

Hiroshi Higashi

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Assistant Professor,
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Toyohashi University of Technology



Contacts

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Education

A.E., Miyakonojo National College of Technology, March 2007.
B.E., Tokyo University of Agriculture and Technology, March 2009.
M.E., Tokyo University of Agriculture and Technology, March 2011.
Ph.D (Eng)., Tokyo University of Agriculture and Technology, 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), April 2012–December 2013
Research Fellow of Japan Society for the Promotion of Science (PD), January 2014–March 2014
Assistant Professor, Department of Computer Science and Engineering, Toyohashi University of Technology, April 2014–present
Visiting Researcher, Laboratory for Advanced Brain Signal Processing, Brain Science Institute, RIKEN, May 2014–present

Misc.

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

Research interests

Biomedical signal processing and machine learning
Brain computer interfaces

Publications

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

Journal Papers

1. 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
2. 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
3. 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
4. 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
5. 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
6. 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
7. 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 2017–March 2018: Research Grant for Young Researchers, *Tokai Foundation for Technology*
2. April 2015–March 2018: Grand-in-Aid for Encouragement of Young Scientists (B), *Japan Society for the Promotion of Science*
3. April 2015–March 2017: Research Grant A, *Tateishi Science and Technology Foundation*
4. April 2012–March 2014: Grand-in-Aid for JSPS Fellows, *Japan Society for the Promotion of Science*

Co-Investigator

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