

Kenshi Miyabe

Affiliation

JSPS Research Fellow at the University of Tokyo
Graduate school of Information Science and Technology
The University of Tokyo

URL

<http://kenshi.miyabe.name/wordpress/>

Email

research@kenshi.miyabe.name

Post

364 Faculty of Engineering Bldg. 6
The University of Tokyo,
7-3-1 Hongo Bunkyo-ku Tokyo, 113-8656
Japan

Tel

Phone: +81-3-5841-6943
Extension: 26943

EDUCATION

Doctor of Science, Kyoto University,

Thesis: “An Extension of van Lambalgen’s Theorem to Infinitely Many Relative 1-Random Reals”

March 2010

Master of Science, Kyoto University,

Thesis: “Classification of Index Sets of Functions”

March 2007

Bachelor of Science, Kyoto University

March 2005

PROFESSIONAL EXPERIENCE

Employment

JSPS Research Fellow at the University of Tokyo

Apr 2013 - Mar 2016 (planned)

Global COE Research Fellow at Kyoto University

Apr 2011 - Mar 2013

Global COE Research Fellow at Kyoto University

Apr 2010 - Mar 2011

Teaching

Mathematics B2 (differentiation and integration), Waseda University

Apr 2013 - Mar 2014

“*Practice in Information Processing (basic)*” (TA), Kyoto University

Apr 2006 - Mar 2007

RESEARCH INTERESTS

- algorithmic randomness
- computable analysis
- game-theoretic probability
- philosophy of probability
- universal induction

PUBLICATIONS

Papers with review

1. “Uniform Kurtz randomness” (with T. Kihara), to appear in *Journal of Logic and Computation*
2. “Schnorr triviality and its equivalent notions”, to appear in *Theory of Computing Systems*
3. “An optimal superfarthingale and its convergence over a computable topological space”, *Lecture Notes in Computer Science*, 7070, 273-284, 2013.
4. “The law of the iterated logarithm in game-theoretic probability with quadratic and stronger hedges” (with A. Takemura), *Stochastic Processes and their Application*, 123, 3132-3152, 2013.
5. “Van Lambalgen’s Theorem for uniformly relative Schnorr and computable randomness” (with J. Rute), *Proceedings of the 12th Asian Logic Conference*, 251-270, 2013.
6. “ L^1 -Computability, Layerwise Computability and Solovay Reducibility”, *Computability*, 2:15-29, 2013.
7. “Characterization of Kurtz Randomness by a Differentiation Theorem”, *Theory of Computing Systems*, 52(1):113-132, 2013.
8. “The difference between optimality and universality”, *Logic Journal of the IGPL*, 20(1):222-234, 2012.
9. “Convergence of random series and the rate of convergence of the strong law of large numbers in game-theoretic probability” (with A. Takemura), *Stochastic Processes and their Applications*, 122:1-30, 2012.
10. “Truth-table Schnorr randomness and truth-table reducible randomness”, *Mathematical Logic Quarterly*, 57(3):323-338, 2011.
11. “An Extension of van Lambalgen’s Theorem to Infinitely Many Relative 1-Random Reals”, *Notre Dame Journal of Formal Logic*, 51(3):337-349, 2010.

Publication without review

1. “Computation with advice of degree of randomness”, *RIMS kokyuroku*, No. 1849, 1-7, 2013.
2. “Analytical approach to algorithmic randomness”, *RIMS kokyuroku*, No. 1832, 114-126, 2013.
3. “Schnorr and Kurtz randomness versions of Merkle’s criterion”, *IEICE Technical Report Vol. 112*, No. 498, COMP 2012-60, 55-59, 2012.
4. “Generalizing randomness”, *RIMS kokyuroku*, No. 1729, 84-94, 2011.

TALKS

Selected talks

1. “Almost uniform weak n -randomness”, Eighth International Conference on Computability, Complexity and Randomness, Sep 2013, Moscow (Russia).
2. “Being a Lebesgue point for integral tests”, Asian Logic Conference 2013, Sep 2013, Guangzhou (China).
3. “The emergence of probability from randomness and games” (with A. Takemura), Modeling Market Dynamics and Equilibrium: New Challenges, New Horizons, Aug 2013, Munich (Germany) (invited).
4. “ L^1 -computability and the computability of conditional probability”, Analysis, Randomness and Applications 2013, June 2013, Nancy (France) (invited).
5. “Things to do in and with algorithmic randomness”, Sendai Logic School 2013, Feb 2013, Sendai (Japan) (invited as a lecturer).
6. “On the notion of randomness”, Summer school of foundations of mathematics, Sep 2012, Tokyo (Japan) (invited as a lecturer).
7. “Schnorr triviality is equivalent to being a basis for tt-Schnorr randomness”, Seventh International Conference on Computability, Complexity and Randomness, July 2012, Cambridge (UK).
8. “Weak L^1 -computability and Limit L^1 -computability”, Ninth International Conference on Computability and Complexity in Analysis, June 2012, Cambridge (UK).
9. “An integral test for Schnorr randomness and its applications”, Computability in Europe 2012, June 2012, Cambridge (UK).
10. “Characterization of Kurtz randomness by a differentiation theorem”, Twelfth Asian Logic Conference, Dec 2011, Wellington (New Zealand) (invited).
11. “Randomness and separation axioms”, Analysis and Randomness in Auckland, Dec 2011, Auckland (New Zealand) (invited).
12. “An optimal superfarthingale and its convergence over a computable topological space”, Solomonoff 85th Memorial Conference, Nov 2011, Crayton (Australia).
13. “Degree of non-randomness and uniform Solovay reducibility”, Workshop on Proof Theory and Computability Theory, Feb 2011, Sendai (Japan) (invited).
14. “Algorithmic randomness over general spaces”, CCA-CCR 2011, Jan 2011, Cape town (South Africa).

MEMBERSHIPS

<i>Association for Symbolic Logic</i>	June 2013 -
<i>The Mathematical Society of Japan</i>	Apr 2012 -
<i>Association Computability in Europe</i>	July 2011 -

HONORS

<i>Grant-in-Aid for JSPS Fellows</i>	Apr 2013 - Mar 2016
<i>Grant-in-Aid for Young Scientists (B)</i>	Apr 2011 - Mar 2012
<i>Kyoto University Start-Up Grant for Young Researchers</i>	2010 Apr - 2011 Mar

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