

Shohei Hidaka

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Shohei Hidaka, Ph. D. is an Associate Professor in the School of Knowledge Science, the Japan Advanced Institute of Science and Technology, Japan, and the principal investigator in the cognitive computation lab. His work is centered on theorization and computational modeling of human semantic cognition. Specifically, he has done theoretical and empirical research on language learning, social interaction, and embodied cognition. His approach is based on machine learning, data mining, statistical modeling, information theory, nonlinear time series analysis, and so on. Even with these powerful computational tools, however, even a tiny bit of "human computation" is still mysterious.

Education

Ph.D. Informatics, Kyoto University, 2007

Thesis: "A Geometric Model of Categorization Space for Lexical Acquisition".

M.A. Informatics, Kyoto University, 2004

Thesis: "The Linguistic Category Influence on the Children's Bias of Word Acquisition".

B.A. Biology, Kyushu University, 2002

Thesis: "Mathematical Analysis of Geological Heterogeneity Effects on the Distribution of Species".

Research Experience

Associate professor 2017 April – present
Japan Advanced Institute of Science and Ishikawa, Japan
Technology
Mathematical modeling and psychological experiment of language development and bodily dynamical systems.

Assistant professor 2010 April – 2017 March
Japan Advanced Institute of Science and Ishikawa, Japan
Technology
Mathematical modeling and psychological experiment of language development and bodily dynamical systems.

Visiting scholar 2012
Indiana University Bloomington, IN
Mathematical modeling and psychological experiment of language development.

Post-Doctoral Research Fellow 2008 April – 2010 March
National Institutes of Health Indiana University
Mathematical modeling and psychological experiment of language development.

Research Fellow 2006 April – 2008 March
Japanese Society for the Promotion of Science Kyoto University
Mathematical modeling of language development and object recognition.

Teaching Experience

1. Lecturing a graduate level introductory class "Introduction to Cognitive Science" (認知科学入門/認知科学概論) in JAIST in the spring/summer semester in 2011 – 2018.

2. Hosting a JAIST Summer School 2018 (日高昇平・鳥居拓馬・布山美慕 (2018) JAIST サマースクール 2018 「計算論的認知科学入門？心の哲学、実験から機械学習まで」)
3. Hosting two graduate students from Indiana University visiting to Japan Advanced Institute of Sciences for their JSPS summer projects in 2011 and 2012. Hosting a research scholar from Indiana University from August to November in 2013.
4. Lectures for Cognitive Science Spring Seminars 2012 and 2014 in Malta University.
5. Tutorial on statistical modeling in cognitive sciences (JCSS SIG-LAL): 日高昇平 & 西田豊 (2012). 統計的モデルの考え方：確率分布から多変量解析まで, 日本認知科学会・対話と学習研究会・第46回研究会.
6. Supervising six graduate students for their minor thesis in 2010, 2011, 2012, and 2013.
7. Lecture series in JAIST Summer School 2011 (日高昇平・白肌邦生 (2011) JAIST サマースクール 2011 「知識科学のフロンティア：生体計測がつなぐ認知神経科学とサービス経営」)
8. Supervising three graduate students (on the research projects on brain imaging), Spring, Summer, and Fall 2010 in Indiana University.
9. Research assistant (Introductory class of knowledge science: 知識科学概論 I), Spring 2010, 2011, 2012, 2013, 2014, and 2015.
10. Supervising four research assistants (on the research projects of cognitive development), Indiana University, Spring, Summer, Fall 2009, and Spring 2010.
11. Teaching Assistant, Advanced Informatics (Basic Neural Network Modeling), Kyoto University, Spring 2004.

Social contributions

1. Volunteer activity for non-typical developing children since May 2010-2011 (Komatsu Municipal Hospital).
2. Program committee of International Conference Development and Learning (2010).
3. Program committee of the Thirty Seventh Annual Meeting of the Cognitive Science Society (CogSci2015).
4. 日本認知科学会第29回大会プログラム委員 (2012).
5. 日本認知科学会第34回大会プログラム委員長 (2016-2017).
6. 日本認知科学会第34回大会プログラム委員 (2017-2018).
7. 日本認知科学会運営委員 (2013-2017).
8. 日本認知科学会常任運営委員 (2017-2018).
9. 論文誌「認知科学」編集委員 (2015-2018).
10. 論文誌「認知科学」編集幹事 (2019-2023).
11. 日本認知科学会研究分科会間合い研究会幹事 (2014-2017)
12. 日独先端科学 (Japan-Germany Frontier of Science) シンポジウムの第13回イントロダクトリースピーカー, 第14回企画委員 (PGM)
13. 日本認知科学会研究分科会間合い研究会幹事 (2014-2017)
14. 電気情報通信学会会誌編集委員 (2014-2016).
15. 知識供創フォーラム Committee member (2014-2018).
16. 野々市市立菅原小学校 PTA 本部役員 (2015-2017).
17. 野々市市立菅原小学校 PTA 副会長 (2018-2019).
18. 野々市市立菅原小学校 PTA 会長 (2019-2020).

Membership

Membership in Japanese Cognitive Science Society (since April 2004).

Membership in Cognitive Science Society (since August 2006).

Membership in Japanese Society for Artificial Intelligence (since April 2013).

Membership in The Institute of Electronics, Information and Communication Engineers (since April 2014).

Membership in Association for Computing Machinery (2011).

Review Experience

1. IEEE Transactions on Autonomous Mental Development
2. Annual Meeting of the Cognitive Science Society
3. IEEE ICDL-EPIROB
4. International Workshop on Skill Science
5. Scientific Reports
6. Cognitive System Research
7. 認知科学
8. 認知心理学研究
9. 人工知能学会論文誌
10. 電子情報通信学会誌
11. 情報処理学会
12. 社会言語科学

Peer Reviewed Journal Articles

1. Fujinami, T. & Hidaka, H. (accepted). A representation of rhythmic motions, *New Generation Computing*.
2. Hidaka S & Oizumi M (2018). Fast and exact search for the partition with minimal information loss. *PLoS ONE* 13(9): e0201126.
3. 布山 美慕 & 日高 昇平 (2018). 読者の熱中に伴う仮想の変化：仮想の特徴づけとして. *認知科学*, 25(2), 188–199.
4. 鳥居拓馬 & 日 昇平 (2018). 利き手と逆の手の比較に基づく熟達技能への実験的アプローチ. *認知科学*. 25(1), 122-125.
5. 古川 康一, 諏訪 正樹, & 日高 昇平. (2017) 身体知研究を支える理論・方法論. *人工知能学会論文誌*., 32 (2), 222-228. (特集「身体知の発展」).
6. 日高 昇平 (2017). 最適化を超えた認知科学の新たなパラダイムに向けて：Marr の情報処理の三水準の再考. *認知科学*., 24(1).
7. Buated, W., Lolekha, P., Hidaka, S., & Fujinami, T. (2016). Impact of Cognitive Loading on Postural Control in Parkinson's Disease with Freezing of Gait., *Gerontology and Geriatric Medicine*, 2, 1-8.
8. 日高昇平. (2016). 情報の伝達から理解へ. *人工知能学会論文誌*., 31 (6).
9. 布山美慕 & 日高昇平. (2016). 読書時の身体情報による熱中度変化の記述., *認知科学*, 23(2), 135–152.
10. Hidaka, S. (2016). Estimating the latent number of types in growing corpora with reduced cost-accuracy trade-off., *Journal of Child Language*. 43, pp 107-134. (Published online: 24 February 2015)
11. 鳥居拓馬 & 日高昇平 (2015). 利己的な学習による相互協調：不確実な囚人のジレンマの分析. *認知科学*, 22(3), 341-355. (Torii, T. & Hidaka, S. (2015). Mutual Cooperation Out of Greedy Learners: Prisoner's Dilemma Under Uncertainty., *Cognitive Studies*, 22(3) 341-355.)
12. Hidaka, S., Torii, T. & Masumi, A. (2015). Which types of learning make a simple game complex?, *Complex Systems*, 24(1), 49–74.
13. Imai, M., Miyazaki, M, Yeung, H., Hidaka, S., Kantartzis, K., Okada, H., & Kita, S. (2015). Sound symbolism facilitates word learning in 14-month-olds., *PLoS ONE*, 10(2): e0116494.
14. Hidaka, S. (2014). General Type-Token Distribution., *Biometrika*, 101(4), 999–1002.
15. 日高 昇平 (2013). 人の多感覚コミュニケーションにおける情報ネットワークの可視化. *電気情報通信学会誌*, Vol. 96, No. 12, pp. 945-950.
16. Hidaka, S. (2013). A Computational Model Associating Learning Process, Word Attributes, and Age of Acquisition., *PLoS ONE*, 8(11): e76242.
17. Yurovsky, D., Hidaka, S., and Wu, R. (2012) Quantitative Linking Hypotheses for Infant Eye Movements., *PLoS ONE*, 7(10): e47419.
18. Hidaka, S. & Smith, L. B. (2011). Packing: A Geometric Analysis of Feature Selection and Fast-Mapping in Children's Category Formation., *Cognitive System Research*, 12 (1), 1-18.
19. Hidaka, S. & Smith, L. B. (2010). Acquisition of a Single Word to a Population of Words., *Language Learning and Development*., 6 (3), 206-222.
20. Maouene, J. , Hidaka, S. & Smith, L. B. (2008). Body parts and early-learned verbs., *Cognitive Science*, 32, 1200-1216.

21. 日高昇平, 吉田華子, & 齋木潤. (2006) 発達研究固有の実験的制約を考慮した定量的分析方法～バイリンガルの新奇語汎化課題に対する応用～, *認知科学*, 13, 484-487.
22. 日高昇平 & 齋木潤. (2005). 幼児の新奇語カテゴリ化のモデル研究., *認知科学*, 12, 235-251. (In English: Hidaka, S. & Saiki, S. (2005). A model study of infants' novel word categorization., *Cognitive Studies*, 12, 235-251.)

Manuscripts under review/ in prepration

1. Hidaka, S. & Kashyap, N. (in preparation). Pointwise dimension estimation.
2. Hiaka, S. (in preparation). Recursive Markov Process.
3. 日高昇平. (in preparation). 情報概念の再構築 —知識・理解・意味の創発を捉える新しい情報理解の理論に向けて.
4. Hidaka, S. & Kashyap, N. (in preparation). Dimensional clustering: a new perspective for machine learning.
5. Hidaka, S. & Kashyap, N. (in preparation). Framing a class of frame problems.
6. Hidaka, S. & Fujinami, T. (in preparation) Characterizing Bodily Skills Through Dynamical Invariants.
7. Buated, W., Lolekha, P., Hidaka, S., Fujinami, T.. (under review). A Study of the Impact of Cognitive Loading on Postural Control in Parkinson's Disease with Freezing of Gait, *Gerontology and Geriatric Medicine*.
8. Maouene, J., Hidaka, S., Uziel-Karl, S., Kuwabara, M., Maouene, M., & Sethuraman, N. (in preparation). Body parts and Early Japanese and Hebrew Verbs A cross-linguistic comparison in associations with English.
9. Hidaka, S. & Oizumi, M. (in preparation). Unbiased and asymptotically optimal estimator for the partition with the minimal information loss.
10. Hidaka, S. & Saigo, H. (in preparation). Metaphor as Functor.
11. Hidaka, S., Torii, T., & kachergis, G. (in preparation). Child's word learning is not individually nor independently.
12. Hidaka, S. (in preparation). Hypergraphical information theory.
13. Hidaka, S. & Hira, R. (in preparation). Finding neuronal clusters by information partitioning.
14. Hidaka, S. (in preparation). Why should the fourth batter be a slugger?
15. Hidaka, S. (in preparation). Nash equilibriums of the iterated prisoner's dilemma with the Markov strategies.
16. Hidaka, S. (in preparation). Learning game players communicate.
17. Hidaka, S. (in preparation). Optimal strategies mirror game topologies.
18. Hidaka, S. (in preparation). Imitation as Dimensional Isomorphism.
19. Hidaka, S. (in preparation). Search for movements.

Book Chapters

1. Smith, L. B. Maouene, J. & Hidaka, S. (2007). *The Body and Children's Word Learning*, In Plumert, J. M., Spencer, J. P. (ed.) *The Emerging Spatial Mind*. Oxford University Press, Oxford, pp. 168–192.

Preprints

1. Hidaka, S. & Kashyap, N. (2018). Clustering by latent dimensions. eprint arXiv:1805.10759.
2. Hidaka, S. (2018). Polynomial algorithm for k -partition minimization of submodular system with strong symmetry. eprint arXiv:1802.01914.
3. Hidaka, S. & Oizumi, M. (2017). Fast and exact search for the partition with minimal information loss. eprint arXiv:1708.01444.
4. Hidaka, S. (2015). Recursive Markov Process., eprint arXiv:1509.00535.
5. Hidaka, S. & Kashyap, N. (2013). On the Estimation of Pointwise Dimension., eprint arXiv:1312.2298.
6. Hidaka, S. (2013). General Type Token Distribution., eprint arXiv:1305.0328.
7. Hidaka, S. (2012). Characterizing Multivariate Information Flows., eprint arXiv:1212.5449.

Peer Reviewed Conference Papers

1. Torii, T. & Hidaka, S. (2018). How can we help others?: a computational account for action completion. In Proceedings of The 40th Annual Meeting of the Cognitive Science Society (CogSci2018), 2572-2577.
2. Imai, M., Hidaka, S., Saji, N., & Ohba, M. (2018). Symbol grounding and system construction in the color lexicon. In Proceedings of The 40th Annual Meeting of the Cognitive Science Society (CogSci2018), 1853-1858.
3. Hidaka, S., Torii, T., & Kachergis, G. (2017). Quantifying the impact of active choice in word learning. In Proceedings of The 39th Annual Meeting of the Cognitive Science Society (CogSci2017), 519-524.
4. Hidaka, S., Torii, T., & Kachergis, G. (2017). Leveraging mutual exclusivity for faster cross-situational word learning: A theoretical analysis. In Proceedings of The 39th Annual Meeting of the Cognitive Science Society (CogSci2017), 2205-2210.
5. Torii, T. & Hidaka, S. (2016). Toward a mechanistic account for imitation learning: an analysis of pendulum swing-up. In Proceedings of the Third International Workshop on Skill Science.
6. Fuyama, M., & Hidaka, S. (2016). Context-dependent Processes and Engagement in Reading Literature. In Proceedings of The Thirty Fourth Annual Meeting of Cognitive Science Society (CogSci2016).
7. Fuyama, M. & Hidaka, S. (2015). Identifying Context-Dependent Modes of Reading. In Proceedings of the Second International Workshop on Skill Science (SKL-2015).
8. Fujinami, T., Hidaka, S., & Kashyap, N. (2015). Evaluating Presence Based on Balance. The International Symposium on Performance Science, Kyoto, Japan, 02 - 05 September 2015.
9. Buated, W., Fujinami, T., Hidaka, S., Kashyap, N. (2015). Auditory cues on postural control in Parkinson's disease: A pilot study., The International Parkinson and Movement Disorder 2015, San Diego, California, USA June 14-18, 2015.
10. Buated, W., Fujinami, T., Hidaka, S., Kashyap, N. (2014). Balance Assessment for Parkinson. The 10th International Congress on Non-Motor Dysfunctions in Parkinson's Disease and Related Disorders, Nice, France, December 4-7, 2014.
11. Hidaka, S. & Kashyap, N. (2014). The Generalist Approach to Framing Problems, In Proceedings of *The Third Asian Conference on Information Systems*, 318-325. ((ACIS2014) held in Nha Trang, Viet Nam, December 1st-3rd)
12. Hidaka, S., Torii, T. & Masumi, A. (2014). Tractable Infinite Order Markov Analysis for Iterated Games with Learners, *Joint 7th International Conference on Soft Computing and Intelligent Systems and 15th International Symposium on Advanced Intelligent Systems*, pp. 286-291. (2015年度日本知能情報フェジィ学会奨励賞)

13. Fuyama, M., Hidaka, S., & Suwa, M. (2014). The Continuous Measurement of Absorption in Reading Based on the Time Series of Subjective Evaluation and Heart Rates. *The Jagiellonian-Rutgers Conference in Cognitive Science 2014* (CogSciJR14).
14. Miyazaki, M., Hidaka, S., Imai, M., Yeung, H. H., Kantartzis, K., Okada, H., & Kita, S. (2013). The facilitatory role of sound symbolism in infant word learning. In *Proceedings of The Thirty Fifth Annual Meeting of Cognitive Science Society*, 3080-3085.
15. Hidaka, S. & Fujinami, T. (2013). Topological Similarity of Motor Coordination in Rhythmic Movements. In *Proceedings of The Thirty Fifth Annual Meeting of Cognitive Science Society*, 2548-2553.
16. Hidaka, S. (2012) Identifying Kinematic Cues for Action Style Recognition. In *Proceedings of The Thirty Fourth Annual Meeting of Cognitive Science Society*, 1679-1684.
17. Yurovsky, D., Hidaka, S., & Wu, R. (2012) Quantitative Linking Hypotheses for Infant Eye Movements, In *Proceedings of The Thirty Fourth Annual Meeting of Cognitive Science Society*, 1203-1208.
18. Nossal, N., Tsuchiyama, N., Hidaka, S., Iida, H. (2012). fNIRS Survey of Brain Function at the Moment of Winning, Game Programming Workshop 2012.
19. Suzuki, Y. & Hidaka, S. (2011). Estimating similarity judgment processes based on neural activities measured by near-infrared spectroscopy (NIRS). (Also published in the book “Advances in Cognitive Neurodynamics (III)”)
20. Hidaka S and Yu C (2011). Informational Coupling in Social Interaction as a Goodness of Communication. Front. Comput. Neurosci. Conference Abstract: IEEE ICDL-EPIROB 2011.
21. Hannagan T, Wu R, Hidaka S and Yu C (2011). A Computational Model for Cued Infant Learning. Front. Comput. Neurosci. Conference Abstract: IEEE ICDL-EPIROB 2011.
22. Takahashi, K., Hidaka, S & Watanabe, K. (2010). Decoding Subjective Simultaneity from Neuro-magnetic Signals, 17th International Conference on Biomagnetism.
23. Yurovsky, D., Hidaka, S., Yu, C., & Smith, L. B. (2010). A Generative Model of Eye, Movements in Cross-Situational Learning. *XVIIth Biennial International Conference on Infant Studies*, Baltimore, Maryland, March 10-14.
24. Yurovsky, D., Hidaka, S., Yu, C., & Smith, L. B. (2010) Liking Learning to Looking: Habituation and Association in Infant Statistical Language Learning, In *Proceedings of The Thirty Second Annual Meeting of Cognitive Science Society*, 1589-1594.
25. Hidaka, S., & Yu, C. (2010) Analyzing Multimodal Time Series as Dynamical Systems, 12th International Conference on Multimodal Interfaces and 7th Workshop on Machine Learning for Multimodal Interaction.
26. Hidaka, S., & Yu, C. (2010). Spatio-Temporal Symbolization of Multidimensional Time Series, International Workshop on Spatial and Spatiotemporal Data Mining.
27. Yu, C., Smith, T.G., Hidaka, S., Scheutz, M., & Smith, L.B. (2010). A Data-Driven Paradigm to Understand Multimodal Communication in Human-Human and Human-Robot Interaction . In P.R. Cohen, N.M. Adams, M.R. Berthold (Eds.) *Advances in Intelligent Data Analysis IX*, LNCS 6065 (pp. 232-244). Berlin/Heidelberg: Springer Verlag.
28. Hidaka, S., Maouene, J. & Smith, L. B. (2009). Different Word Classes are Learned in Different Ways: Evidence from Vocabulary Growth. In *Proceedings of International Cognitive Linguistics Conference 11*.
29. Hidaka, S. (2009). Different Classes of Words are Learned in Different Ways. In *Proceedings of The Thirty First Annual Meeting of Cognitive Science Society*, oral presentation.
30. Maouene, J., Hidaka, S., & Smith, L. B. (2008). Body-Part Categories of Early-Learned Verbs: Different Granularities at Different Points in Development In *Proceedings of The Seventh International Conference on Development and Learning*.
31. Hidaka, S. & Smith, L. B. (2008). How Features Create Knowledge of Kinds. In *Proceedings of The Thirtyth Annual Meeting of Cognitive Science Society*, pp. 1029–1035.

32. Hidaka, S. & Saiki, J. (2006). A solution to current limitations in the analysis of developmental data. In *The Fifteenth Biennial International Conference on Infant Studies*.
33. Hidaka, S., Saiki, J., & Smith, L. B. (2006). Semantic packing as a core mechanism of category coherence, fast mapping and basic level categories. In *Proceedings of The Twenty Eighth Annual Conference of Cognitive Society*, pp. 1500–1505.
34. Maouene, J. , Hidaka, S. & Smith, L. B. , (2006). Body parts and the first 100 verbs., In *Proceedings of The Twenty Eighth Annual Conference of Cognitive Society*, pp. 555–560.
35. Hidaka, S., Saiki, J., & Smith, L. B. (2006). Semantic packing: an account for category coherence. In *Proceedings of The Seventh International Conference on Cognitive Modelling*, pp. 130–135.
36. Hidaka, S. & Saiki, J. (2006). Feature discovery in object individuation. In *Proceedings of The Fifth International Conference on Development and Learning*.
37. Maouene, J. , Hidaka, S. & Smith, L. B. , (2006). Children and adults rely on body parts for early-acquired verbs., In *Proceedings of The Fifth International Conference on Development and Learning*.
38. Hidaka, S. & Saiki, J. (2005). Prototype-specific learning for children’s vocabulary. In *Proceedings of The Fourth IEEE International Conference on Development and Learning*, pp. 201.
39. Hidaka, S. & Saiki, J. (2004). A connectionist account of ontological boundary shifting. In N.R. et al. Pal, editor, *ICONIP 2004, Lecture Note in Computer Science 3316*, pp. 22–25, Berlin, Springer-Verlag.
40. Hidaka, S. and Saiki, J. (2004). A mechanism of ontological boundary shifting. In *The Twenty Sixth Annual Meeting of the Cognitive Science Society*, pp. 565–570.

Invited Talks

1. 日高 昇平 (2018). 情報・学習・理解：機械学習から機械理解の定式化に向けて. *Mi²・JAIST 合同シンポジウム「データ科学における予測と理解の両立を目指して – 分かるとは何か? –*」平成 30 年 5 月 21 日, JST 東京本部別館 1 階ホール.
2. Hidaka, S. (2016) Machine consciousness: a dream to build a strong AI., Japanese-German Frontiers of Science Symposium (JGFoS), Potsdam, Germany, October 6-9, 2016.
3. 日高 昇平 (2015). 身体動作から行為を切り出す方法論. 第 163 回ヒューマンコンピュータインタラク ション研究発表会, 2015 年 5 月 14 日, 七尾市和倉温泉はまづる.
4. 日高 昇平 (2015). 身体動作の意味論に向けて：からだのこぼれを読み取る. 第 46 回ヴァーバル・ノンヴァーバル・コミュニケーション研究会, 2015 年 2 月 28 日, 国立情報学研究所.
5. 日高 昇平 (2014). 最適化ではない計算論：統計的モデリングと非線形力学的解析法の融合., Young Perceptionists’ Seminar・若手会ジョイントセミナー, 2014 年 9 月 5 日, 休暇村志賀島 (福岡県福岡市 東区) .
6. 日高昇平 (2013). 模倣の基礎理論の構築およびシミュレーションによる実証., 第 14 回人工知能研究 成果発表会. 2013 年 9 月 18 日, 今池ガスビル.
7. Hidaka, S. (2013). Statistical Modeling of Eye Movements in Cognitive Developmental Studies . In Symposium ”Probabilistic Principles of Brain Computation”, Neuro2013. (日高 昇平 (2013). 認知 発達研究における注視行動の統計的モデリング., 神経回路学会シンポジウム「脳と確率」(2013 年 6 月 20 日～23 日, 京都国際会館)
8. Hidaka, S. (2012). Word Learning In Social Interaction. In Cognitive Science Spring Seminars (University of Malta, March, 26th, 2012).
9. Hidaka, S. (2012). Decoding emotional contexts in bodily actions., Lecture for Master in the Science of Performative Creativity (University of Malta, March, 29th, 2012).

10. Shohei Hidaka (2012). Characterizing Attention and Learning from Infant Eye Movements., In the workshop "Gaze Bias Learning II", Linking neuroscience, computational modeling, and cognitive development., Tamagawa University.
11. 日高 昇平 & 西田 豊 (2012). 統計的モデルの考え方：確率分布から多変量解析まで, 日本認知科学会・対話と学習研究会・第46回研究会.
12. Hidaka, S. (2012). Toward a computational model of creativity: Novel hypothesis generation from structural knowledge. Seventh International Conference on Knowledge, Information and Creativity Support Systems.
13. 日高昇平 (2011). 身体動作に内在する状況性への情報理論的アプローチ, 第32回社会的知能発生学研究会, 2011年12月22-23日, リッチモンドホテルプレミア仙台.

Reports/ Reviews/ Invited

1. 日高 昇平, Wannipat Buated, & 藤波 努 (2016). 重心運動を指標としたパーキンソン病の潜在リスクの推定., 第22回身体知研究会予稿集 (SIG-SKL), 26-29.
2. 日高 昇平 (2015). 身体動作の意味論に向けて., 第2回間合い研究会 (間合い, SIG Maai, Vol. 2015, No. 1, 26-31).
3. 布山 美慕, 日高 昇平, 諏訪 正樹. (2015). ページ送りの時間間隔に基づく読書の認知処理の分析. 知識共創第5号.
4. 日高 昇平 (2013). データから知識へ：多変量情報流による潜在的機構の推定., 知識共創フォーラム (知識共創第3号, III7-1-III7-10).
5. 日高 昇平 (2013). 力学的不変量仮説：運動制御の最適化理論の上位原理として., 第15回身体知研究会予稿集, 9-15. (Dynamical Invariance Hypothesis: As a Superordinate Principle Upon Motor Control Optimality Theory., SIG-SKL-15, 9-15.)
6. 日高 昇平 & 西田 豊 (2012). 統計的モデルの考え方：確率分布から多変量解析まで, 学習と対話 Vol. 2012, No.1, 21-26 (日本認知科学会・対話と学習研究会・第46回研究会).
7. Tanaka, A., Takezawa, M., Nakamura, K., Hayashi, Y., Hidaka, S. & Honda, H. (2009). Reports of the 31st Annual Conference of the Cognitive Science Society and Cognitive Science in the Netherlands, Cognitive Studies Vol. 16, No. 4, pp.532-540.

Miscellaneous

1. 幼児の語彙力統計学で測定, 北國新聞 (2014年9月11日, 32面掲載)

Research Grants

1. JSPS KAKENHI Grant-in-Aid for Young Scientists (A) 16H05860, as PI (平成28年度科学研究費補助金若手研究A, 2016-2018年度, 総額18,360,000円, 代表, 研究課題「力学系の不変量による身体運動の分節化・認識・生成理論の構築」).
2. JSPS KAKENHI Grant-in-Aid for Scientific Research on Innovative Areas 16H01609, as PI (平成28年度科学研究費補助金新学術領域研究(研究領域提案型), 2016-2018年度, 総額5,060,000円, 代表, 研究課題「神経ネットワークの高次情報解析に基づく非線形動力学モデルの構築」).
3. JSPS KAKENHI Grant-in-Aid for Scientific Research B (Generative Research Fields) 15KT0013, as PI (平成27年度科学研究費補助金基盤研究B(特設分野研究), 2015-2017年度, 総額15,900,000円, 代表, 研究課題「非線形時系列解析による神経結合推定法の開発」).
4. JSPS KAKENHI Grant-in-Aid for Challenging Exploratory Research 25560297, as PI (科学研究費補助金挑戦的萌芽研究, 2013-2014年度, 総額3,900,000JPY, 代表, 研究課題「運動の位相的類似による模倣の基礎理論の構築」).

5. JSPS KAKENHI Grant-in-Aid for Scientific Research B (General) 23300099, as PI (科学研究費補助金基盤研究 B, 2011-2014 年度, 総額 8,060,000 円, 代表, 研究課題「行動情報解析による意味知識ネットワークの発達過程の解明」).
6. 2012 年度研究者支援創造性研究奨励賞 (NeuroCreative Lab, 2013 年度, 総額 1,000,000 円, 代表).
7. JAIST Grant for Advanced Research Base (平成 23 年度 先端研究拠点形成支援, 2011-2012 年, 500,000 円, 分担).
8. JSPS KAKENHI Grant-in-Aid for Scientific Research Activity Start-up 22800028, as PI (科学研究費補助金 研究活動スタート支援, 2011-2012 年度, 総額 2,782,000 円, 代表, 研究課題「注視行動の非線形予測モデルによる認知発達過程の理解」).
9. Artificial Intelligence Research Promotion Foundation 22AI 161-9, as PI (平成 23 年度人工知能研究助成金, 22AI 第 161 号-9, 財団法人人工知能研究振興財団, 2011-2012 年度, 総額 500,000 円, 代表).
10. KEKENHI Grant-in-Aid for JSPS Fellows 06J02935, as PI (科学研究費補助金特別研究員奨励費, 2006-2007 年度, 総額 1,900,000 円, 代表, 研究課題「視覚特徴の階層性がもたらす物体のカテゴリ化バイアス」).

Honors and Awards

1. 第五回野島久雄賞 (日本認知科学会, 2017 年 9 月 13 日)
2. 論文誌「認知科学」奨励論文賞 (日本認知科学会, 2017 年 9 月 14 日; 布山美慕氏との共著論文に対して). 受賞論文: 布山 美慕 & 日高 昇平 (2016). 読書時の身体情報による熱中度変化の記述. 認知科学, 23(2), 135-152.
3. 日本認知科学第 34 回大会発表賞 (日本認知科学会, 2017 年 12 月 16 日; 鳥居拓馬氏との共同研究の発表に対して). 受賞発表: 鳥居 拓馬 & 日 昇平 (2017). 利き手と逆の手の比較に基づく熟達技能への実験的アプローチ. 日本認知科学会第 34 回大会論文集. (O1-3).
4. 第 5 回知識共創フォーラム共創賞受賞 (筆頭著者: 布山 美慕).(2016 年 1 月)
5. 2015 年度日本知能情報ファジィ学会奨励賞. (2015 年 9 月)
6. 第 5 回知識共創フォーラム萌芽研究賞受賞 (筆頭著者: 布山 美慕).(2015 年 3 月)
7. 2014 年度 (第 28 回) 人工知能学会全国大会優秀賞 (JSAI Annual Conference Award) (筆頭著者: 布山 美慕).
8. 2012 年度研究者支援創造性研究奨励賞 (NeuroCreative Lab, 2012).
9. British Psychological Society International Collaboration Award (For our collaborative work with Ratchel Wu and Daniel Yurovsky, British Psychological Society, 2010).
10. Travel Grant for International Conference, Kyoto University Foundation, 2006.
11. Travel Grant for Short term International Research, Kyoto University, 2006.
12. Travel Grant for Short term International Research, Kyoto University, 2005.
13. Travel Grant from the Japan Cognitive Science Society, 2009 (Reported in Cognitive Studies Vol. 16 (2009) , No. 4 pp.532-540).
14. Research grand for young scientists, Kyoto University, 2005.
15. Outstanding Paper Award, 22th Annual Conference of the Japanese Cognitive Science Society, 2005 (第 22 回認知科学会発表賞, 日本認知科学会, 2005 年 7 月).

Computer Skills

Expert: Matlab

Intermediate: R, Perl, L^AT_EX, HTML, ActionScript, C, Python, Scala

Basic: C++ , Ruby, SQL, Mathematica, Linux, SPSS

Computational Modeling Skill

Datamining/Machine Learning techniques for a large scale cognitive and psychological database.
Applied Statistics, Complex Network, Neural Networks, Corpus Linguistics, Bayesian Modelling,
Nonlinear Time Series Analysis, and Game Theory.

Languages

Japanese (mother tongue)

English (fluent)

Other Skills

The game of Go (Baduk in Korean, Weiqi in Chinese): Amateur expert level (6 dan in Japanese ranking, won 4th rank in the Ishikawa preliminary of the World Amateur Championship 2015),

Shogi (Japanese Chess): Amateur intermediate grade (1 dan in Japanese ranking).

Judo 1 dan (black belt).