

Department of Pure Mathematics and Mathematical Statistics,
Centre for Mathematical Sciences E1.02,
University of Cambridge,
Wilberforce Road, Cambridge, CB3 0WB, UK
website: <http://www.dpmms.cam.ac.uk/~ty245/>
email: T.Yoshida@dpmms.cam.ac.uk

Academic Interest

- Algebraic number theory, Arithmetic geometry, Automorphic forms and Galois representations.

Education

- Ph.D. in Mathematics, Harvard University, 2006/06. (Adviser: Richard Taylor)
- Ph.D. in Mathematical Sciences, The University of Tokyo, 2004/03. (Adviser: Takeshi Saito)
- M.A. in Mathematical Sciences, The University of Tokyo, 2002/03. (Adviser: Kazuya Kato)

Academic Positions

- University Lecturer, University of Cambridge, DPMMS, 2006/09 - present.
(on leave 2006/09 - 2007/08, 2007/12 - 2009/09).
- Staff Fellow in Mathematics, Trinity Hall, University of Cambridge, 2009/10 - present.
- Junior Fellow, Society of Fellows, Harvard University, 2006/09 - 2009/08.
- Clay Research Fellow, Clay Mathematics Institute, 2007/12 - 2009/09.

Publications / Preprints

- *On the action of algebraic correspondences on weight spectral sequences*, September 2011.
<http://arxiv.org/abs/1109.2208>
- *On non-abelian Lubin-Tate theory via vanishing cycles*, *Advanced Studies in Pure Mathematics*, **58** (2010), 361–402.
<http://arxiv.org/abs/math/0404375>
- *Local Class Field Theory via Lubin-Tate Theory*, *Annales de la Faculte des Sciences de Toulouse*, Ser. 6, **17-2** (2008), 411–438.
<http://arxiv.org/abs/math/0606108>
- *Compatibility of local and global Langlands correspondences* (with Richard Taylor), *J. Amer. Math. Soc.*, **20-2** (2007), 467–493.
<http://arxiv.org/abs/math/0412357>
- *Finiteness theorems in the class field theory of varieties over local fields*, *J. of Number Theory*, **101-1** (2003), 138–150.
[http://dx.doi.org/10.1016/S0022-314X\(03\)00018-0](http://dx.doi.org/10.1016/S0022-314X(03)00018-0)
- *Abelian étale coverings of curves over local fields and application to modular curves*, January 2002, *math.NT/0405426*.
<http://arxiv.org/abs/math/0405426>
- *The fundamental theorem of Galois theory* (in Japanese), *Gendai-Shisou*, **39-5** (2011), 70–90.
- *Outlook on the Langlands conjecture* (in Japanese), *Mathematical Sciences*, **49-1** (2011), 46–53.
- *Developments in non-abelian class field theory* (in Japanese), *Sugaku-Seminar*, **49-3** (2010), 24–29.
- *Teiji Takagi and the enigma of class field theory* (in Japanese), *Gendai-Shisou*, **37-15** (2009), 130–141.

- *Class field theory and modern mathematics* (in Japanese), Gendai-Shisou, **36-14** (2008), 138–153.
- *Sugaku-no-Tanoshimi 2008* (in Japanese), Nippon-Hyoron-sha, 2008.
(“Introduction to class field theory”, “Introduction to automorphic forms”, “The Langlands correspondence and Shimura varieties”, and “Compatible system of Galois representations and its modularity”)
- *Automorphic representations and Galois representations* (in Japanese), Proceedings of the 17th Number Theory Summer School, Kyoto, 2009.
<http://www.dpmms.cam.ac.uk/~ty245/Yoshida.2010.SummerSchool-1.pdf>
- *Global and local Langlands correspondences for GL_n* (in Japanese), Proceedings of the 50th Symposium on Algebra, Tokushima Univ., 2005.
<http://www.dpmms.cam.ac.uk/~ty245/Yoshida.2005.Tokushima2005proc.pdf>
- *Non-abelian Lubin-Tate theory and Deligne-Lusztig theory* (in Japanese), Proceedings of Number Theory Symposium, Waseda Univ., May 2004.
<http://www.dpmms.cam.ac.uk/~ty245/Yoshida.2004.waseda2004proc.pdf>
- *What Graduate Students (and the Rest of Us) Can Learn from Lesson Study* (with Amanda Alvine, Thomas Judson and Michael Schein), *College Teaching*, **55-3** (2007), 109-113.

Recent Invited Talks

- University of Warwick, Number Theory Seminar, March 2012.
- *Rigid Geometry and the Local Langlands Correspondence*, KIAS, January 2012.
- Junior & Senior High School at Komaba, University of Tsukuba, December 2011.
- London Number Theory Seminar, November 2011.
- *WaNDS Number Theory Meeting*, Sheffield, September 2011.
- *Summer school on Construction of Galois Representations*, Kurashiki, August 2011.
- University of Nottingham: Number Theory Seminar, May 2011.
- *Algebraic Number Theory and Related Topics*, Kyoto RIMS, December 2010.
- *Galois Representations in Arithmetic and Geometry*, Goa, August 2010.
- *Summer school on Automorphic Representations of $GL(n)$* , Kurashiki, July 2010.
- *Postech Summer School 2010: Congruences of Modular forms and Galois representations*, Pohang, July 2010.
- *Workshop on Arithmetic Geometry and Related Topics*, Taipei, July 2010.
- Kyoto University: Colloquium / Lecture series, June 2010.
- University of Cambridge: Number Theory Seminar, January 2010.
- *Workshop on Arithmetic Geometry in Kanazawa*, November 2009.
- University of Chicago: Algebraic Geometry Seminar, October 2009.
- Northwestern University: Number Theory Seminar, October 2009.

Professional and Teaching Experience

- Journal Referee: *Duke Mathematical Journal*, *Compositio Mathematica*, *Journal de l'Institut Mathématiques de Jussieu*, *Annales de la Faculté des Sciences de Toulouse*, etc.
- University of Cambridge: Seminar organiser, Study group for Arithmetic Geometry (2011-)
- University of Cambridge: Examiner (Mathematics Tripos), Faculty Board, Degree Committee, etc.
- University of Cambridge: undergraduate (Galois Theory, Michaelmas 2009/2010/2011).
- University of Cambridge: graduate (Non-abelian Lubin-Tate theory, Michaelmas 2007; Galois Representations, Lent 2010; Class Field Theory, Lent 2011/2012).
- University of Cambridge: college supervisions at Trinity Hall (2009-).
- Kyoto University: short graduate course (Non-abelian Lubin-Tate theory, June 2010).

- Harvard University: graduate (Automorphic Forms and Galois Representations I, Fall 2008).
- Harvard University: Teaching Fellow, Math 21a (multivariable calculus) (Fall 2003 and Fall 2005), Tutorial on Complex Multiplication (Spring 2005).
- Harvard University: Research on Lesson Study (coordinated by Tom Judson), 2003-04.
- Kawaijuku Educational Institution, K-Kai (mathematics education for high school students), intermediate calculus, basic calculus, elementary number theory, Galois theory, 1996-2005.

Fellowships/Awards

- The Harvard University Certificate of Distinction in Teaching, 2009.
- Liftoff Fellowship, Clay Mathematics Institute, Summer 2006.
- Harvard GSAS Merit Fellowship, 2004-05.
- Joseph Leonard Walsh Fund, 2002-03.
- International Mathematical Olympiad: Bronze medal, 1993.

Visiting Positions

- Princeton IAS, December 2011.
- The University of Tokyo, August – September 2007.
- University of Nottingham, June – July 2005.
- Imperial College London, June 2004.

Invited Talks in the Past

- *17th Number Theory Summer School*, Kyoto, August 2009.
- *Workshop on Automorphic Representations, Geometry, and Arithmetic*, National Taiwan University, July 2009.
- Kyoto University: Number Theory Seminar, June 2009.
- University of Chicago: Representation Theory Seminar, May 2009.
- Boston College: Number Theory Seminar, April 2009.
- University of Cambridge: Number Theory Seminar, January 2009.
- *Workshop on Shimura Varieties, Automorphic Representations and Related Topics*, Kyoto University, November 2008.
- *Conference on Arithmetic Algebraic Geometry*, The University of Bonn, October 2008.
- MIT: Number Theory Seminar, September 2008.
- *Southern California Number Theory Day*, Caltech, March 2008.
- Caltech: Number Theory Seminar, March 2008.
- Hokkaido University, Seminar on Arithmetic Geometry, January 2008.
- University of Nottingham: Number Theory Seminar, November 2007.
- University of Cambridge: CMS Colloquia, October 2007.
- *Cohomology of nonarchimedean period spaces and related moduli spaces*, MPI Bonn, September 2007.
- *Conference of Ramification and Vanishing Cycles*, The University of Tokyo, September 2007.
- *Algebraic and Arithmetic Structures of Moduli Spaces*, Hokkaido University, September 2007.
- *Algebraische Zahlentheorie*, Oberwolfach, June 2007.
- *Japan-France conference on Automorphic Endoscopy*, Luminy, June 2007.
- *Mini-workshop on Automorphic Representations and Shimura Varieties*, Kyoto, May 2007.
- MIT: STAGE, March 2007.
- Harvard University: Number Theory Seminar, March 2007.
- University of Cambridge: Special Lecture Series, February 2007.
- *Workshop on Sato-Tate conjecture*, Tokyo Institute of Technology, January 2007.
- *Workshop on the Representation Theory of Reductive Algebraic Groups*, University of Ottawa, January 2007.
- Hokkaido University, Seminar on Arithmetic Geometry, January 2007.
- *Algebraic Number Theory and Related Topics*, Kyoto RIMS, December 2006.
- *Modularity for $GL(2)$ and Beyond*, MSRI, October 2006.
- University of Cambridge: Number Theory Seminar, October 2006.
- Princeton University: Number Theory Seminar, April 2006.
- Harvard University: Number Theory Seminar, March 2006.
- University of Cambridge, February 2006.

- Hokkaido University, Seminar on Arithmetic Geometry, January 2006.
- Brandeis University: Fellowship of the Ring, October 2005.
- *50th Symposium on Algebra*, Tokushima University, August 2005.
- University of East Anglia, Norwich: Pure Mathematics Seminar, July 2005.
- University of Nottingham: Number Theory Seminar, July 2005.
- *Algebraische Zahlentheorie*, Oberwolfach, June 2005.
- London Number Theory Seminar (at Imperial College), June 2005.
- Osaka University: Number Theory Seminar, April 2005.
- Kyoto University: Workshop on Shimura Varieties, April 2005.
- Harvard University: Number Theory Seminar, March 2005.
- University of Tokyo: Number Theory Seminar, January 2005.
- Institut de Mathématiques de Jussieu (Paris VI/VII): Séminaire Groupes Réductifs et Formes Automorphes, November 2004.
- London Number Theory Seminar (at Imperial College), June 2004.
- University of Nottingham: Number Theory Seminar, June 2004.
- University of California, Berkeley: Number Theory Seminar, April 2004.
- Stanford University: Number Theory Seminar, April 2004.
- *Symposium on Number Theory*, Waseda University, March 2004.
- Harvard University: Number Theory Seminar, February 2004.
- *Symposium on Arithmetic Geometry*, Hokkaido University, November 2003.
- Johns Hopkins University: Algebraic & Complex Geometry / Number Theory Seminar, October 2002.
- University of Tokyo: Number theory seminar, June 2002.
- Harvard University: Modular Curves and Modular Forms Seminar, March 2002.
- University of Michigan: Arithmetic Seminar, November 2001.
- University of South California: Algebra Seminar, November 2001.
- *Advanced Course on Modular Forms and p-adic Hodge Theory*, Centre de Recerca Matemàtica, Barcelona, July 2001.

Personal information

Born: March 1978.

Citizenship: Japan.

References

Professor Richard Taylor

School of Mathematics
Institute for Advanced Study
Einstein Drive
Princeton, NJ 08540, USA
rtaylor@math.ias.edu

Professor Takeshi Saito

Dept. of Mathematical Sciences
The University of Tokyo
3-8-1 Komaba, Meguro-ku
Tokyo 153-8914, Japan
t-saito@ms.u-tokyo.ac.jp

Professor Anthony J. Scholl

Centre for Mathematical Sciences
University of Cambridge
Wilberforce Road
Cambridge CB3 0WB, UK
a.j.scholl@dpms.cam.ac.uk

Professor Kazuya Kato

Department of Mathematics
University of Chicago
5734 S. University Avenue
Chicago, IL 60637, USA
kazuyakzkt@gmail.com

Professor Michael Harris

Institut de Mathématiques de Jussieu
Université Paris 7 Diderot
4, place Jussieu
75252 Paris cedex 05, France
harris@math.jussieu.fr