

Hiroshi Higashi

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Assistant Professor,
Department of Systems Science,
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Contacts

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Education

A.Eng., Department of Electrical Engineering, Miyakonojo College, National Institute of Technology, April 2002–March 2007.

B.Eng., Department of Electrical and Electronic Engineering, Tokyo University of Agriculture and Technology, April 2007–March 2009.

M.Eng., Department of Electrical and Electronic Engineering, Graduate School of Engineering, Tokyo University of Agriculture and Technology, April 2009–March 2011.

D.Eng., Department of Electronic and Information Engineering, Graduate School of Engineering, Tokyo University of Agriculture and Technology, April 2011–December 2013.

Employment

RIKEN Junior Research Associate in the Laboratory for Advanced Brain Signal Processing, Brain Science Institute, RIKEN, April 2011–March 2012

Research Fellow of Japan Society for the Promotion of Science (DC2 and PD), April 2012–March 2014

Assistant Professor, Department of Computer Science and Engineering, Toyohashi University of Technology, April 2014–July 2018

Assistant Professor, Graduate School of Informatics, Kyoto University, August 2018–present

Misc.

Visiting student in Machine Learning Group, Berlin Institute of Technology, December 2012–February 2013

Visiting Researcher, Laboratory for Advanced Brain Signal Processing, Brain Science Institute, RIKEN, May 2014–March 2018

Research interests

Computational Cognitive Neuroscience

Biosignal processing

Brain computer interfaces

Publications

Google scholar http://scholar.google.co.jp/citations?user=k_TQov0AAAAJ

Journal Papers

1. T. Tamura, H. Higashi, and S. Nakauchi, "Dynamic visual cues for differentiating mirror and glass," *Scientific Reports*, vol 8, no. 8403, 2018.
DOI: 10.1038/s41598-018-26720-x
2. H. Higashi, T. Minami, and S. Nakauchi, "Variation in event-related potentials by state transitions," *Frontiers in Human Neuroscience*, vol 11, p. 75 (11 pages), 2017.
DOI: 10.3389/fnhum.2017.00075
3. H. Higashi, T. M. Rutkowski, T. Tanaka, and Y. Tanaka, "Multilinear discriminant analysis with subspace constraints for single-trial classification of event-related potentials," *IEEE Journal of Selected Topics in Signal Processing*, vol 10, np. 7, pp. 1295–1305, 2016.
DOI: 10.1109/JSTSP.2016.2599297
4. H. Higashi, G. ElMasry, and S. Nakauchi, "Sparse regression for selecting fluorescence wavelengths for accurate prediction of food properties," *Chemometrics and Intelligent Laboratory Systems*, vol 154, pp. 29–37, 2016.
DOI: 10.1016/j.chemolab.2016.03.008
5. T. Tomida, T. Tanaka, S. Ono, M. Yamagishi, and H. Higashi, "Active data selection for motor imagery EEG classification," *IEEE Transactions on Biomedical Engineering*, vol 62, no. 2, pp. 458–467, 2015.
DOI: 10.1109/TBME.2014.2358536
6. H. Higashi and T. Tanaka, "Common spatio-time-frequency patterns for motor-imagery based brain machine interfaces," *Computational Intelligence and Neuroscience*, vol. 2013, Article ID 537218, 12 pages, 2013.
DOI: 10.1155/2013/537218
7. Y. Kimura, T. Tanaka, H. Higashi, and N. Morikawa, "SSVEP-Based brain-Computer interfaces using FSK-modulated visual stimuli," *IEEE Transactions on Biomedical Engineering*, vol 60, no. 10, pp. 2381–2838, 2013.
DOI: 10.1109/TBME.2013.2265260

8. H. Higashi and T. Tanaka, "Simultaneous design of FIR filter banks and spatial patterns for EEG signal classification," *IEEE Transactions on Biomedical Engineering*, vol 60, no. 4, pp. 1100-1110, 2013. DOI: 10.1109/TBME.2012.2215960

International and Internal Conferences

See <http://www.cs.tut.ac.jp/~higashi/>

Awards

Student Encouraging Prize, *The 26th IEICE SIP Symposium*, 2011.

Best Paper Award, *The 2014 Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC 2014)*, 2014.

Best Paper Award, *The 2015 Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC 2015)*, 2015.

Grants

Principal Investigator

1. April 2018–March 2019: Research Grant, *The illuminating Engineering Institute of Japan*
2. April 2017–March 2018: Research Grant for Young Researchers, *Tokai Foundation for Technology*
3. April 2015–March 2018: Grand-in-Aid for Encouragement of Young Scientists (B), *Japan Society for the Promotion of Science*
4. April 2015–March 2017: Research Grant A, *Tateishi Science and Technology Foundation*
5. April 2012–March 2014: Grand-in-Aid for JSPS Fellows, *Japan Society for the Promotion of Science*

Co-Investigator

1. July 2017–March 2021: KAKENHI Challenging Research (Pioneering), PI: Shigeki Nakauchi, *Japan Society for the Promotion of Science*
2. April 2015–March 2018: KAKENHI Grand-in-Aid for Scientific Research (A), PI: Shigeki Nakauchi, *Japan Society for the Promotion of Science*
3. April 2015–March 2018: KAKENHI Grand-in-Aid for Scientific Research (B), PI: Toshihisa Tanaka, *Japan Society for the Promotion of Science*