

Krzysztof Klosin

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CURRENT POSITION

September 2010 - now **Assistant Professor**
City University of New York (Queens College).

PREVIOUS EMPLOYMENT

May 2010-July 2010 **Guest researcher**
and June 2011-July 2011 Max-Planck-Institut für Mathematik, Bonn, Germany.

2009-2010 **Postdoc (chargé de recherche)**
Université Paris 13, Paris, France.

Sept. 2009 **Research in Pairs Fellow,**
Mathematisches Forschungsinstitut, Oberwolfach, Germany.

2008-2009 **Visiting Assistant Professor,**
Cornell University, Ithaca, NY.

2006-2008 **Burgess Assistant Professor,**
University of Utah, Salt Lake City, UT.

EDUCATION

2000-2006 **University of Michigan**, Ann Arbor, Michigan.
Ph.D. in Mathematics, August 2006.
Dissertation: *Congruences among automorphic forms on the unitary group $U(2,2)$.*
Advisor: Prof. Christopher Skinner

1999-2000 **University of Virginia**, Charlottesville, VA.
Graduate student in mathematics.

1994-1999 **University of A. Mickiewicz**, Poznan, Poland.
M.Sc. in Physics, June 1999, with honors, awarded medal *Primus inter pares*,
Dissertation: *The Wheeler-DeWitt Quantum Field*,
Advisor: Prof. Zbigniew Jacyna-Onyszkiewicz.

1994-1999 **University of Economics**, Poznan, Poland.
M.A. in Economics, February 1999, with honors,
Dissertation: *Mathematical aspects of exchange rate*,
Advisor: Prof. Tomasz Rynarzewski.

CITIZENSHIP

Poland.

RESEARCH

Current Interests Algebraic Number Theory, Representation Theory, Arithmetic Algebraic Geometry. More precisely: the Bloch-Kato conjecture for modular forms, congruences among automorphic forms on $GL(2)$ and higher-rank groups, modularity of Galois representations, special values of L-functions, p-adic modular forms, the Langlands program.

HONORS AND AWARDS

2012-2013 **PSC-CUNY Research Award TRADA-43-143**
Deformations of residually reducible Galois representations, \$2210.00.

2011 **MPIM Fellowship**
Max-Planck-Institut für Mathematik, Bonn, Germany.

2010 **MPIM Fellowship**
Max-Planck-Institut für Mathematik, Bonn, Germany.

2009 **Research in Pairs Fellowship**
Mathematisches Forschungsinstitut, Oberwolfach, Germany.

2008 **Outstanding Instructor Award**
University of Utah, Salt Lake City, UT.

2002 **Gabriel and Sophie Rainich Scholarship,**
University of Michigan, Ann Arbor, MI.

2001 **Department of Mathematics Scholarship,**
University of Michigan, Ann Arbor, MI.

1999 **Medal “Primus Inter Pares” for outstanding academic achievements,**
University of A. Mickiewicz, Poznan, Poland.

RESEARCH PAPERS

2011 **An $R=T$ theorem for imaginary quadratic fields** joint with T. Berger (Cambridge),
Mathematische Annalen, 349 (2011), no. 3, 675-703

2009 **Congruences among modular forms on $U(2,2)$ and the Bloch-Kato conjecture**
Annales de l'institute Fourier, 59 no. 1 (2009), p. 81-166

2009 **Deformation problem for Galois representations over imaginary quadratic fields** joint with T. Berger (Cambridge)
Journal de l'Institut de Math. de Jussieu, (2009) 8(4), 669-692

2008 **Ihara's lemma for imaginary quadratic fields**
Journal of Number Theory, **128** (2008), 2251-2262

2006 **Congruences among automorphic forms on the unitary group $U(2,2)$**
Thesis, University of Michigan, Ann Arbor, MI.
available at <http://www.vnulib.edu.vn:8000/dspace/handle/123456789/1461>

RESEARCH PAPERS (Continued)	
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| 2002 | Variations of Hodge structures
joint with J. Brown, K. Eisentrager, J. Pineiro, M. Trifkovic, O. Watson
Arizona Winter School, Tucson, AZ.
available at www.math.utah.edu/~klosin |
| accepted | On deformation rings of residually reducible Galois representations and $R=T$ theorems joint with T. Berger (Sheffield, UK)
Mathematische Annalen (to appear) |
| submitted | Maass spaces on $U(2,2)$ and the Bloch-Kato conjecture for the adjoint motive of a modular form |
| submitted | Yoshida lifts and the Bloch-Kato conjecture for the convolution L-function joint with M. Agarwal (University of Michigan, Dearborn) |

EXPOSITORY PAPERS	
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| 2006 | Some local (at p) properties of residual Galois representations
available online at http://math.stanford.edu/~conrad/vigregroup/ |
| 2005 | On the reflex norm
available online at http://math.stanford.edu/~conrad/vigregroup/ |
| 2004 | Finiteness of the Mordell-Weil group
available online at http://math.stanford.edu/~conrad/vigregroup/ |
| 2003 | Applications of the finiteness of the Mordell-Weil group
available online at http://math.stanford.edu/~conrad/vigregroup/ |

INVITED TALKS	
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| July, 2012 | K-theory and arithmetic - conference in honour of J. Hurrelbrink ,
Banach Center, Bedlewo, Poland. (1 hour address) |
| January 17, 2012 | Erwin Schroedinger Institute Programme on Automorphic Forms: Arithmetic and Geometry , Vienna, Austria. (1 hour address) |
| December 1, 2011 | Number Theory Seminar , Clemson University, Clemson, SC. (1 hour address) |
| July 22, 2011 | Number Theory Lunch Seminar , Max-Planck-Institut für Mathematik, Bonn, Germany. (1 hour address) |
| June 29, 2011 | Number Theory Seminar , University of Sheffield, UK. (1 hour address) |
| January 20, 2011 | Departmental Colloquium , University of Szczecin, Szczecin, Poland. (1.5 hour address) |
| January 7, 2011 | Seminaires de l'équipe d'Arithmétique et Géométrie Algébrique ,
Université Paris 13, Paris, France. (1 hour address) |

INVITED TALKS (Continued)	
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December 22, 2010	Departmental Colloquium , University of A. Mickiewicz, Poznan, Poland. (1 hour address)
November 19, 2010	Collaborative Number Theory Seminar at the CUNY Graduate Center , City University of New York, NY. (1.5 hour address)
November 2, 2010	Number Theory Seminar , Northwestern University, Evanston, IL. (1 hour address)
June 30, 2010	Number Theory Lunch Seminar , Max-Planck-Institut für Mathematik, Bonn, Germany. (1 hour address)
June 1, 2010	Oberseminar (Algebra, Geometrie und Zahlentheorie) , Universität Duisburg-Essen, Germany. (1 hour address)
May 31, 2010	Special Number Theory Seminar , Universität Duisburg-Essen, Germany. (1 hour address)
March 9, 2010	Number Theory Seminar , DPMMS, University of Cambridge, UK. (1 hour address)
February 22, 2010	Seminaire Arithmetique et Geometrie Algebrique , Universite Louis Pasteur Strasbourg, France. (1 hour address)
November 6, 2009	Seminaires de l'equipe d'Arithmetique et Geometrie Algebrique , Université Paris 13, Paris, France. (1 hour address)
October 26, 2009	Seminaire de theorie des nombres de Chevaleret , Université Paris 6 and 7, Paris, France. (1 hour address)
July 1, 2009	Colloquium , University of A. Mickiewicz, Poznan, Poland. (1 hour address)
February 13, 2009	Colloquium , City University of New York (Queens College), New York, NY. (1 hour address)
June 17, 2008	Colloquium , University of A. Mickiewicz, Poznan, Poland. (1 hour address)
January 7, 2008	The Annual Joint Meeting of the AMS , Special session on Modular forms and modularity, San Diego, CA. (20 minute address)
September 7, 2007	International Conference on Arithmetic Algebraic Geometry , Poznan, Poland. (1 hour address)
July 31, 2007	The First Joint Meeting between the AMS and the Polish Mathematical Society , Special session on Arithmetic Algebraic Geometry, Warsaw, Poland. (40 minute address)

INVITED TALKS (Continued)

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| June 29, 2007 | Number theory seminar, University of Paris 13 , Paris, France. (1 hour address) |
| April 21, 2007 | 2007 Spring Western Section Meeting of the AMS , special session on Number Theory in the Southwest, Tucson, AZ. (20-minute address) |
| February 7, 2006 | Number theory seminar, Johns Hopkins University , Baltimore, MD. (1 hour address) |

SELECTED OTHER TALKS AND PRESENTATIONS

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| February 15, 2012 | Galois representations (an introduction) , Colloquium, City University of New York (Queens College), Flushing, NY. |
| December 3, 2011 | Modularity of Galois representations over imaginary quadratic fields , Palmetto Number Theory Series XVII conference, Clemson University, Clemson, SC. |
| August 17, 2011 | Modularity of residually reducible Galois representations , plenary talk at the international conference “Galois representations and automorphic forms”, Banach Center, Institute of Mathematics of the Polish Academy of Sciences (PAN), Bedlewo, Poland. |
| November 4, 2010 | Prime numbers and the secrets of factorization , talk for Queens College XiSigma members, City University of New York (Queens College), Flushing, NY. |
| November 2, 2010 | Introduction to modularity theorems , talk for graduate students, Northwestern University, Evanston, IL. |
| October 5, 2010 | Modular forms and Galois representations , Colloquium, City University of New York (Queens College), Flushing, NY. |
| December 3, 2008 | Modular forms and arithmetic , Number Theory Seminar, Cornell University, Ithaca, NY. |
| September 10 and 17, 2008 | Congruences among automorphic forms and the Bloch-Kato conjecture , Number Theory Seminar, Cornell University, Ithaca, NY. |
| July 3, 2007 | Congruences among automorphic forms on unitary groups and the Bloch-Kato conjecture , 25th Journées Arithmétiques, Edinburgh, UK. |
| September 5, 12 and 19, 2006 | Modular forms on $U(2,2)$ and the Bloch-Kato conjecture , Number Theory Seminar, University of Utah, Salt Lake City, UT. |

SELECTED OTHER TALKS AND PRESENTATIONS (Continued)	
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| March 13, 2006 | Some local (at p) properties of residual Galois representations , Learning Seminar in Number Theory, University of Michigan, Ann Arbor, MI. |
| February 20, 2006 | CAP representations , Student Number Theory Seminar, University of Michigan, Ann Arbor, MI. |
| March 7, 2005 | Classical and adelic Eisenstein series , Seminar on Spectral Decomposition and Eisenstein series, University of Michigan, Ann Arbor, MI. |
| February 21, 2005 | Modular Galois representations , Student Number Theory Seminar, University of Michigan, Ann Arbor, MI. |
| February 15, 2005 | On the reflex norm , VIGRE Working Group on Number Theory, University of Michigan, Ann Arbor, MI. |
| February 5, 2005 | Midwest Number Theory Conference for Graduate Students and Recent Ph.D.s , University of Illinois, Urbana-Champaign, IL |
| June-August 2004 | Summer Seminar on Iwasawa Theory (several talks) , University of Michigan, Ann Arbor, MI. |
| March 18, 2002 | Variations of Hodge structures: Some examples , Arizona Winter School, Southwestern Center for Arithmetic Algebraic Geometry, University of Arizona, Tucson, AZ. |

ORGANIZED CONFERENCES AND WORKSHOPS	
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| August 15-19, 2011 | Automorphic forms and Galois representations , International Conference on the recent progress in number theory, Banach Center, Institute of Mathematics of the Polish Academy of Sciences (PAN), Poznan, Poland; co-organized with Grzegorz Banaszak (Poznan, Poland) and Tobias Berger (Sheffield, UK) |
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INVITED CONFERENCES AND WORKSHOPS	
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| June 13-17, 2009 | Formes modulaires, Théorie de Hodge p-adique et Applications , Roscoff, France. |
| July 7-12, 2008 | Representations p-adiques de groupes p-adiques , Institut de Mathématiques de Jussieu, Paris, France. |
| March 24-29, 2008 | Selmer groups, L-functions, and Galois deformations , UCLA, Los Angeles, CA. |
| January 6-8, 2008 | Joint Mathematics Meetings , San Diego, CA. |

INVITED CONFERENCES AND WORKSHOPS (Continued)	
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September 4-8, 2007	International Conference on Arithmetic Algebraic Geometry , University of A. Mickiewicz, Poznan, Poland.
July 31-August 3, 2007	The First Joint Meeting of the AMS and the Polish Mathematical Society , Warsaw, Poland.
July 9-22, 2007	Summer School on Serre's modularity conjecture , CIRM, Luminy, France.
April 21-22, 2007	Spring Western Section Meeting of the AMS , Special session on Number Theory in the Southwest, University of Arizona, Tucson, AZ.
November 5-8, 2003	AIM Workshop on the Birch and Swinerton-Dyer conjecture , Princeton, NJ.
July 2-6, 2007	25th Journées Arithmétiques , Edinburgh, UK.
January 5-8, 2006	Joint Mathematics Meeting , San Antonio, TX.
February 5-6, 2005	Midwest Number Theory Conference for Graduate Students and Recent Ph.D.'s , University of Illinois, Urbana-Champaign, IL.
Summer 2004	Iwasawa Theory seminar , University of Michigan, Ann Arbor, MI.
July 2002	Park City Mathematical Institute (Automorphic representations) , Park City, UT.
March 2002	Arizona Winter School (Periods) , Southwestern Center for Arithmetic Algebraic Geometry, participant of a project on <i>Variations of Hodge structures</i> under the direction of Johan DeJong, Tucson, AZ.

SERVICES	
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2006-2008	Co-organizer of The Learning Seminar in Number Theory for faculty and graduate students , University of Utah, Salt Lake City, UT. Topics covered: Hida's construction of Galois representations, Iwasawa theory, Fontaine's book on p-adic Galois representations.
2007-2008	Reading course supervisor , Algebraic Number Theory and Class Field Theory for a graduate student, University of Utah, Salt Lake City, UT.
2007-2008	Organizer of a Number Theory Seminar , University of Utah, Salt Lake City, UT.
2003-2006	Co-organizer of a Student Number Theory Seminar , University of Michigan, Ann Arbor, MI.
2004	Organizer of the Iwasawa Theory Seminar , University of Michigan, Ann Arbor, MI.

TEACHING	
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Fall 2011 and Spring 2012	Calculus 3 , Primary lecturer, Queens College (CUNY), Flushing, NY.
Spring 2011	Calculus with Applications to the Social Sciences I , Primary lecturer, Queens College (CUNY), Flushing, NY.
Fall 2010	Calculus 2 , Primary lecturer, Queens College (CUNY), Flushing, NY.
Spring 2009	Honors Seminar - Topics in Modern Mathematics , Primary lecturer, Cornell University, Ithaca, NY.
Spring 2009	Multivariable calculus , Primary lecturer, Cornell University, Ithaca, NY.
Fall 2008	Linear Algebra (200-level) , Primary lecturer, Cornell University, Ithaca, NY.
Fall 2008	Advanced Linear Algebra (400-level) , Primary lecturer, Cornell University, Ithaca, NY.
Spring 2008	Cryptography and Codes (graduate course) , Primary lecturer, University of Utah, Salt Lake City, UT.
Spring 2008	Undergraduate Seminar (for talented undergraduate students) , Organizer and supervisor, topic: The Riemann Zeta function and arithmetic, University of Utah, Salt Lake City, UT.
Fall 2006 - Spring 2007	Calculus I and II , Primary lecturer, University of Utah, Salt Lake City, UT.
2000-2006	Calculus I and II , Graduate Student Instructor, Primary lecturer (total of 10 semesters), University of Michigan, Ann Arbor, MI.
1999-2000	Calculus II , Teaching Assistant, University of Virginia, Charlottesville, VA.