Childhood Brain Development: Unraveling the Link*” at Arrowhead Sleep Training Workshop,
September of 2013, CA, USA
The Role: The Chair and a Speaker;

2014 - Lecture on “*Hypothalamic Regulation of Sleep: Recent Findings*” at International Sleep Training Summer School: “Advancing the Understanding of Basics of Sleep Science and Sleep Medicine”,
June of 2014, Chakvi, Georgia
The Role: Invited Speaker

2014 - Minisymposium on Sleep at the University of Helsinki.
September of 2014, Biomedicum Helsinki 1

The Role: Invited Speaker

- 2014 - Symposium on “*Sleep and Brain Maturation: Development of Sleep-Regulatory Mechanisms and Interactions between Sleep and Brain Maturation*” at ESRS 2014, the 22d Congress of the European Sleep Research Society, September of 2013, Tallinn, Estonia
The Role: The Chair and a Speaker
- 2014 - Symposium on “*Sleep Loss: A Biochemical dialogue within brain*” at ASRS 2014, the 8th Congress of the Asian Sleep Research Society, September of 2014, Kovalam, Kerala, India
The Role: Invited Speaker
- 2015 – Symposium on "Sleep regulating neurons: new insights across phylogeny" at “SLEEP 2015,” the 29th Annual Meeting of the Associated Professional Sleep Societies, LLC, June of 2015, Seattle, Washington
The Role: Invited Speaker
- 2016 – Symposium on "Consequences of sleep loss in brain: from birth to aging" at the ESRS 2016, the 23d Congress of the European Sleep Research Society, September of 2016, Bologna, Italy. The Role: Invited Speaker

Other professional activities

- 2000 - 2003 Editorial Board of International Journal “*Neurobiology of Sleep-Wakefulness Cycle*”;
2006 - External Reviewer, *Neuroscience*;
- 2008 - 2009 Member of the Governmental Committee of Reforms in Science and Education, Tbilisi, Georgian;
- 2008 - External Reviewer, *International Journal of Toxicology*;
- 2009 - 2012 Voting Member of VA GLAHS Subcommittee for Research Safety;
- 2009 - External Reviewer, *Brain Research Bulletin*;
- 2010 – 2011 Editor-in-Chief, J. Neurobiology of Sleep-Wakefulness Cycle, Online Intern. Journal;
- 2011 - Reviewer, *Frontiers in Sleep and Chronobiology*
- 2012 - External Reviewer, *Sleep Medicine Reviews*
- 2012 - Reviewer, *Brain Sciences*
- 2012 - Reviewer, *PLOS ONE*
- 2012 – 2014 Member, American Sleep Research Society Educational Program Committee;
- 2013 – Program Director and the Organizer of an International Sleep Training Summer School “Kazbegi 2013” / Georgia. The funding sources of the meeting were International Brain Research Organization (IBRO) and Ilia State University, Tbilisi, Georgia
www.kazbegisleeptraining.weebly.com
- 2013 - Voting Member of VA GLAHS Subcommittee - IACUC;
- 2013 - 2015 Member, Graduate studies Committee (GSC), California State University, Northridge;
- 2014 - Reviewer, *European Journal on Neuroscience*;

RESEARCH AND EDUCATIONAL GRANTS:

- 2007 - 2009 Collaborative Research Grant funded by Georgian National Science Foundation (GNSF/ST07/6-219). Role - Principal Investigator
- 2007 - 2010 Research Grant funded by Georgian National Science Foundation (GNSF/ST07/6-237). Role - co-PI
- 2010 - 2011 Collaborative Research Grant funded by Georgian National Science Foundation (GNSF/ST09/6-274). Role - Principal Investigator
- 2011-2014 SCOPES (Swiss National Science Foundation) Educational Grant: "Knowledge Based Partnership for Development of Sleep Medicine Research Platform and Promotion of Sleep Science in Georgia". Role - Scientific Manager of the Project
- 2013 IBRO (International Brain Research Organization) Conference Grant for organizing A Sleep Training Workshop via European Neuroscience Program. Role - Program Director and Organizer of the Workshop
- 2013-2016 Collaborative Research Grant funded by Georgian National Science Foundation (GNSF). Role - Principal Investigator

HONORS AND AWARDS:

- 1997 – 2000 Fellowship of the President of the Republic of Georgia;
- 2000 Fellowship of German Academy Exchange Service sponsored by NATO/DAAD;
- 2002 International Brain Research Organization (IBRO) Fellowship Against Brain Drain;
- 2002 European Network of Sleep Training Laboratories Research Award/Grant;
- 2006 Sleep Research Society (SRS) Young Investigator Award, USA;
- 2007 C. Gillin Research Award, by Sleep Research Society Foundation (SRSF), USA;
- 2016 The American Physiological Society Award acknowledging the significance of my recent paper, naming it among the best recently published articles in physiological society (<http://apsselect.physiology.org/>).

BIBLIOGRAPHY:

A. Research Papers – Peer Reviewed:

1. **Gvilia I**, Oniani T, Kochladze M and Darchia N (2000) Sleep-wakefulness cycle of Guinea pig as a model of a biosensor. *Kybernetes* (London) 29(2):234-239.
2. Dabrundashvil N, **Gvilia I**, Darchia N, Gogichadze M, Maisuradze L, Lortkipaniudze N, Emukhvarim N, Baxutashvili B and Oniani T (2001) Modulating effects of Plaferon-LB on the structure of Sleep-Wakefulness Cycle. *Int. J on Immunorehabilitation*, 3, 3, 100-104.

3. **Gvilia I.**, Angara, C., McGinty, D and Szymusiak R. (2005) Different neuronal populations of the rat median preoptic nucleus express *c-fos* during sleep and in response to hypertonic saline. *Journal of Physiology*, 569(2): 587-599.
4. **Gvilia I.**, Turner, A., McGinty, D., Szymusiak R. (2006) Preoptic area neurons and the homeostatic regulation of rapid eye movement sleep. *The Journal of Neuroscience*, 26(11): 3037-3044.
5. **Gvilia I.**, Xu F., McGinty, D and Szymusiak R. (2006) Homeostatic regulation of sleep: a role for preoptic area neurons. *The Journal of Neuroscience*, 26(37): 9426-33.
6. Lortkipanidze N., Chidjavadze E., Oniani N., Darchia N and **Gvilia, I.** (2009) Sleep-Waking behavior following a lesion in the median preoptic nucleus. *Georgian Medical News*, 9(174), 10-3.
7. Maisuradze, L., Lortkipanidze, N., Eliazishvili, M., **Gvilia, I** and Darchia, N. Posttraumatic stress disorder and insomnia development in individuals displaced from Shida Kartli, Georgia. *Georgian Med News*. 2010, 3(180):64-9.
8. Hsieh KC, **Gvilia I**, Kumar S, Uschakov A, McGinty D, Alam MN and Szymusiak R. c-Fos expression in neurons projecting from the preoptic and lateral hypothalamic areas to the ventrolateral periaqueductal gray in relation to sleep states. *Neuroscience*, 2011, 188:55-67.
9. **Gvilia, I.**, Suntsova N., Angara B., McGinty D and Szymusiak R. Maturation of sleep homeostasis in developing rats: a role for preoptic area neurons. *American Journal of Physiology* , 2011, 300(4):R885-94.
10. Basishvili T, Eliazishvili M, Maisuradze L, Lortkipanidze N, Nachkebia N, Oniani T, **Gvilia I** and Darchia N. Insomnia in a Displaced Population is Related to War Associated Remembered Stress Health. 2012, 28(3):186-92.
11. **Gvilia, I.**, Suntsova N., Kumar, S., McGinty D and Szymusiak R. Suppression of Preoptic Sleep-regulatory Neuronal Activity During Corticotropin Releasing Factor-induced Sleep Disturbance. *Am J Physiol Regul Integr Comp Physiol* 309: R1092–R1100, 2015.
12. **Gvilia, I.**, Suntsova N., Kostin, A., Kalinchuk A., McGinty D., Basheer R and Szymusiak R. The Role of Adenosine in the Maturation of Sleep Homeostasis in Rats. *The Journal of Neurophysiology*, DOI: 10.1152/jn.00675.2016, 2016.

B. Book Chapters:

1. Darchia, N and **Gvilia, I.** Insomnia: Introduction. In: *Sleep - Physiology, Investigations and Medicine*, ed. by Michel Billiard, Kluwer Academic/Plenum Publishers, New York, 2003 Chapter 14 (pp. 187-90).

2. **Gvilia, I** Underlying Brain Mechanisms that Regulate Sleep-Wakefulness Cycles. In: *International Review of Neurobiology*, ed by Angela Clow and Lisa Thorn, Elsevier, **2010** Chapter 1 (pp. 1-21).
3. **Gvilia, I** and Szymusiak R. Regulation of nonREM Sleep: Interactions Among Sleep-Active Neurons in the preoptic hypothalamus. In: *Current Advances in Sleep Biology*, ed. by Markos G. Frank, Nova Medical, **2010** Chapter 2 (pp. 3-13).
4. Szymusiak R and **Gvilia I.** Neurophysiology and Neurochemistry of Hypersomnia. In: *Sleep Medicine Clinics: Hypersomnia*, ed by Alon Y. Avidan, **2012**.

C. Book Chapters (In-Press):

1. **Gvilia, I** and Szymusiak R. Basic Neurobiology of Arousal and Sleep. In: *Sleep Medicine and Psychiatric Illness*, edited by John Herman and Max Hirshkowitz, *in press*.

D. Reviews:

1. Szymusiak R, **Gvilia I** and McGinty D (2007) Review: Hypothalamic control of sleep. *Sleep Medicine* 8:291-301.

E. Research Papers – Non-Peer Reviewed

1. Darchia N, Eliava M, **Gvilia I** and Oniani T (1994) The effects of adaptation to experimental set on the sleep behavior in Guinea pigs. *Moambe, J. of the Georgian Academy of Sciences* 150(3): 200-206.
2. Darchia N, **Gvilia I**, Eliava M and Oniani T (1995) The effects of selective deprivation of paradoxical sleep on the sleep-wakefulness cycle in rats. *Moambe, J. of the Georgian Academy of Sciences* 151(2):295-301.
3. Oniani T, **Gvilia I**, Darchia N, Eliava M and Kochladze M (1997) Total sleep deprivation effect on the sleep-wakefulness cycle in Guinea Pigs. *Moambe, J. of the Georgian Academy of Sciences* 156(3):456-458.
4. Oniani T, Darchia N, **Gvilia I** and Eliava M (1997) The peculiarities of the sleep-wakefulness cycle in Guinea Pigs. *Moambe, J. of the Georgian Academy of Sciences* 156(1):113-116.
5. Oniani T, Darchia N, **Gvilia I**, Eliava M, Kochladze M and Moliadze V (1998) The effect of

selective deprivation of paradoxical sleep on the sleep-wakefulness cycle in Guinea pigs.

Moambe, J. of the Georgian Academy of Sciences 158(3):495-498

6. **Gvilia I**, Darchia N and Oniani T (1999) Analysis of benzodiazepines' action on the sleep-wakefulness cycle in poor sleepers. Journal of Experimental and Clinical Medicine 2:133-136
7. **Gvilia I**, Kochladze M, Darchia N and Oniani T (1999) Analysis of the effects of relanium on the sleep-wakefulness cycle in Guinea pigs. Transactions of Young Scientists, Presidential Scholarship Grantees 1:7-11, Tbilisi, Georgia
8. Oniani T, Darchia N, **Gvilia I**, Lortkipaniudze N, Maisuradze L, Oniani L, Eliava M and Moliadze V (1999) The effect of food deprivation on the sleep-wakefulness cycle in rodents. Moambe, J. of the Georgian Academy of Sciences 160(2):311-315
9. Rukhadze I, Dabrundashvili N, **Gvilia I**, Darchia N, Gogichadze M, Emukhvari N, Basishvili T, Bakhutashvili B and Oniani T (2001) Effect of Plaferon-LB on Morphine-induced structural changes in Sleep-Wakefulness Cycle; Proceedings of the Georgian Academy of Sciences, Biological Seriesm 27(4-6): 447-453
10. Rukhadze I, Emukhvari N, Basishvili T, **Gvilia I**, Darchia N, Mchedlidze O and Gogichadze M (2003) What is an antagonistic profile of Naloxon against Tramadol effects? Proc. Georgian Acad. Sci., 29 (5-6): 719-725.