CURRICULUM VITA
James W. Cogdell

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Education:

B.S.: Yale University, 1977.
Ph.D.: Yale University, 1981.

Positions:

Rutgers University, 1982–1988, Assistant Professor.
Oklahoma State University, 1987–1988, Assistant Professor.
Oklahoma State University, 1988–1994, Associate Professor.
Oklahoma State University, 1994–2004, Professor.
Oklahoma State University, 1999–2001, Southwestern Bell Professor.
Oklahoma State University, 2000–2004, Regents Professor.
Oklahoma State University, 2003–2004, Vaughn Foundation Professor.
The Ohio State University, 2004–present, Professor.

Visiting Positions:

University of Maryland, 1981–1982, Visiting Instructor.
UCLA, Fall 1982, NSF Postdoctoral Fellow.
Institute for Advanced Study, Princeton, Fall 1983, NSF Postdoctoral Fellow.
Institute for Advanced Studies, Hebrew University, Spring 1988, Member.
Yale University, 1991–1992, Visiting Associate Professor.
Yale University, Spring 1995, Visiting Fellow.
Institute for Advanced Study, Princeton, 1999–2000, CMI Scholar.
Yale University, Fall 2002, Visiting Fellow / CMI Scholar.
Fields Institute, Spring 2003, Senior Researcher.
Erwin Schrödinger Institute, Vienna, Autumn 2011 & Winter 2012, Senior Research Fellow.

Editorial Boards:

1. GAFA (Geometric and Functional Analysis), 2001 - present.

2. IMRN (International Mathematics Research Notices), 2005 - present.

3. JNT (Journal of Number Theory), 2006 - 2012.

Publications – Papers:

1. Fabrication of submicron Josephson microbridges using optical projection lithography and lift off techniques (with M.D. Feuer & D.E. Prober). *A.I.P. Conference Proceedings* **44** (1978), 317–321.

2. Congruence zeta functions for $M_2(\mathbb{Q})$ and their associated modular forms. *Math. Annalen* **266** (1983), 141–198.

3. Arithmetic cycles on Picard modular surfaces and modular forms of Nebentypus. *Journal f. d. reine u. angew. Math.* **357** (1985), 115–137.

4. Base change for $\widetilde{SL}_2$ (with I.I. Piatetski-Shapiro). *Journal of Number Theory* **27** (1987), 285–303.

5. Base change for the Saito–Kurokawa representations of $PGSp(4)$ (with I.I. Piatetski-Shapiro). *Journal of Number Theory* **30** (1988), 298–320.

6. The meromorphic continuation of Kloosterman-Selberg zeta functions (with I.I. Piatetski-Shapiro). *Complex Geometry and Analysis : Proceedings, Pisa (1988)*, Springer Lecture Notes in Mathematics No. 1422, 1990, 23–35.

7. Poincaré series for $SO(n,1)$ (with J.-S. Li, I.I. Piatetski-Shapiro, and P. Sarnak). *Acta Mathematica* **167** (1991), 229–285.

8. Converse Theorems for GL_n (with I.I. Piatetski-Shapiro). *Publ. Math. IHES* **79** (1994), 157–214.

9. Unitarity and functoriality (with I.I. Piatetski-Shapiro). *Geometric and Functional Analysis* **5** (1995), 164–173.

10. On base change for odd orthogonal groups (with I.I. Piatetski-Shapiro). *Journal AMS* **8** (1995), 975–996.

11. A converse theorem for GL_4 (with I.I. Piatetski-Shapiro). *Mathematical Research Letters* **3** (1996), 1–10.

12. Stability of gamma factors for $SO(2n+1)$ (with I.I. Piatetski-Shapiro). *manuscripta mathematica* **95** (1998), 437–461.

13. Derivatives and L-functions for GL_n (with I.I. Piatetski-Shapiro). *The Heritage of B. Moishezon*, IMCP, to appear .

14. $\mathfrak{n}$-homology of generic representations for $GL(N)$ (with J.-T. Chang). *Proceedings AMS* **127** (1999), 1251–1256.

15. Converse Theorems for GL_n, II (with I.I. Piatetski-Shapiro). *J. reine angew. Math.* **507** (1999), 165–188.

16. Comparison with the JPS gamma factor. Appendix to "Conjectural algebraic formulas for representations of GL_n", by S. Gelfand & D. Kazhdan, *Asian J. Math.* **3** (1999), 17–48.

17. Converse theorems for GL_n and their applications to liftings (with I.I. Piatetski-Shapiro)., *Cohomology of Arithmetic Groups, Automorphic Forms, and L-functions*, Proceedings of the International Conference, Mumbai 1998, TIFR/Narosa Publishing House, New Delhi, 2001, 1–34.

18. On lifting from classical groups to GL_N (with H. Kim, I.I. Piatetski-Shapiro, and F. Shahidi). *Publ. Math. IHES* **93**, (2001), 5–30.

19. Notes on L-functions for GL_n. *School on Automorphic Forms on GL(n)*, ICTP Lecture Notes Series, Volume 21, June 2008, 75–157.

20. Converse theorems, functoriality, and applications to number theory (with I.I. Piatetski-Shapiro). *Proc. ICM 2002, Beijing* **II** (2002), 119–128.

21. Remarks on Rankin-Selberg convolutions (with I.I Piatetski-Shapiro). *Contributions to Automorphic Forms, Geometry and Number Theory (Shalikafest 2002)*, H. Hida, D. Ramakrishnan, and F. Shahidi, Eds., JHU Press, Baltimore, 2004, 255–278.

22. On sums of three squares. *J. Théor. Nombres Bordeaux* **15** (2003), 33–44.

23. Analytic theory of L-functions for GL_n; Langlands conjectures for GL_n; Dual groups and Langlands functoriality. *An Introduction to the Langlands Program* (J. Bernstein and S. Gelbart, eds.). Birkhäuser, Boston, 2003, 197–268.

24. L-functions and Converse Theorems for GL_n. *Automorphic Forms and Applications*, IAS/Park City Mathematics Series, Vol. 12, AMS, Providence 2007, 97–177.

25. Functoriality for the classical groups (with H. Kim, I.I. Piatetski-Shapiro, and F. Shahidi). *Publ. Math. IHES* **99** (2004), 163–233.

26. On the complex moments of symmetric power L-functions at $s = 1$ (with P. Michel). *IMRN* **2004** No. 31 (2004), 1561–1617.

27. Partial Bessel functions for quasi-split groups (with I.I. Piatetski-Shapiro and F. Shahidi). *Automorphic Representations, L-functions and Applications: Progress and Prospects.* Walter de Gruyter, Berlin, 2005, 95–128.

28. Converse Theorems, Functoriality and Applications. *Quarterly Journal of Pure and Applied Mathematics* **1** (Borel Special Issue) (2005), 101–127.

29. Stability of γ-factors for quasi-split groups (with I.I. Piatetski-Shapiro and F. Shahidi). *J. Inst. Math. Jussieu* **7** (2008), 27–66.

30. On partial Poincaré series (with I.I. Piatetski-Shapiro). *Automorphic Forms and L-functions I: Global Aspects*, Contemporary Math. **488** (2009), 83–93.

31. Functoriality for quasisplit classical groups (with I.I. Piatetski-Shapiro and F. Shahidi). *On Certain L-functions*, Clay Math. Proc. **13**, AMS, Providence, 2011, 117–140.

32. The Bergman kernel and mass equidistribution on the Siegel modular variety $Sp(n,\mathbb{Z})\backslash\mathfrak{H}_n$ (with W. Luo). *Forum Math.* **23** (2011), 141–159.

33. On generalized functionals and their Bessel functions (with F. Shahidi). *Arithmetic Geometry and Automorphic Forms*, a volume marking the 60th birthday of Steve Kudla. Advanced Lectures in Mathematics **19**, Higher Education Press/International Press, 2011, 55–90.

34. Arithmetic and Automorphic L-functions. Oberwolfach Reports, Volume 10, Issue 3, 2013, 2614–2618.

35. L-functions and functoriality. *Automorphic Forms and L-functions*, Proceedings of the CIMPA-UNESCO-CHINA Research School, Advanced Lectures in Mathematics, Vol. 30, Higher Education Press, Beijing–Boston, 2014, 1–47.

36. Piatetski-Shapiro's work on Converse Theorems. *Automorphic Forms and Related Geometry: Assessing the Legacy of I.I. Piatetski-Shapiro.* AMS Contemporary Math. No. 614, 2014, 31–51.

37. On stability of root numbers (with F. Shahidi and T-L. Tsai). *Automorphic Forms and Related Geometry: Assessing the Legacy of I.I. Piatetski-Shapiro*, AMS Contemporary Math. No. 614, 2014, 375–386.

38. On Bessel functions for $GL(2)$, *Indian J. Pure Appl. Math.* **45** (2014), 557–582.

39. L-functions and non-abelian class field theory, from Artin to Langlands. In *Emil Artin and Beyond – Class Field Theory and L-functions* by D. Dumbaugh & J. Schwermer, pp. 127–161. European Math. Soc., Zurich, 2015.

40. The functional equation of the Jacquet-Shalika integral representation of the local exterior-square L-function (with N. Matringe), *Math. Res. Lett.* **22** (2015), 697–717.

41. Local transfer and reducibility of induced representations of p-adic groups of classical type (with M. Asgari and F. Shahidi). *Advances in the Theory of Automorphic Forms and Their L-functions*, AMS Contemporary Math. No. 644, 2016, 1–22.

42. Local Langlands correspondence and the exterior and symmetric square ε-factors for $GL(n)$ (with F. Shahidi and T-L. Tsai), *Duke Math. Journal*, to appear.

43. Estimates on the critical line for Hilbert modular L-functions and applications (with I.I. Piatetski-Shapiro and P. Sarnak), in preparation.

44. Rankin-Selberg L-functions for $GSpin \times GL_n$ (with M. Asgari and F. Shahidi), in preparation.

Publications – Books:

1. *The Arithmetic and Spectral Analysis of Poincaré Series*, with I.I. Piatetski-Shapiro, Perspectives in Mathematics, Volume 13, Academic Press, Boston, 1990.

2. *Lectures on Automorphic L-functions*, with H. Kim and R. Murty. Fields Institute Monographs No.20, AMS, Providence, 2004.

Publications – Books Edited:

1. *Selected Works of Ilya Piatetski-Shapiro*, edited with S. Gindikin and P. Sarnak. AMS, Providence, 2000.

2. *Automorphic Representations, L-functions and Applications: Progress and Prospects*, (Ohio State University Mathematical Research Institute Publications 11), edited with D. Jiang, S. S. Kudla, D. Soudry, and R. Stanton. Walter de Gruyter, Berlin, 2005.

3. *On Certain L-functions*, Conference in honor of Freydoon Shahidi, edited with J. Arthur, S. Gelbart, D. Goldberg, S. Kudla, D. Ramakrishnan, and J-K. Yu, Clay Math. Proc. **13**, Amer. Math. Soc., Providence, 2011.

4. *Arithmetic Geometry and Automorphic Forms*, a volume marking the 60th birthday of Steve Kudla, edited with J. Funke, M. Rapoport, and T. Yang. Advanced Lectures in mathematics **19**, Higher Education Press/International Press, 2011.

5. *Automorphic Forms and Related Geometry: Assessing the Legacy of I.I. Piatetski-Shapiro*, edited with F. Shahidi and D. Soudty. AMS Contemporary Math. Vol. 614, 2014.

Manuscripts:

1. The Weil representation and cycles on Picard modular surfaces, (1984), 22 pages.

2. Exterior square L-function for $GL(n)$ (with I.I. Piatetski-Shapiro), (1995), 7 pages.

Miscellany

1. Piatetski-Shapiro's work in applied mathematics (with S. Gindikin). *Selected Works of Ilya Piatetski-Shapiro*, edited with S. Gindikin and P. Sarnak. AMS, Providence, 2000, pp 283–284.

2. The work of Piatetski-Shapiro on L-functions (with S. Gelbart and S. Rallis). *Selected Works of Ilya Piatetski-Shapiro*, edited with S. Gindikin and P. Sarnak. AMS, Providence, 2000, pp 743–748.

3. Ilya Piatetski-Shapiro, in memorium (coordinating editor, with S. Gelbart and P. Sarnak). *Notices Amer. Math. Soc.* **57** (2010), 1260–1275.

4. Remembering Steve Rallis (coordinating editor, with Dihua Jiang). *Notices Amer. Math. Soc.* **60** (2013), 466–469.

5. Gathering Evidence: My Time as a Senior Research Fellow. ESI/2013 (Erwin Schrödinger Insitiute 20th Anniversary Booklet), 39–41.

6. Steve Rallis (1942–2012). (with H. Jacquet, D. Jiang, and S. Kudla) *J. Number Theory* **146** (2015), 13.

Talks:

1. "Theta series and cycles on Picard modular surfaces", Institute for Advanced Study, Princeton, Feb. 16, 1984.

2. "Congruence zeta functions for $M_2(\mathbb{Q})$", MIT Number Theory Seminar, May 13, 1984.

3. "Base change for $\widetilde{SL}_2$ ", Conference on Metaplectic Groups, Oberwolfach, Jan.4, 1985.

4. "Zeta functions of prehomogeneous vector spaces and modular forms", Ohio State Univ., Harmonic analysis and representation theory seminar, May 23, 1985.

5. "Base change for the Saito-Kurokawa representations of PGSp(4)", Ohio State Univ., Harmonic analysis and representation theory seminar, May 14, 1987.

6. " On the Kuznetsov trace formula", Yale University, Lie Group Seminar, October 6, 1988.

7. " Kloosterman-Selberg Zeta Functions", Rutgers University, Colloquium, February 17, 1989.

8. "Poincaré series on Lobachevski space", Yale University, Lie Group Seminar, September 27, 1989.

9. "Converse Theorems", University of Arizona, Colloquium, May 10, 1990.

10. "Base Change for Special Representations of SO(n,1)", Yale University, Lie Group Seminar, November 8, 1990.

11. "Some Remarks on Base Change for Orthogonal Groups", Institute for Advanced Study, Princeton, November 21, 1990.

12. "The Converse Theorem for GL(n)", Boston University, Algebra Seminar, October 29, 1991.

13. "The Converse Theorem for GL(n)", Yale University, Colloquium, November 20, 1991.

14. "Langlands' Lifting and the Converse Theorem", Conference on L-functions and Automorphic Representations, Ohio State University, March 12, 1992.

15. "Proof of the Converse Theorem for GL(n)", Conference on L-functions and Automorphic Representations, Ohio State University, March 12, 1992.

16. "Converse Theorems and Applications", Princeton–Rutgers Seminar on Harmonic Analysis and Number Theory, March 27, 1992.

17. "On Langlands Lifting and the Converse Theorem", Institute for Advanced Studies, Jerusalem, Workshop on Automorphic Forms and L-functions, May 31, 1992.

18. "Applications of Theta Lifting to Functoriality", University of Iowa, p-adic Field of Dreams Conference,April 2, 1993.

19. "Hecke's Converse Theorem for GL(n)", Cornell University, Lie Group Seminar, May 14, 1993.

20. "The Computation of Local L-functions via Derivatives", Ohio State University, Harmonic Analysis and Automorphic Representations Seminar, June 25, 1993.

21. "The Non-archimedean Exterior Square L-function for GL(n)", Workshop on L-functions and Automorphic Forms, Fields Institute for Research in Mathematical Sciences, Waterloo, Ontario, April 11, 1994.

22. "An application of theta lifting to base change for odd orthogonal groups", Conference on the Theta Correspondence, Dual Pairs, and Automorphic Forms, University of Maryland, May 20, 1994.

23. "Hecke's Converse Theorem for $GL(n)$", TCU Colloquium, November 8, 1994.

24. "Derivatives and L-functions for GL(n)", Boston University, Algebra Seminar, February 6, 1995.

25. "A Survey of Converse Theorems", Yale University, Number Theory Seminar, February 28, 1995.

26. "The Converse Theorem and Liftings", MSRI, Workshop on New Vistas in Automorphic Forms, March 20, 1995.

27. "Derivatives and L-functions for GL(n)", University of Michigan, Group Theory/Lie Theory Seminar, April 17, 1995.

28. "Converse Theorems for GL(n): A Historical Survey", University of Michigan, Colloquium, April 18, 1995.

29. "Converse Theorems for GL_n and Applications", Princeton University, Algebra Seminar, December 2, 1997.

30. "Converse Theorems for GL_n and their Application to Lifting", International Conference on Cohomology of Arithmetic Groups, Automorphic Forms, and L-functions, Tata Institute of Fundamental Research, December 30, 1998.

31. "The Converse Theorem for GL_n with Unramified Twists", Tata Institute for Fundamental Research, January 4, 1999.

32. "Arithmetic Dirichlet Series and Automorphic Forms", Cornell University, Colloquium, March 11, 1999.

33. "The Converse Theorem for GL_n with Twists by GL_{n-2}, Cornell University, Lie Group Seminar, March 12, 1999.

34. "Piatetski-Shapiro's Zeta Functions of Representations", Yale University, Conference on Lie Groups and Automorphic Forms in Honor of Dan Mostow and Ilya Piatetski-Shapiro, April 27, 1999.

35. "Converse Theorems for GL_n", Colloque "Forms Automorphes" au CIRM Luminy, May 10, 1999.

36. "Henniart's proof of the Local Langlands Conjecture for $GL(n)$", Ohio State University, HAAR Seminar, July 14, 1999.

37. "Henniart's proof of the Local Langlands Conjecture for $GL(n)$", University of Michigan, special seminar, July 20, 1999.

38. "Converse Theorems", Institute for Advanced Study, October 21, 1999.

39. "Converse Theorem: Proof and/or Application", Institute for Advanced Study, February 17, 2000.

40. "Converse Theorems and Liftings", Conference on Automorphic Forms and Representation Theory, Mathematisches Forschungsinstitut Oberwolfach, March 6, 2000.

41. "On the determination of Dirichlet series by their functional equations", Colloquium, University of Minnesota, April 6, 2000.

42. "On lifting from classical groups to GL_N", Automorphic Forms Seminar, University of Minnesota, April 7, 2000.

43. "On lifting from classical groups to GL_N", Representation Theory Seminar, University of Maryland, May 3, 2000.

44. "On lifting from classical groups to $GL(n)$", Final Conference, School on Automorphic Forms on $GL(n)$, ICTP, Trieste, Italy, 14 August 2000.

45. "On lifting from classical groups to $GL(n)$", 958th AMS Meeting, San Francisco State University, 22 October 2000.

46. "The Converse Theorem for $GL(n)$ with twists by $GL(n-2)$", Automorphic Forms and Representation Theory Seminar, Purdue University, 19 February 2001.

47. "Converse Theorems and the Liftings of Automorphic Forms", Colloquium, Purdue University, 20 February 2001.

48. "On lifting from classical groups to $GL(n)$", Conference on the Analytic and Geometric Aspects of the Langlands Program, Tel Aviv – Rehovot March 18–23, 2001.

49. "On lifting from classical groups to $GL(n)$", Midwest Workshop in Lie Theory, Representation Theory, and Automorphic Forms, University of Michigan, 11–13 May, 2001.

50. "On Sums of Three Squares", Joint Conference in Lie Groups and Number Theory, Hong Kong University of Science and Technology, Hong Kong, June 18, 2001.

51. "On Sums of Three Squares", Plenary lecture, XXII Journées Arithmétiques, Lille, France, 5 July 2001.

52. "The Converse Theorem and Lifting of Automorphic Forms", Colloquium, TCU, 25 September 2001.

53. "On Sums of Three Squares", Midwest Number Theory Day, University of Michigan, 27 October 2002.

54. "On lifting from Classical Groups to GL_n", Workshop on Arithmetic Groups and Automorphic Forms, Erwin Schrödinger Institute, Vienna, 29 January 2002.

55. "On Sums of Three Squares", Colloquium, LSU, 18 April 2002.

56. "Estimates of Hilbert Modular L-series on the Critical Line", Number Theory Seminar, LSU, 19 April 2002.

57. "Rankin–Selberg Convolutions for GL_n", Conference on L-functions and Automorphic Forms in Honor of Joe Shalika, Johns Hopkins Univ., 15 May 2002.

58. "Stability of γ–factors for Classical Groups", Séminaire de Groupes Reducitfs et Formes Automorphes, Institut de Mathématiques de Jussieu, France, 13 Juin 2002.

59. "Automorphic Transfer", Rencontre: Fonctorialité de Langlands: progrès récents. CIRM, Luminy, France, 18 Juin 2002.

60. "On Sums of Three Squares", Plenary lecture, ICM 2002 Satellite Conference, Weihai, China, 14 August 2002.

61. "Converse Theorems, Functoriality, and Applications to Number theory", Invited lecture, ICM 2002, Beijing, China, 21 August 2002.

62. "Converse Theorems and Functoriality", Algebra Seminar, Boston University, 21 October 2002.

63. "On Sums of Three Squares", Colloquium, Boston College, 22 October 2002.

64. "Converse Theorems and Functoriality", Yoshida's Seminar, Kyoto University, Japan, 1 November 2002.

65. "Converse Theorems", Fifth Autumn Workshop on Number Theory, Hakuba, Japan, 6 November, 2002.

66. "Lifting from Classical Groups to GL_n", Fifth Autumn Workshop on Number Theory, Hakuba, Japan, 7 November 2002.

67. "Converse Theorem and the Artin Conjecture", Algebraic Geometry and Number Theory Seminar, University of Illinois – Chicago, 17 February, 2003.

68. "On stability of local γ-factors", Conference on Automorphic Representations, L-functions and Applications (in honor of Steve Rallis), Ohio State University, 27 March 2003.

69. "Subconvexity for Hilbert Modular L-series", Number Theory Seminar, Queens University, Canada, 4 April 2003.

70. "On Sums of Three Squares", Colloquium, Queens University, Canada, 4 April 2003.

71. "(Beyond) Functoriality for the Classical Groups", Workshop on Automorphic L-functions, Fields Institute, Toronto, Canada, 5 May 2003.

72. "Converse Theorems and Functoriality", Colloquium, Harvard University, 9 October 2003.

73. "The Local Langlands Conjecture for GL_n", Joint India-AMS Meeting, Bangalore, India, 17 December 2003.

74. "The Converse Theorem and Functoriality", Joint India-AMS Meeting, Bangalore, India, 21 December 2003.

75. "Hilbert's Eleventh Problem and Subconvexity for Hilbert Modular L-series", Tata Institute for Fundamental Research, Mumbai, India, 24 & 26 December, 2003.

76. "L-functions and Functoriality", Colloquium, Ohio State University, 29 January 2004.

77. "L-functions and Functoriality" Colloquium, University of Michigan, 5 April 2005.

78. "L-functions, Modularity, and Functoriality", Colloquium, CRM/Univeristé de Montreal, 15 December 2005.

79. "On Artin L-functions", Emil Artin - His Life and Work, University of Vienna, 9 January 2006.

80. "Stability of gamma as a useful(?) tool", Program on Arithmetic Algebraic Geometry, Erwin Schrödinger Institute, Vienna, 25 January 2006.

81. "On sums of three squares", Number Theory Seminar, Purdue University, 22 March 2006.

82. "Rankin-Selberg and Langlands-Shahidi methods", Session on L-functions, Workshop on Automorphic Forms and L-functions, May 15–19 2006, Rehovot and Tel-Aviv, Israel.

83. "Ternary quadratic forms and subconvexity", Number Theory Seminar, CalTech, 8 June 2006.

84. "Integral representations of L-functions: I. $GL(n)$; II. The doubling method". Instructional workshop': Automorphic Galois Representations, Columbia University, June 17–22, 2006.

85. "Mass equidistribution for the Siegel modular variety". Number Theory Seminar, Johns Hopkins University, March 20, 2007.

86. "A report on functoriality". Automorphic Forms Seminar, University of Minnesota, April 20, 2007.

87. "A report on functoriality". L-functions and Automorphic Forms: Conference in Honor of Dorian Goldfeld's 60th Birthday, Columbia University, 18–23 May, 2007.

88. "A report on functoriality". On Certain L-functions: Conference in Honor of Freydoon Shahidi's 60th Birthday, Purdue University, 29 July – 3 August, 2007.

89. "L-functions and functoriality", Special Section on Automorphic Forms, AMS Sectional Meeting, DePaul University, 5 October 2007.

90. "A report on functoriality", Number Theory/Group Theory Seminar, University of Michigan, 10 March 2008.

91. "A report on functoriality", Representation Theory Seminar Seminar, University of Maryland, 7 May 2008.

92. "On functoriality for the classical groups", Special Section on Representations of Real and p-adic Lie Groups, AMS Sectional Meeting, Western Michigan University, 19 October 2008.

93. "On sums of three squares", Erwin Schrödinger Lecture, The Erwin Schrödinger Institute for Mathematical Physics, Vienna, Austria, 22 January 2009.

94. "Functoriality for quasisplit classical groups", Workshop on Representation Theory of Reductive Groups – Local and Global Aspects, The Erwin Schrödinger Institute for Mathematical Physics, Vienna, Austria, 4 February 2009.

95. "Ternary quadratic forms and subconvexity", Number Theory Seminar, MIT, 14 September 2009.

96. "On sums of three squares", Colloquium, Clemson University, 19 February 2010.

97. "L-functions, modularity, and functoriality", Plenary Address, Palmetto Number Theory Series (PANTS) XII, Clemson University, 21 February, 2010.

98. "Bessel functions of generic representations", Automorphic Forms and Representation Theory Seminar, Purdue University, 22 April 2010.

99. "On certain Bessel functions", Special Session on Automorphic Forms, L-functions, and Applications, AMS Sectional meeting, Newark, NJ, 22 May 2010.

100. "On local L-functions", Lie Theory Seminar, University of Minnesota, 22 October 2010.

101. "On local L-functions", Conference on Motives and Modular Forms (in honor of Don Blasius), UCLA, 12 November 2010.

102. "On the local exterior square L-function", Special Session on Global and p-adic Representation Theory, AMS Sectional meeting, Iowa City, IA, 19 March 2011.

103. "On Shalika's work on integral representations of L-functions", Requium for Lion: Joseph A. Shalika, Memorial Conference, Johns Hopkins University, 7 May 2011.

104. "Local Langlands Conjecture for $GL(n)$ and the exterior and symmetric square ε–factors", Number Theory Seminar, ETH, Zurich, December 2011.

105. "Local Langlands Conjecture for $GL(n)$ and the exterior and symmetric square ε–factors", Number Theory Seminar, EPFL, Lausanne, December 2011.

106. "L-functions, Modularity, and Functoriality", Colloquium, Renyí Institute, Budapest, 6 February 2012.

107. "Local Langlands Conjecture for $GL(n)$ and the exterior and symmetric square ε–factors", Number Theory Seminar, Renyí Institute, Budapest, 7 February 2012.

108. "Local Langlands Conjecture for $GL(n)$ and the exterior and symmetric square ε–factors", Automorphic Forms, Representations and Combinatorics: A Conference in Honor of Daniel Bump. Stanford University, 15 August 2012.

109. "Local Langlands Conjecture for $GL(n)$ and the exterior and symmetric square ε–factors", BC-MIT Number Theory Seminar, 13 November 2012.

110. "Zeta functions!", Colloquium, University of Richmond, 11 February 2013.

111. "L-functions", Graduate Student Invitational Colloquium, Purdue University, 23 April 2013.

112. "Arithmetic and Automorphic L-functions", Workshop on Noncommutative Geometry, Oberwolfach, 12 September 2013.

113. "L-functions", Séminaire Groupes, Algèbre et Géométrie , Université de Poitiers, 12 December 2013.

114. "Zeta Functions", joint Math Club/Colloquium, Murray State University, 12 March 2014.

115. "Stability of exterior square gamma factors for $GL(n)$", Representation Theory Seminar, OSU, 29 October 2014.

116. "L-functions .... ?", Colloquium, OSU, 13 November 2014.

117. "Zeta Functions!", Radical pi, OSU, 15 April, 2015.

118. "The local Langlands correspondence for $GL(n)$ and the exterior and symmetric square ε–factors", Programme on "Arithemtic Geometry and Automorphic Representations", ESI, Vienna, 13 May 2015.

119. "Artin L-functions and local factors for $GL(n)$", Algebra Seminar, University of Buffalo, 19 October 2015.

120. "On stability of γ", AMS Sectional Meeting, University of St. Thomas, Minneapolis, MN, October 29, 2016.

Lecture Series:

1. "L-functions for GL_n". Six lecture series given at the School on Automorphic Forms on $GL(n)$, International Center for Theoretical Physics (ICTP), Trieste, Italy, 31 July – 11 August, 2000.

2. "L-functions for $GL(2)$ and $GL(n)$/Langlands Conjectures for $GL(n)$/ The Dual Group and General Langlands Lifting". Three lectures given at the Midrahsa on Automorphic Forms, L-functions, and Number Theory, The Institute for Advanced Studies of the Hebrew University, Jerusalem, March 12–16, 2001.

3. "L-functions for $GL(n)$". Series of 11 lectures given at the Programme on Lie Groups 2001, Institute of Mathematical Research, The University of Hong Kong, 20 May – 26 June, 2001.

4. "Langlands-Shahidi Method and Converse Theorems, Part II". Four lectures given at the IAS/PCMI Graduate Summer School, June 30 – July 20, 2002.

5. "Converse Theorems, Functoriality, and Applications", 35th Annual Whittemore Lectures, Yale University, 12–14 November 2002.

6. "L-functions, Converse Theorems, and Functoriality for $GL(n)$". Thirteen lectures given at the Fields Institute for Research in Mathematical Sciences, Spring term, 2003.

7. "L-functions for $GL(n)$, Converse Theorems and Applications". Three lectures given at the International Summer School on Analytic Number Theory, CMS, Zhejiang University, Hangzhou, China, 1–14 August, 2005.

8. "Converse Theorems, Functoriality, and Applications; Derivatives and L-functions for $GL(n)$". Distinguished Visitor Lecture Series, University of Iowa, November 13–17, 2006.

9. "Automorphic representations of $GL(n)$ and classical groups" and "Introduction to functoriality for classical groups". Two lectures given at the BIRS summer school on *The stable trace formula, automorphic forms, and Galois representations*, Banff International Research station, Banff, Canada, 10–17 August 2008.

10. "An introduction to functoriality". Two lectures given as part of the "Autumn School: Towards a p-adic Langlands Correspondence", Sevilla, Spain, October 26–30, 2009,.

11. "L-functions for $GL(n)$, converse theorems, and functoriality" and "Eisenstein series and L-functions", eight lectures given at the CIMPA–UNESCO– CHINA Research School on Automorphic forms and L-functions, Weihai, China, 1–14 August, 2010.

12. Three lectures on "The Langlands Program" as part of the LMS-CMI Research School on Automorphic Forms and Related Topics, University of Bristol, UK, June 30–July 5, 2014.

Special Awards and Recognition:

1. NSF Postdoctoral Fellowship, 1982–83.

2. Invited plenary address, XXII Journées Arithmétiques, Lille, France, July 2001.

3. Invited 45 minute address, Number Theory Section, 2002 ICM, Beijing, China.

4. Whittemore Lectures, Yale University, November 2002.

5. Appointed Vaughn Professor of Number Theory, Oklahoma State University, August 2003.

6. Distinguished Visitor, Department of Mathematics, University of Iowa, November 2006.

7. Erwin Schrödinger Lecture, Erwin Schrödinger Institute, January 2009.

8. Inaugural Fellow of the AMS, 2012.

9. Workshop on" Advances in the theory of automorphic forms and their L-functions", ESI, 16–25 October, 2013 (for my 60th birthday).

10. Fellow of the American Association for the Advancement of Science (AAAS), November 2016.

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