

Byoung-Kyong Min, Ph.D.

Personal information

First name: Byoung-Kyong
Last name: Min
Date of Birth: July 4, 1970
Place of Birth: Seoul, Korea
Nationality: Republic of Korea
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Current Position

Since 2009 Nov. Research fellow (Department of Radiology)
Brigham and Women's Hospital
Harvard Medical School
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Boston, MA 02115, USA

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Specialized Research Tools

EEG, MEG, fMRI, Ultrasound sonication, intra-cortical injection, Microdialysis

Educations and Research Experiences

2007 Oct-2009 Sep Post-doctoral fellow
Brain Korea 21 project for Medical Science (Neuroscience unit)
Yonsei University, College of Medicine (Severance Hospital), Seoul, Korea
2007 Jul **Ph.D. in Psychology (Magdeburg University, Germany)**
2003 Jan-2007 Jul Ph.D. Candidate (Advisor: Prof. Dr. Christoph Herrmann)
Department of Biological Psychology, Institute for Psychology
Otto-von-Guericke University Magdeburg, Germany
2002 Jul-Aug DAAD-KOSEF Summer Research Institute Program
Otto-von-Guericke University Magdeburg, Germany
(Advisor: Prof. Dr. Christoph Herrmann)
2001 Sep-2002 Nov Interdisciplinary Program in Cognitive Science
Seoul National University, Korea
Ph.D. Candidate (Advisor: Prof. Jun-Soo Kwon, M.D., Ph.D.)
2001 May-2003 May Neuroscience Research Institute, Medical Research Center
College of Medicine, Seoul National University, Korea
2001 Mar-2002 Aug Clinical Research Institute
Seoul National University Hospital, Korea
1998 Jun **M.Sc. in Neurobiology and Physiology (Northwestern University, USA)**
1997 Sep-1998 Jun Northwestern University, The Graduate School, IL, USA
Neurobiology and Physiology, NSF Bio-timing Lab.

1996 summer	(Advisor: Prof. Fred Turek, Ph.D.) Johns Hopkins University, MD, USA The Zanvyl Krieger Mind/Brain Institute (Short-term visiting 'computational neuroscience lab')
1996 Mar-Aug	Korea Advanced Institute of Science and Technology (KAIST) Department of Physics, Brain Lab. (Advisor: Prof. Soo-Yong Kim, Ph.D.)
1990 Mar –1994 Feb	Seoul National University, Korea B.S. (Forest Science/ Chemistry)

Academic Affiliations

2009-present	Korean Psychological Association
2007-present	Korean Society for Human Brain Mapping
2003-present	Association for the Scientific Study of Consciousness
2002-present	Korean Brain Society
2002-present	Society for Neuroscience
2001-present	Cognitive Neuroscience Society
2001-present	Korean Society for Cognitive Science
1996-present	American Association for the Advancement of Science

Honors, Scholarships and Fellowships

2007 Nov	Award in oral presentation, The 9th Conference of <i>Korean Society for Human Brain Mapping</i>
2007 Jul	Magna-cum-laude Graduation (Magdeburg University, Germany)
2002 Jul	DAAD-KOSEF Scholarship (Summer Institute Program) DAAD (Deutscher Akademischer Austausch Dienst) and KOSEF (Korea Science and Engineering Foundation) Joint-Program
2000 Dec	Award at the Korea Digital Contents Contest, SoftExpo 2000 Ministry of Information and Communication, Korea
1993 Sep	Superior Scholarship (Seoul National University, Korea)

Other Professional Experiences and Activities

2010-2011	Mentoring students for <i>Senior Design Project</i> at Boston University (Department of Biomedical Engineering), Boston, USA
2009 2 nd semester	<i>Lecture</i> (Class: Methodology of Cognitive Science)– graduate course (team teaching) Instructor, Interdisciplinary Program in Cognitive Science <i>Seoul National University</i> , Seoul, Korea
2008 Nov	Contribution of an essay to the official webzine of BK21 project for Medical Science, Yonsei University, Seoul, Korea
2008 2 nd semester	<i>Lecture</i> (Class: Cognitive Neuroscience Seminar) – graduate course Instructor, Interdisciplinary Program in Cognitive Science <i>SungKyunKwan University</i> , Seoul, Korea
2008 1 st semester	<i>Lecture</i> (Class: Brain, Mind & Behavior) – undergraduate course Instructor, Department of Psychology <i>SungKyunKwan University</i> , Seoul, Korea
2008 Jan	Organization of 2007/2008 Winter workshop (Sogang University) of Korean Students Association of Cognitive Science
2002/2007	Founder and President of Korean Students Association of Cognitive Science
2000-2001	Contribution of Neuroscience essays to Korea Science Foundation official webzine

Review Activity for the following International Journals

NeuroImage
Journal of Cognitive Science

Publications

Journal articles

1. **Min BK**, Marzelli M, Yoo SS, 'Neuroimaging-based approaches in brain-computer interface' *Trends in Biotechnology*, 28 (11), November 2010, pp. 552-560 (**selected as a cover-featured article**)
2. Park HD, **Min BK**, Lee KM, 'EEG oscillations reflect visual short-term memory processes for the change detection in human faces' *NeuroImage*, 53, 2010, pp. 629-637
3. **Min BK**, Park HJ, 'Task-related modulation of anterior theta and posterior alpha EEG reflects top-down preparation' *BMC Neuroscience*, 2010, **11**: 79
4. **Min BK**, 'A thalamic reticular networking model of consciousness' *Theoretical Biology & Medical Modelling*, 2010, **7**: 10
5. **Min BK**, 'Spectral analysis of brain oscillatory activity' *Korean Journal of Cognitive Science*, 20 (2), July 2009, pp. 155-181
6. **Min BK**, Park JY, Kim EJ, Kim JI, Kim JJ, Park HJ, 'Prestimulus EEG alpha activity reflects temporal expectancy' *Neuroscience Letters*, 438 (3), June 2008, pp. 270-274
7. Herrmann CH, Pauen M, **Min BK**, Busch NA, Rieger JW, 'Analysis of a choice-reaction task yields a new interpretation of Libet's experiments' *International Journal of Psychophysiology*, 67 (2), February 2008, pp. 151-157
8. **Min BK**, Herrmann CH, 'Prestimulus EEG alpha activity reflects prestimulus top-down processing' *Neuroscience Letters*, 422 (2), July 2007, pp. 131-135
9. **Min BK**, Busch NA, Debener S, Kranczioch C, Hanslmayr S, Engel AK, Herrmann CH, 'The best of both worlds: phase-reset of human EEG alpha activity and additive power contribute to ERP generation' *International Journal of Psychophysiology*, 65 (1), July 2007, pp. 58-68
10. Choi JM, Bae BH, **Min BK**, Kim SY, 'The analysis of brain activity in wakefulness and deep sleep states from a dog EEG' *Journal of the Korean Physical Society*, 30 (2), April 1997, pp. 328-333

Book chapter and Booklet

1. Herrmann CS, Pauen M, **Min BK**, Busch NA, Rieger J, 'Eine neue interpretation von Libets experimenten aus der analyse einer wahlreaktionsaufgabe' In Herrmann CS, Pauen M, Rieger J, Schickanz S (ed.), "*Bewusstsein (Consciousness)*", pp. 120-134, Utb. 2005 (ISBN 3-8252-2686-7)
2. **Min BK**, 'MIND' (Neuroscience E-book in Korean PDF version), Mind21, 2000 (ISBN 89-89350-00-X)

Abstracts and Conference proceedings

1. Yoo SS, Pascual-Leone A, **Min BK**, Fischer K, Yang PS, Jolesz F, 'Computer-controlled, image-guided focused ultrasound system for neuromodulation' The 7th World Stroke Congress, Seoul, Korea, October 2010
2. Yoo SS, Bystritsky A, Lee JH, Zhang Y, **Min BK**, Fischer K, McDannold N, Jolesz F, Pascual-Leone A, 'Localized Modulation of Brain Function using Pulsed Low-intensity Focused Ultrasound' The 16th Annual Meeting of *Human Brain Mapping*, Barcelona, Spain, June 2010

3. **Min BK**, Kim SJ, Park JY, Park HJ, 'Prestimulus top-down reflection of obsessive-compulsive disorder in EEG frontal theta and occipital alpha bands' The 39th Annual Meeting of *Society for Neuroscience*, Chicago, USA, October 2009
4. **Min BK**, Park HJ, 'EEG frontal alpha and occipital gamma activities of congenitally blind subjects during mental rotation' The 23rd Annual Conference of *The Korean Society for Cognitive Science*, Seoul, Korea, May 2009; Printed in 'Proceedings of the Korean Society for Cognitive Science Conference', May 2009
5. **Min BK**, Kim JJ, Park HJ, 'Prestimulus EEG frontal theta and occipital alpha activities reflect prestimulus top-down processing' The 16th Annual Meeting of *Cognitive Neuroscience Society*, San Francisco, USA, March 2009; Printed in 'Cognitive Neuroscience Society Annual Meeting Program 2009' (A supplement of the *Journal of Cognitive Neuroscience*) p. 71 (B46)
6. **Min BK**, Han KJ, Min JH, Kim JH, Park HJ, 'Frontal N270 and decision making on a social contextual task' The 11th Conference of *Korean Society for Human Brain Mapping*, Seoul, Korea, Nov 2008
7. Park BH, **Min BK**, Park HJ, 'Plasticity of neural networks for working memory processing in the congenitally blind' The 11th Conference of *Korean Society for Human Brain Mapping*, Seoul, Korea, Nov 2008
8. **Min BK**, Lee DH, Park SY, Kim JI, Park HJ, 'Prestimulus EEG theta activity reflects prestimulus top-down inhibitory processing' The 11th Conference of *Korean Society for Human Brain Mapping*, Seoul, Korea, Nov 2008
9. Kim JI, **Min BK**, Park HJ, 'Sleep in congenital blind and normal subjects: analyses of spectral power and sLORETA' The 11th Conference of *Korean Society for Human Brain Mapping*, Seoul, Korea, Nov 2008
10. Lee NY, Lee YJ, **Min BK**, Kim JH, Park HJ, 'What happens in your brain when you look at newspaper company logos: An event-related potential study' The 11th Conference of *Korean Society for Human Brain Mapping*, Seoul, Korea, Nov 2008
11. **Min BK**, Park JY, Kim SJ, Park HJ, 'The relationship between prestimulus EEG alpha activity and top-down inhibitory processing in obsessive-compulsive disorder patients' The 38th Annual Meeting of *Society for Neuroscience*, Washington, DC, USA, November 2008
12. Lee DH, Park JY, **Min BK**, Park HJ, 'The difference of EEG gamma oscillation between consonant and dissonant chord' The 38th Annual Meeting of *Society for Neuroscience*, Washington, DC, USA, November 2008
13. **Min BK**, Park HJ, 'EEG alpha and gamma activity in congenitally blind subjects during mental rotation' The 10th International Conference on Cognitive Neuroscience, Bodrum, Turkey, September 2008
14. **Min BK**, Lee JH, Han KJ, 'EEG alpha activity reflects social contextual processing during a color-matching task' The 6th International Conference of Cognitive Science, Seoul, Korea, July 2008
15. **Min BK**, Kim JI, Seo BS, Chun JW, Park HI, Kim JJ, Park HJ, 'Involvement of the visual association cortex in congenitally blind subjects during mental imagery' The 6th International Conference of Cognitive Science, Seoul, Korea, July 2008
16. **Min BK**, Kim JJ, Park HJ, 'Prestimulus EEG alpha activity reflects temporal expectancy' The 15th Annual Meeting of *Cognitive Neuroscience Society*, San Francisco, USA, April 2008; Printed in 'Cognitive Neuroscience Society Annual Meeting Program 2008' (A supplement of the *Journal of Cognitive Neuroscience*) p. 48 (A110)
17. **Min BK**, Kim JI, Kim JJ, Park HJ, 'Expectation in prestimulus EEG alpha activity' The 9th Conference of *Korean Society for Human Brain Mapping*, Seoul, Korea, Nov 2007; Printed in 'The Autumn Conference of Korean Society for Human Brain Mapping' p. 37
18. **Min BK**, Busch NA, Debener S, Engel AK, Herrmann CH, 'Evoked Visual Alpha activity reflects Cognitive processing' The 11th Annual Meeting of *Cognitive Neuroscience Society*, San Francisco, USA, April 2004; Printed in 'Cognitive Neuroscience Society Annual Meeting Program 2004' (A supplement of the *Journal of Cognitive Neuroscience*) p. 81 (B141)
19. **Min BK**, Busch NA, Debener S, Engel AK, Herrmann CH, 'Differentiating Evoked and Induced Visual Alpha activity by Exogenous parameters' The 14th *Evoked Potentials International*

Conference (EPIC XIV), University of Leipzig, Germany, March 2004; Printed in 'Evoked Potentials International Conference XIV: Leipzig Series in Cognitive Sciences 5' (A. Widmann et al., eds) p. 110 *Leipziger Universitätsverlag*

20. **Min BK**, Kim MS, Youn T, Kim JJ, Kwon JS, 'Event-Related Potentials of a Linguistic Binding Process in a Korean Monosyllabic Word' The 32nd Annual Meeting of *Society for Neuroscience*, Orlando, USA, November 2002; Published at online *2002 Abstract Viewer/Itinerary Planner*. Program No. 279.7. Washington, DC: Society for Neuroscience
21. **Min BK**, Kim MS, Youn T, Kim JJ, Kwon JS, 'Event-Related Potentials of a Monosyllabic Word' The 16th Annual Conference of *The Korean Society for Cognitive Science*, Busan, Korea, May 2002; Printed in 'Proceedings of the Korean Society for Cognitive Science Conference', May 2002, pp. 211-215
22. **Min BK**, Park HJ, Kang DH, Youn T, Kim MS, Kwon JS, 'Time-frequency analysis of 40Hz in oddball paradigm in schizophrenia: Preliminary study' The 44th Annual conference of *Korean Neuropsychiatric Association*, Seoul, Korea, October 2001

Miscellaneous

1. **Min BK**, 'The top-down function of prestimulus EEG alpha activity' (*Magdeburg University* (Germany), Department of Biological Psychology, Ph.D. Thesis: July 4, 2007)
2. **Min BK**, 'Light-induced Synchronization of the Suprachiasmatic Neural Network: Converting Glutamate to GABA' (*Northwestern University* (USA), The Graduate School, Department of Neurobiology and Physiology, M.S. Thesis: June 19, 1998)

Invited talks

2011 May	BIT Life Sciences' 2nd Annual Congress of NeuroTalk (NeuroTalk-2011), Dalian World EXPO Center, China (invited as a guest speaker)
2010 June	The 2010 Annual Meeting of Radiology and Nuclear Medicine of China, Yichang, China (invited as a guest speaker)
2009 September	Korea Institute of Science and Technology, Seoul, Korea Center for Neural Science (Dr. Ji-Hyun Choi)
2009 September	SungKyunKwan University, Seoul, Korea Class: Language and Mind (Prof. Myung-Won Choi)
2009 July	Korea Computer Congress 2009, Jeju, Korea Intelligence-Language-Vision-Bio association workshop Korea Information Science Society
2009 June	Hankuk University of Foreign Studies, Seoul, Korea Linguistics and Cognitive Science (Prof. Jong Sup Chun, Ph.D.)
2009 Apr	Korea University, Seoul, Korea Department of Psychology (Prof. Chai-Youn Kim, Ph.D.) Cognitive Neuroscience Colloquium
2008 Dec	Hankuk University of Foreign Studies, Seoul, Korea Linguistics and Cognitive Science (Prof. Jong Sup Chun, Ph.D.)
2008 Dec	Workshop #2: 'Oscillations in Human Electrophysiology' The 11th Annual Meeting of <i>The Korean Society for Brain and Neural Science</i> , Seoul, Korea
2008 Aug	Korea Research Institute of Standards and Science, Daejeon, Korea
2008 May	National Institute of Scientific Investigation, Seoul, Korea
2008 May	Yonsei University, Seoul, Korea Graduate program in Cognitive Science (Prof. Sang Chul Chong, Ph.D.)
2008 Apr	Yonsei University, Seoul, Korea Department of Communication

2008 Mar Human Communication Lab. (Prof. Joochan Kim, M.D.)
 Seoul National University, Korea
 2008 Jan Institute for Cognitive Science (Prof. Kyung-Min Lee, M.D.)
 2007/2008 Winter workshop (Sogang University) of Korean Students Association of
 Cognitive Science
 2007 Nov Yonsei University, College of Medicine, Seoul, Korea
 Department of Pharmacology (Prof. Dong-Goo Kim, M.D./Ph.D.)
 2007 Oct Ewha womans University, Korea
 Department of Life Science
 Behavior and Ecology Lab. (Prof. Jae-Chun Choi, Ph.D.)
 2007 Oct Seoul National University Hospital, Korea
 MEG Center (Prof. Chun-Kee Chung, M.D./Ph.D.)
 2007 Sep Seoul National University Hospital, Korea
 Clinical Cognitive Neuroscience Center (Prof. Jun-Soo Kwon, M.D./Ph.D.)
 2007 Sep Yonsei University, College of Medicine, Seoul, Korea
 Research Institute of Radiological Science
 Molecular Neuroimaging Technology Lab. (Prof. Hae-Jung Park, Ph.D.)
 2002 Jun Sogang University, Seoul, Korea
 Language Lab. (Prof. Sook-Hwan Cho, Ph.D.)
 1999 Apr Korea Advanced Institute of Science & Technology, DaeJon, Korea
 Brain Lab. (Prof. Soo-Yong Kim, Ph.D.)
 1999 Apr Seoul National University, Korea
 Institute for Molecular Biology and Genetics
 Molecular Neurobiology Lab. (Prof. Bong-Kiun Kaang, Ph.D.)
 1998 Jun Northwestern Medical School, Chicago, IL, USA
 Melatonin Receptor Lab. (Prof. Margarita Dubocovich, Ph.D.)
