

**CURRICULUM VITAE****PART I: General Information****Name:** Snežana M. Milanović**Office Address:** Martinos Center for Biomedical Imaging  
Neuropsychiatric Imaging  
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Charlestown, MA 02129**Office Telephone:** 617-724-6157**E-mail:** [smilanov@bidmc.harvard.edu](mailto:smilanov@bidmc.harvard.edu),  
[smilano@nmr.mgh.harvard.edu](mailto:smilano@nmr.mgh.harvard.edu)  
[smilanovic@partners.org](mailto:smilanovic@partners.org)**Place of Birth:** Čačak, Serbia**Education:**

Year	Degree	Institution	Field
09/91	M.D.	School of Medicine University of Belgrade, Serbia	Medicine
10/97	M.Sc.	Center for Multidisciplinary Studies University of Belgrade, Serbia	Neuroscience

**Postdoctoral Training:**

Year	Specialty	Place of Training
09/91 - 06/92	Graduate courses: Neurodevelopment Neurophysiology Neurochemistry Neuropharmacology Restorative neurology Statistics Neurostudies (Independent Project)	University of Belgrade, Serbia
09/92 - 09/93	Clinical Internship	University Hospitals, University of Belgrade, Serbia
09/91 – 01/94	Postdoctoral Fellowship	Immunology Research Center International Reference Laboratory for Neuroimmunomodulation, Belgrade, Serbia

01/94 - 10/94	Postdoctoral Fellowship	Department of Psychiatry State University of New York, Stony Brook, NY
10/94 – 05/96	Postdoctoral Fellowship	Department of Neuroendocrinology Max Planck Institute for Experimental Medicine Goettingen, Germany
05/96 – 06/99	Postdoctoral Fellowship	Central Institute of Mental Health, Mannheim Germany
07/99 – 06/00	Psychiatry resident (PGY I)	Montefiore Medical Center Department of Psychiatry and Behavioral Sciences Albert Einstein College of Medicine, Bronx, NYC
07/00 – 06/03	Psychiatry resident Clinical Neuroscience Training Program	Department of Psychiatry Yale University School of Medicine New Haven, CT
07/03 – 06/05	Postdoctoral Fellowship	Harvard School of Medicine Department of Psychiatry, McLean Hospital Belmont, MA
07/05 – 06/06	Advanced Neuroimaging Fellowship	Harvard School of Medicine MGH/Beth Israel Deaconess Medical Center

#### **Licensure and Certification:**

Year	Type of License or Certification
10/93	Medical License, Serbia & Montenegro
10/03	Medical License, Massachusetts, USA
05/07	American Board of Neurology and Psychiatry

#### **Academic Appointments:**

Year	Academic Title	Institution
07/03 - 06/05	C RTP Research fellow	McLean Hospital
07/05 – 06/06	Advanced Neuroimaging Fellow	MGH/Beth Israel Deaconess MC
02/05 - present	Instructor in Psychiatry	Harvard School of Medicine

#### **Hospital or Affiliated Institution Appointments:**

Year	Title	Hospital
09/03 - 06/05	Assistant Psychiatrist	McLean Hospital
07/05 - 07/06	Staff Psychiatrist	McLean Hospital
01/06 - 07/07	Assistant Psychiatrist	MGH-Revere
04/06 - present	Attending Psychiatrist	Mt. Auburn Hospital
07/07 - present	Attending Psychiatrist	MGH-Center for Women's Mental Health

**Other Professional Positions and Major Visiting Appointments:**

Year	Position/Title	Institution
10/95 – 05/96	Guest Researcher	MPI for Experimental Medicine

**Hospital and Health Care Institution Clinical Responsibilities:**

Year	Position/Title	Role	Institution
11/03 – 05/04	Psychiatrist		Bournewood Hospital
12/03 – 06/04	Psychiatrist		Lindemann Center
11/03 – 07/06	Attending Psychiatrist		Holy Family Hospital
12/03 – present	Attending Psychiatrist		Newton-Wellesley Hospital
07/05 – 07/06	Attending Psychiatrist		Beverly Hospital
04/06 – present	Attending Psychiatrist		Mt. Auburn Hospital
07/07 - present	Attending Psychiatrist		MGH

**Major Administrative Responsibilities:**

Year	Title	Institution
07/02 – 06/03	Chief Resident	Clinical Neuroscience Research Unit Department of Psychiatry Yale School of Medicine

**Professional Societies:**

Year	Society	Role
01/96 - present	Neuroscience Society	Member
09/99 - present	American Psychiatric Association	Member
10/04 - present	Society for Research in Psychopathology	Member
10/04 - present	Organization for Human Brain Mapping	Member

**Community Service Related to Professional Work:**

01/04 -01/07	Taxiarchae (Archangels) Greek Orthodox Church, Watertown, MA Supervision of volunteers providing care to the families of sick or deceased
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**Awards and Honors:**

Year	Name of Award
06/80	First Prize, Federal Competition in Chemistry, Yugoslavia
06/84	First Prize, Federal Competition in Chemistry, Yugoslavia
09/84 - 06/85	City of Belgrade Foundation for Talented Scholars, Fellowship Award

09/87 - 09/93 Republic of Serbia Foundation for Talented Scholars, Fellowship Award  
 07/02 - 06/03 Ruth L. Kirschstein National Research Service Award (NRSA)  
 03/03 Young Investigator Award, National Alliance for Research of Schizophrenia and Depression (NARSAD)  
 06/03 Resident Teaching Award (Outstanding Teacher and Role Model)  
 Yale University School of Medicine  
 Department of Psychiatry, New Haven, CT  
 2003 - 2004 Sarasota Opera Benefit, Southwest Florida Investigator

**PART II: Research, Teaching, and Clinical Contributions**

**A. Narrative report:**

After obtaining a medical degree and a Master of Sciences degree in the neurosciences, I continued my career as a postdoctoral fellow in basic research. I studied the neural pathways guiding memory acquisition, the modulatory role of positive and negative emotional states on cognition and behavior and biological traits underlying different stress coping strategies. My research focus on the interface between mood and cognition continued to evolve through additional clinical training during my residency.

I believe that a better understanding of complex psychiatric diseases will be obtained through careful characterization of associated behavioral traits, using imaging, psychophysiological measurements and genetics approaches. Once the pathophysiology is translated into biology, more comprehensive animal models will be feasible for developing novel medications and potentially for gene therapy.

During the 2 years of my NARSAD project and CRTP fellowship, I established and validated through physiologic measurements (skin conductance, heart rate, facial EMGs) a behavioral paradigm aimed at probing the role of affect in memory encoding. I also conducted off-line experiments testing normal controls, schizophrenics and bipolar patients in a laboratory setting. Subsequent on-line (fMRI) study is integrating psychophysiological measurements with imaging and behavioral data analysis.

During my engagement with Dr. Larry Seidman’s Laboratory at Martinos Center, I continue to obtain fMRI data analysis training and focus on differentiating Bipolar Disorder with Psychotic Features from Schizophrenia in the Birth Cohort sample. I am also expanding on my basic research interest in learning over time and underlying automatic processes of immediate to short term recall.

**B. Funding Information (all for research applications)**

Years Covered:	Funding Source	PI/Co-PI	Grant Title
07/03 – 07/06	NARSAD	PI	Emotional Modulation of Cognition in Schizophrenic Patients

**C. Report of Current Research Activities**

Project	Role
Neural Circuitry Underlying the Emotional Modulation of Cognition in Schizophrenia	PI

## D. Report of Teaching

### 1. Local Contributions

Grand Rounds - 03/15/2007, Massachusetts Mental Health Center:  
Emotional Modulation of Encoding in Psychosis: Schizophrenia vs Bipolar Disorder

PGY2 Psychopharmacology course - 08/2008, Harvard Longwood Psychiatry Training Program  
Antipsychotic medications

Harvard Medical School 4th Year Comprehensive Exam in Psychiatry (OSCE) – 10/17/2008 and  
11/07/2008

### 2. Regional, National or International Contributions

Milanovic, S., Orr, S., Coleman, M., Holzman, P. and Levy, D.  
Psychophysiological Measures, Encoding Performance and Brain Activation During Affect- Induced  
Modulation of Associative and Spatial Memory.  
20<sup>th</sup> Meeting, International Congress on Schizophrenia Research, Savannah, Georgia, USA, (2005)

Milanovic, S., Orr, S., Coleman, M., Holzman, P. and Levy, D.  
Psycho-physiological Measures and Encoding Performance During Affect Induced Modulation of  
Associative and Spatial Memory.  
19<sup>th</sup> Annual Meeting, Society for Research in Psychopathology, St. Louis, Missouri, USA, (2004), 134

Milanovic,S., Laban,O., Radulovic,J., Stiedl,O. and Spiess,J.  
The effect of current intensity on FOS production of fear conditioned mice after acquisition  
26th Soc. Neurosci. Meeting, Washington, D.C., USA, (1996) 545.12

Stiedl,O., Milanovic,S. and Spiess,J.  
Effects of tone-dependent fear conditioning on heart rate in mice (C57BL/6J).  
26th Soc. Neurosci. Meeting, Washington, D.C., USA, (1996) 442.4

Radulovic,J., Milanovic,S., Laban,O., Stiedl,O. and Spiess,J.  
Associative and non-associative learning induced by contextual fear conditioning of C57BL/6J mice  
26th Soc. Neurosci. Meeting, Washington, D.C., USA, (1996) 735.8

Milanovic,S., Laban,O., Radulovic,J., Stiedl,O., Henn,F. and Spiess,J.  
Hippocampal FOS and Ref-1 production in fear conditioned mice  
2nd Meeting of European Neuroscience, Strasbourg, France, (1996) 103.03

Stiedl,O., Milanovic,S., Laban,O., Radulovic,J., Henn,F. and Spiess,J.  
Tone-dependent retention after fear conditioning: modulation of behavior and autonomic function.  
2nd Meeting of European Neuroscience, Strasbourg, France, (1996) 123.28

Milanovic,S., Laban,O., Radulovic,J., Stiedl,O. and Spiess,J.  
c-Fos expression in mouse brain following exposure to foot shock stress  
27th Congress, Int Soc of Psychoneuroendocrinology, Cascais, Portugal, (1996) 106  
Stiedl,O., Milanovic,S., Laban,O., Palve,M. and Spiess,J.

- Effect of tone-dependent retention on heart rate following fear conditioning in mice.  
In: Brain and Evolution, Proceedings of the 24th Göttingen Neurobiology Conference,  
N.Elsner & H.-U.Schnitzler (eds.), Thieme Verlag, Stuttgart, (1996) 770
- Stiedl,O., Milanovic,S., Laban,O. and Spiess,J.  
Ref-1 protein expression following fear conditioning  
25th Soc. Neurosci. Meeting, San Diego, CA, (1995) 763.18
- Milanovic,S., Stiedl,O., Laban,O. and Spiess,J.  
Ref-1 protein expression in a memory task  
26th Congress, Int Soc of Psychoneuroendocrinology, München, Germany, (1995) 1-29
- Stiedl,O., Milanovic,S., Laban,O. and Spiess,J.  
Modulation of ref-1 activity following aversive stimulation  
26th Congress, Int Soc of Psychoneuroendocrinology, München, Germany, (1995) 1-13
- Stiedl,O., Milanovic,S. and Spiess,J.  
Behavioral investigation of memory function with the fear conditioning paradigm in mice.  
In: Learning and memory, Proceedings of the 23th Göttingen Neurobiology Conference,  
N.Elsner & R.Menzel (eds.), Thieme Verlag, Stuttgart, (1995) 909
- Milanovic-Kecojevic, S., Vlajkovic, S., Nikolic, V. and Jankovic, B.D.  
Aversive brain stimulation and immunity:  
Effect on antibody production and immune inflammatory reactions.  
Proc. Int. Cong. ISNIM 2, Paestum (Salerno), Italy, (1993) 88
- Vlajkovic, S., Nikolic, V., Nikolic, A., Milanovic-Kecojevic, S. and Jankovic, B.D.  
Brain laterality in modulation of the immune reactivity after ablation of  
the prefrontal, parietal and occipital neocortex.  
Proc. Int. Cong. ISNIM 2, Paestum (Salerno), Italy, (1993) 268
- Nikolic, V.,Vlajkovic, S., Nikolic, A., Milanovic-Kecojevic, S. and Jankovic, B.D.  
Differential effects of the prefrontal, parietal and occipital brain neocortex ablation  
on humoral and cell-mediated immune responses in left-biased rats.  
Proc. Int. Cong. ISNIM 2, Paestum (Salerno), Italy, (1993) 274
- Vlajkovic, S., Nikolic, V., Nikolic, A., Milanovic-Kecojevic, S. and Jankovic, B.D.  
Immune reactions in right-biased rats after ipsilateral ablation of  
the prefrontal, parietal and occipital brain neocortex.  
Proc. Int. Cong. ISNIM 2, Paestum (Salerno), Italy, (1993) 275
- Vlajkovic, S., Nikolic, V., Nikolic, A., Milanovic-Kecojevic, S., Bokonjic, D. and Jankovic, B.D.  
Immunological and behavioral profile of right-biased rats after ipsilateral ablation of  
the prefrontal, parietal and occipital brain neocortex.  
Europ. J. Neurosci. Supp. 6, (1993) 154
- Nikolic, V., Vlajkovic, S., Nikolic, A., Milanovic-Kecojevic, S., Bokonjic, D. and Jankovic, B.D.  
Regional ablation of the brain neocortex in left-biased rats: Immunity and behavior.  
Europ. J. Neurosci. Supp. 6, (1993) 154

Milanovic-Kecojevic, S., Vlajkovic, S., Nikolic, V., Bokonjic, D. and Jankovic, B.D.  
Behavioral and immune responses in rats subjected to aversive brain stimulation.  
Europ. J. Neurosci. Supp. 6, (1993) 258

## E. Report of Clinical Activities

Description of Clinical Practice:

- 1) Inpatient Psychiatry Attending: Newton-Wellesley Hospital (03/04 - 10/04)
- 2) Psychiatry attending on call: Newton-Wellesley (11/03-present), Holy Family (11/03-07/06), Beverly (07/05-07/06) and Mt. Auburn (04/06-present) hospitals
- 3) Assistant/Staff Psychiatrist: McLean Hospital (Developmental Disabilities Unit, 09/04-11/05)
- 4) Outpatient practice (11/04-present)
- 5) Assistant Psychiatrist: Outpatient Department, MGH-Revere (01/06-07/07)
- 6) Attending Psychiatrist: Outpatient Department, MGH (07/07-present)

## PART III: Bibliography

Original Articles

1. Whitfield-Gabrieli S, Thermenos HW, Milanovic S, Tsuang MT, Faraone SV, McCarley RW, Shenton ME, Green AI, Nieto-Castanon A, LaViolette P, Wojcik J, Gabrieli JD, Seidman LJ. Proc Natl Acad Sci U S A. 2009 Jan 27;106(4):1279-84. Epub 2009 Jan 21. Mar 17;106(11):4572. Hyperactivity and hyperconnectivity of the default network in schizophrenia and in first-degree relatives of persons with schizophrenia.
2. Thermenos, H., Goldstein, J., Milanovic, S., Whitfield-Gabrieli, S, Makris, N., LaViolette, P., Koch, J., Faraone, S, Tsuang, M., Buka, S., Seidman, L. An fMRI study of working memory in persons with bipolar disorder or genetic risk for bipolar disorder, Accepted.
3. Milanovic, S., Thermenos, H., Brown, A., Whitfield-Gabrieli, S., Goldstein, J., Makris, N., LaViolette, P., Koch, J., Poldrack, R., Koch, J., Faraone, S, Tsuang, M., Buka, S., Seidman, L. Medial prefrontal cortical hyperactivation during working memory differentiates schizophrenia and bipolar patients, In preparation.
4. Milanovic, S., Levy, D., Seidman, L., Orr, S. Valence specific emotional modulation of associative learning: comparison between control and schizophrenic males. In preparation.
5. Milanovic, S., Krastoshevsky, O., Coleman, M., Holzman., P., Orr, S., Levy, D. Video clips as affect induction method: validation of the valence specific arousal with physiologic measurements. In preparation.
6. Coric V, Milanovic S, Wasylink S, Patel P, Malison R, Krystal JH. Beneficial effects of the antiglutamatergic agent riluzole in a patient diagnosed with obsessive-compulsive disorder and major depressive disorder. Psychopharmacology (Berl). 2003 May;167(2):219-20.

7. Milanovic,S., Radulovic,J., Laban,O., Stiedl,O., Henn,F., and Spiess,J. (1998). Production of the FOS protein after contextual fear-conditioning of C57BL/6N mice. *Brain Research*. 784: 37-47.
8. Vlajkovic,S., Nikolic,V., Nikolic,A., Milanovic,S., and Jankovic,B.D. (1994). Asymmetrical modulation of immune reactivity in left and right-biased rats after ipsilateral ablation of the prefrontal, parietal and occipital brain neocortex. *Int.J.Neurosci*. 78, 123-135.
9. Vlajkovic,S., Milanovic,S., Cvijanovic,V., and Jankovic,B.D. (1994). Behavioral and immunological events induced by electrical stimulation of the rat periaqueductal gray region. *Int.J.Neurosci*. 77, 287-302.
10. Vlajkovic,S., Dugandzija-Novakovic,S., Milanovic,S., and Jankovic,B.D. (1993). Brain self-stimulation and immunity: effect on humoral and cell-mediated immune responses. *Int.J.Neurosci*. 69, 235-250.