*Curriculum Vitae* September 2021

## **Christopher Otrok**

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Research Department Federal Reserve Bank of Dallas 2200 N. Pearl St. Dallas, TX 75201

# **EDUCATION**

PhD, Economics, University of Iowa, 1999. Supervisors: B. Ravikumar and Charles H. Whiteman B.A., Economics, Davidson College 1992.

## **CURRENT POSITION**

Senior Economic Policy Advisor, Federal Reserve Bank of Dallas, July 2021-present.

# PAST PERMANENT POSITIONS

Sam B. Cook Professor of Economics, University of Missouri, August 2011- June 2021.
Research Fellow, Federal Reserve Bank of St. Louis, August 2011- July 2021.
Senior Economist, Council of Economic Advisers, Executive Office of the President, 7/2016-5/2017.
Professor of Economics, University of Virginia, 2009-2011.
Associate Professor of Economics, University of Virginia, 2004-2009.
Assistant Professor of Economics, University of Virginia, 1999-2004.
Research/Teaching Assistant, University of Iowa, August 1994-May 1999.
Assistant Economist, Federal Reserve Bank of Richmond, Richmond, VA, June 1992-July 1994.

### **EDITORIAL WORK**

Coordinating Editor, *Journal of Economic Dynamics and Control*, January 2013-July 2016 Co-Editor, *Journal of Economic Dynamics and Control*, January 2010-January 2013. Associate Editor, *Journal of Business and Economic Statistics*, July 2006-July 2009. Associate Editor, *Journal of Economic Dynamics and Control*, January 2007-December 2009.

# GRANTS

*National Science Foundation,* SES-1530707, "Estimating Macroeconomic Models of Financial Crises: An Endogenous Regime Switching Approach," July 2015-June 2018, Grant Award: \$282,532.

*National Science Foundation*, SES-1156243, "Macro-Financial Linkages in an Era of Globalization," June 2012-May 2013, Grant Award: \$70,652.

*National Science Foundation*, SES-0082230, "Temporal Dependence and Economic Fluctuations: A Spectral Investigation," July 2000 – May 2003, (with B. Ravikumar and Charles H. Whiteman at the University of Iowa), Grant Amount: \$73,828 (to the University of Virginia).

### PUBLICATIONS

"Asset Pricing Through the Lens of the Hansen-Jagannathan Bound," Federal Reserve Bank of St. Louis *Review*, Third Quarter 2020, 102(3), pp. 255-69 (with B. Ravikumar).

"On The Cyclicality of Real Wages and Wage Differentials," *The B.E. Journal of Macroeconomics: Advances*, Volume 19, Issue 1, 2019 (with Panayiotis M. Pourpourides).

"News Shocks and the Slope of the Term Structure of Interest Rates: Reply," *American Economic Review*, Vol 107, No. 10, 2017, pp 3250-56. (with Andre Kurmann).

"Optimal Capital Controls and Real Exchange Rate Policy: A Pecuniary Externality Perspective," *Journal of Monetary Economics*, vol 84, 2016, pages 147-165 (with Gianluca Benigno, Huigang Chen, Alessandro Rebucci and Eric R. Young),

"Specification and Estimation of Bayesian Dynamic Factor Models: A Monte Carlo Analysis with an Application to Global House Price Comovement," 2015, *Advances in Econometrics* Vol. 35. (with Laura E. Jackson, M. Ayhan Kose and Michael T. Owyang)

"The Sources of Business Cycles in a Low Income Country," *Pacific Economic Review*, 2015, Vol 20:1 pp 125-148. (with Romain Houssa and Jolan Mohimont)

"News Shocks and the Slope of the Term Structure of Interest Rates," *American Economic Review*, 2013, Volume 103, Issue 6, Pages 2612-32 (with Andre Kurmann).

"Financial Crises and Macro-Prudential Policies," *Journal of International Economics*, 2013 Vol 89 No. 2, Pages 453-470 (with Gianluca Benigno, Huigang Chen, Alessandro Rebucci and Eric R. Young).

"Global House Price Fluctuations: Synchronization and Determinants," *NBER International Seminar on Macroeconomics 2012*, University of Chicago Press, 2013, (with Hideaki Hirata, M. Ayhan Kose and Marco Terrones) Pages 119-166.

"Regionalization vs. Globalization," in *Global Interdependence, Decoupling and Recoupling*, MIT Press (eds. Yin-Wong Cheung and Frank Westermann), (with Hideaki Hirata, M. Ayhan Kose).

"Fiscal policy in the aftermath of the financial crisis: Introduction," *Journal of Economic Dynamics and Control*, 2013, Volume 37, Issue 2, Pages 365-482 (with Robert Kollmann, Eric M. Leeper, and Werner Roeger).

"Global Business Cycles: Convergence or Decoupling?, "*International Economic Review*, 2012 Vol. 53, No. 2, pages 511-538, (with M. Ayhan Kose and Eswar Prasad).

"What Are The Driving Forces of International Business Cycles?," *Review of Economic Dynamics*, 2011, vol. 14(1), pages 156-175, (with Mario Crucini and M. Ayhan Kose).

"Do Credit Shocks Matter? A Global Perspective," *European Economic Review*, 2011, vol. 55(3), pages 340-353, (with Thomas Helbling, Raju Huidrom, and M. Ayhan Kose).

"Revisiting Overborrowing and its Policy Implications," *Monetary Policy under Financial Turbulence*, 2011, (eds. Luis Cespedes, Roberto Chang and Diego Saravia), (with Gianluca Benigno, Huigang Chen, Alessandro Rebucci and Eric R. Young).

"A Framework for Monetary Policy Analysis for Sub-Saharan Africa," *Open Economies Review*, February 2010, Volume 21, Number 1, (with Romain Houssa and Radu Puslenghea).

"Understanding the Evolution of World Business Cycles," *Journal of International Economics*, 2008, Volume 75, Issue 1, Pages 110-130 (with M. Ayhan Kose and Charles H. Whiteman).

"99 Luftballons: Monetary Policy and the House Price Boom Across U.S. States," *Journal of Monetary Economics*, 2007, Volume 54, Issue 7, Pages 1962-1985. (with Marco Del Negro).

"A Generalized Volatility Bound for Dynamic Economies," *Journal of Monetary Economics*, 2007, Volume 54, Issue 8, Pages 2269-2290, (with B. Ravikumar and Charles H. Whiteman)

"International Business Cycles: World, Region and Country Specific Factors," *American Economic Review*, 2003, Vol. 93, No. 4, p1216-1239. (with M. Ayhan Kose and Charles H. Whiteman)

"Habit Formation: A Resolution of The Equity Premium Puzzle?" *Journal of Monetary Economics*, 2002, Vol 49:1261-1288 (with B. Ravikumar and Charles H. Whiteman).

"Evaluating Asset-Pricing Models Using The Hansen–Jagannathan Bound: A Monte Carlo Investigation," *Journal of Applied Econometrics*, March/April 2002 Vol 17:149-174 (with B. Ravikumar and Charles H. Whiteman).

"On Measuring the Welfare Cost of Business Cycles," *Journal of Monetary Economics*, February 2001, Vol 47:61-92.

"Spectral Welfare Cost Functions," International Economic Review, May 2001, Vol 42:345-367.

"Bayesian Leading Indicators: Measuring and Predicting Economic Conditions in Iowa," *International Economic Review*, November 1998, Vol 39:4, (with Charles H. Whiteman).

"What to Do When the Crystal Ball is Cloudy: Conditional and Unconditional Forecasting in Iowa," *Proceedings of the National Tax Association*, 1998, (with Charles H. Whiteman).

"The Rational Expectations Hypothesis of the Term Structure, Monetary Policy, and Time-Varying Term Premia," Federal Reserve Bank of Richmond *Economic Quarterly*, Winter 1995, (with Michael Dotsey).

"Long-Run Neutrality and Superneutrality in an ARIMA Framework: Comment," *American Economic Review*, December 1994, (with John F. Boschen).

"M2 and Monetary Policy: A Critical Review of the Recent Debate," Federal Reserve Bank of Richmond *Economic Quarterly*, Winter 1994, (with Michael Dotsey).

"Forecasting the Effects of Reduced Defense Spending," Federal Reserve Bank of Richmond *Economic Review*, November/December 1992, (with Peter Ireland).

### **WORKING PAPERS**

"Tax Progressivity, Economic Booms, and Trickle-up Economics" 2019, (with Laura Jackson and Michael T. Owyang). *Federal Reserve Bank of St Louis Working Paper* 2019-034A.

"A Model for International Spillovers in Commodity Exporters," 2021, (with Romain Houssa and Jolan Mohimont).

"Optimal Policy for Macro-Financial Crises," 2019, *NBER Working Paper* No. 26397. (with Gianluca Benigno, Huigang Chen, Alessandro Rebucci and Eric R. Young).

"Macro-Financial Linkages in an Era of Globalization," 2020, (with Jongrim Ha, M Ayhan Kose and Eswar Prasad).

"Estimating Macroeconomic Models of Financial Crises: An Endogenous Regime-Switching Approach," 2020, (with Gianluca Benigno, Andrew Foerster and Alessandro Rebucci).

"Dynamic Factor Models with Time Varying Parameters: Understanding Changes in International Business Cycles," 2007, (with Marco Del Negro).

### TEXTBOOK

Macroeconomics, Intermediate level, under contract with Wiley Press, in progress, (with Joseph Haslag).

#### GENERAL INTEREST WRITING

"Regional vs. Global: How Are Countries' Business Cycles Moving Together These Days?" *The Regional Economist*, April 2015. (with Diana A. Cook, M. Ayhan Kose and Micheal T. Owyang).

"Closer to Home?," *Finance and Development*, September 2013, Volume 50, number 3, pages 40-43, (with Hideaki Hirata and M. Ayhan Kose)

"Synchronization of Housing Markets: How? What?" Vox.lacea.org, April 29, 2013, (with Hideaki Hirata, M. Ayhan Kose, and Marco E. Terrones)

"How Much Decoupling? How Much Converging?," *Finance and Development*, June 2008, Volume 45, number 2, pages 36-40, (with M. Ayhan Kose and Eswar Prasad).

"Continuity Or Change?: How Closely Will Bernanke Follow In Greenspan's Footsteps?" *Richmond Times Dispatch*, November 30<sup>th</sup>, 2005.

#### TEACHING

Undergraduate: Principles of Macroeconomics (large format), Principles of Macroeconomics-Honors, Intermediate Macroeconomics, Empirical Finance.

Graduate: Core PhD Macroeconomic Theory, Empirical Macroeconomics, Time-Series Econometrics, Research Methods for Economists.

#### PHD DISSERTATION SUPERVISION

[called 1<sup>st</sup> or 2<sup>nd</sup> reader at Virginia, Supervisor at Missouri] Name, year, first placement University of Virginia: Kristin Adams, 2002, James Madison University. Andre Kurmann, 2002, University Quebec-Montreal. Benjamin Keen, 2002, Texas Tech University. Yanchun Zhang, 2003, San Francisco State University. William Craighead, 2005, Miami University, Ohio. Fangzhou Na, 2006, Fannie Mae. Sangyeon Hwang, 2006, Samsung Research Institute (Korea). Esen Onur, 2007, UC Davis (post doc) then Cal State Sacramento. Panayiotis Pourpourides, 2007, Cardiff Business School. Kyung Soo Cha, 2007, Korea Energy Economic Institute. Masahiro Kodama, 2008, IDE, Japan External Trade Organization. AJ Bostain, 2008, University of New South Wales (Post Doc). Jing Yin, 2008, Price Waterhouse.

Olesia Verchenko, 2008, Kiev School of Economics. Daniel Carroll, 2009, Federal Reserve Bank of Cleveland. Bo Sun, 2009, Federal Reserve Board. Young Joon Park, 2009, Korea Institute for International Economic Policy. Ponpoie Porapakkarm, 2009, University of Macau. Xuan Tam, 2010, Cambridge University (Post-Doc). Carlos Espina, 2010, Deloitte. Altantsetseg Batchuluun, 2010, National University of Mongolia. Giandomenico Sarolli, 2010, Drew University. Soyoung Lee, 2010, Korea Economic Research Institute. Greg Jachno, 2010, Federal Housing Finance Administration. Elizabeth Cubbage, 2012, SAS. Aaron Butz, 2012, Joint Committee on Taxation. Vu Lee, 2012, Virginia Retirement System. Daniel Fried, 2013, Congressional Budget Office. Parth Havnurkar, 2013, Federal Housing Finance Administration. Raju Huidrom, 2014, World Bank. Bingbing Dong, 2015, Central University of Finance and Economics (Bejing). Radu Puslenghea, 2015.

University of Missouri: Ting Wang, 2016, JP Morgan Chase. Sumitrra Ganguli, 2017, University of Maryland Baltimore County. Ingul Baek, 2017, Korea Housing Finance Corp. Yifeng Jia, 2019, Nomis Solutions. Xueli Cao, 2018, FedEx Services. Sanha Noh, 2019, Korea Capital Market Institute. So Hyun Joo, In Progress.

#### **DEPARTMENT SERVICE**

University of Missouri: Department Executive Committee, 2019-20. P&T Coordinator, 2018-19. Salary Advisory Committee, 2018-19, 2019-2020. Junior Faculty Recruiting Chair, 2017-18, 2018-19. Faculty Recruiting Coordinator, 2015-2016. Ad-hoc committee on faculty teaching loads, chair, 2015-2016. Faculty Recruiting Committee Chair, 2012-13, 2013-14. Graduate Program Committee, 2011-12, 2012-13, 2013-14. Tenure Review Committee, 2012.

University of Virginia:

Director of Graduate Studies, August 2005-July 2008. Graduate Financial Aid Committee Chair 2005-06, 2006-07, 2007-08, 2009-10. Graduate Program Committee Chair, 2005-06, 2006-07, 2007-08. Distinguished Majors Program Committee, 2002-03, 2003-04, 2004-05. Macroeconomics Faculty Search Committee, 1999-00, 00-01, 01-02, 03-04, 04-5, 05-06, 08-09. Time Series Econometrics Faculty Search Committee, 1999-00, 2000-01, 2001-02, 2006-07. Econometrics Faculty Search Committee, 2003-04, 2004-5, 2005-06. International Finance Faculty Search Committee, 2006-7, 2007-08, 2010-11. Finance Faculty Search Committee, 1999-2000. Junior Any Field Search Committee, 2007-08. Senior Any Field Search Committee, 2006-07, 2007-08. Any Rank, Any Field Search Committee, 2007-08. Macroeconomics Workshop Organizer 2000-01, 2005-06. Econometrics Workshop Organizer 2001-02, 2003-04, 2004-05. Department Third Year Faculty Review Committee, 2007, 2009, 2010. Department Tenure Review Committee, 2005, 2009, 2010.

### UNIVERSITY SERVICE

University of Missouri College of Arts and Sciences Promotion and Tenure Committee, 2019-20. A Taste of Arts and Sciences, Speaker.

University of Virginia:

Arts and Sciences Third-Year Faculty Review Committee, 2007, 2010. Jefferson Scholars Foundation Faculty Advisory Committee, 2007-08. Economics Department Assessment Coordinator for Southern Association of Colleges and Schools, University-wide Review and Assessment, 2007. Lower-division (first and second year undergraduates) advising, 2000-01, 2001-02.

### **PROFESSIONAL SERVICE**

*National Science Foundation* Economics Panel Member (2 year term). External Economics Department Review Committee Member, SUNY-Buffalo, 2019.

**Referee:** American Economic Review, Journal of Political Economy, Econometrica, Journal of Monetary Economics, International Economic Review, Review of Economics and Statistics, Journal of Econometrics, Journal of the European Economic Association, Journal of International Economics, Review of Economic Dynamics, Journal of Economic Dynamics and Control, Journal of Forecasting, Journal of Business and Economic Statistics, Journal of Applied Econometrics, Review of International Economics, Journal of Macroeconomics, Oxford Economics Papers, Oxford Bulletin of Economics and Statistics, Journal of Money, Credit and Banking, Economica, Scandinavian Journal of Economics, Journal of Economics and Business, Macroeconomic Dynamics, The BE Journals in Macroeconomics, IMF Staff Papers, Studies in Nonlinear Dynamics and Econometrics, Southern Economic Journal, Computational Economics, Economic Theory, Quantitative Finance, Finance Research Letters, Economics Letters, Canadian Journal of Economics and Finance, Journal of International Money and Finance, North American Journal of Economics and Finance, Journal of Banking and Finance, International Journal of Central Banking, American Economic Journal: Macroeconomics, CESifo Economic Studies, International Finance.

Grant Proposal Reviewer: National Science Foundation, Social Sciences and Humanities Research Council of Canada, European Research Council, Hong Kong Research Grants Council.

Book Reviewer: Addison-Wesley Publishing, Cambridge University Press, W.W. Norton & Co., Thomson South-West.

#### **CONFERENCE ORGANIZATION**

"24<sup>th</sup> Annual Symposium of the Society for Nonlinear Dynamics and Econometrics," March 2016, Tuscaloosa, Alabama (Program Committee Member).

"9th International Conference on Computational and Financial Econometrics," London, December 2015

(Scientific Program Committee member).

"25<sup>th</sup> (EC)<sup>2</sup> Conference," Universitat Pompeu Fabra, Barcelona, December 2014 (Scientific Committee).

"Midwest Macro Conference," University of Missouri, Spring 2014 (co-organizer with Joe Haslag).

"Fiscal Policy in the Aftermath of the Financial Crisis," European Commision, Brussels, Belgium, March 2012, (co-organizer with Eric Leeper, Robert Kollmann and Werner Roeger).

"Financial Markets and Macroeconomic Policies in the Aftermath of Crises," University of Namur, Belgium, October 2011 (co-organizer with Romain Houssa).

## CONSULTING

UCSB Economic Forecasting Project, April 2011.

IMF World Economic Outlook, chapter consultant:

"Decoupling the Train? Spillovers and Cycles in the Global Economy," April 2007.

"Global Imbalances: A Saving and Investment Prospective," September 2005.

"Output Volatility in Emerging Markets," April 2005.

"The Global House Price Boom," September 2004.

### HONORS

One of three finalists for the Council of Graduate Studies International Distinguished Dissertation Award (best dissertation in the Social Sciences written in the previous 2 years), 2000.

D.C. Spriestersbach Dissertation Award, (best dissertation in the Social Sciences written in the previous 2 years), University of Iowa, 2000.

Paul R. Olson Award (best second year paper), Economics Department, University of Iowa, 1996.

### PAPER PRESENTATIONS

Conference Presentations (scheduled and past)

NBER-NSF Seminar on Bayesian Inference in Econometrics and Statistics, August 2021 (virtual). Western Economic Association, June 2021, (virtual).

Society for Nonlinear Dynamics and Econometrics session at the 2021 ASSA meeting (virtual). Online macro workshop by Renmin University of China, June 2020, (invited speaker).

Online macro worksnop by Remmin University of China, June 2020, (invited speaker).

Computational and Financial Econometrics, London, UK, December 2019 (invited session). EABCN Conference "Advances in Business Cycle Analysis", Madrid, Spain 30-31 May 2019.

Chinese Economists Society 2019 North America Conference, Lawrence Kansas, April 2019.

Conference on Computing in Economics and Finance, Milan, Italy, June 2018.

Computational and Financial Econometrics, London, UK, December 2017 (invited session). Midwest Macro Conference, Pittsburgh, November 2017.

IMF Annual Research Conference, "The Global Financial Cycle," November 2017.

2017 North American Summer Meetings of the Econometric Society, St Louis, June 2017.

EABCN-CEPR conference "Time-varying Models for Monetary Policy and Financial Stability", European University Institute, Florence, Italy, June 2017.

21<sup>st</sup> International Conference on Macroeconmic Analysis and International Finance, Crete, May 2017 (Keynote speaker).

2016 Conference on Computational and Financial Econometrics, Bordeaux, France.

2016 Taipei International Conference on Growth, Trade and Dynamics, June 2016 (invited).

24th CEPR European Summer Symposium in International Macroeconomics, Helsiniki, May 2016. Conference on Pecuniary Externalities, LAEF, UC Santa Barbara, April 2016. Society For Nonlinear Dynamics and Econometrics, Tuscaloosa, Alabama, March 2016. American Economic Association Meeting, San Francisco, January 2016. Computational and Financial Econometrics, London, December 2015 (special invited session) NBER Methods and Applications for DSGE Models workshop, Philadelphia, PA, October 2015. 11<sup>th</sup> Dynare Conference, Brussels, Belgium, September 2015. European Economic Association, Mannheim Germany, August 2015. 2<sup>nd</sup> Annual Conference of the Society for Economic Measurement, Paris, France, July 2015. International Association for Applied Econometrics, Thessaloniki, Greece, June 2015. Shanghai Macroeconomics Workshop, Shanghai, China, June 2015 (invited). Midwest Macro Conference, St Louis, May 2015. Society For Nonlinear Dynamics and Econometrics, Olso, Norway, March 2015. Econometric Society North American Meetings, January 2015, Boston. Nonlinearities in Macroeconomics and Finance, ECB, Frankfurt, Germany, December 2014. 8<sup>th</sup> International Conference on Computational and Financial Econometrics, December 2014, Pisa, Italy. 12<sup>th</sup> Hong Kong Institute for Monetary Research Summer Workshop, Aug 2014 (invited). International Association for Applied Econometrics, London, UK, June 2014. Conference on Computing in Economics and Finance, Oslo, Norway, June 2014 Macroeconomic Challenges Facing Low-Income Countries, Washington DC, January 2014. 2<sup>nd</sup> Workshop on International Economics, Federal Reserve Bank of Atlanta, December 2013. European Economic Association, Gothenberg Sweden, August 2013. Macroeconomic Challenges Facing Low-Income Countries, Pre-Conference, Washington DC, July 2013. Society for Economic Dynamics, Seoul, Korea, June 2013. Shanghai Macroeconomics Workshop, Shanghai, China, June 2013 (invited). Global Spillovers and Economic Cycles, Banque de France, Paris, May 2013 (invited). NBER International Finance and Macroeconomics, Boston, March 2013. Missouri Economics Conference, March 2013. The Macroeconomics of Sovereign Debt, Namur, Belgium, November 2012. NBER International Seminar on Macroeconomics, Olso, Norway, June 2012. International Conference on Computing in Economics and Finance, Prague, CZ, June 2012. Midwest Macro Conference, South Bend, IN, May 2012. Macro Policies After the Crisis, Reserve Bank of New Zealand, Wellington, NZ, December 2011. Quantitative Macroeconomics Conference, Reserve Bank of Australia, Syndey, AU, December 2011. Jacques Polak Annual Research Conference, IMF, Washington DC, November 2011. Missouri Economics Conference, St Louis, Mo, October 2011. Global Interdependence Decoupling and Recoupling, CESifo Conference, Venice Italy, July 2011. Challenges in Open-Economy Macroeconomics after the Financial Crisis, St Louis Fed, June 2011. Society for Computational Economics, San Francisco, June 2011. NBER International Finance and Macroeconomics, Boston, March 2011. Workshop on Central Bank Forecasting, Federal Reserve Bank of Kansas City, October 2010. Econometric Society 10<sup>th</sup> World Congress, Shanghai, China, August 2010. NBER Summer Institute, Dynamic Equilibrium Models, Boston, July 2010. Society for Economics Dynamics, Montreal CA, July 2010. St Louis Federal Reserve Bank Econometrics Workshop, November 2009. Joint Statistical Meeting, Washington, DC, August 2009. NBER International Finance and Macroeconomics Summer Institute, Boston, July 2009. Monetary Policy and the Business Cycle: Lessons for (from) the Crisis, Bundesbank, April 2009. Testing Open Economy Models, Bank of Greece, Athens, Greece, March 2009. Nowcasting with Forecast Combination, Reserve Bank of New Zealand, December 2008. The Macroeconomics of Emerging Markets, Mexico City, Mexico, October 2008. Workshop on Methods and Applications for DSGE models, Cleveland Fed, October 2008 NBER International Finance and Macroeconomics Summer Institute, Boston, July 2008.

Conference on Money, Credit, and Policy, St Louis Fed, May 2008. Methods and Topics in Economic and Financial Dynamics, Dallas, April 2008. Virginia Social Science Association, Lexington, VA, March 2008. Workshop on Methods and Applications for DSGE models, Cleveland Fed, October 2007 Federal Reserve Bank of St. Louis Econometrics Conference, August 2007. Society for Economic Dynamics, Prague, June 2007 Frontiers of Central Banking, Budapest, May 2007 American Economic Association Meeting, Chicago, IL, January 2007 Econometric Society Meeting, Chicago, IL, January 2007 Frontiers of Macroeconomics, Montreal, Canada, June 2006 Workshop on Methods and Applications for DSGE models, Cleveland Fed, October 2006 American Economic Association Meetings, Boston MA, January 2006 Southern Economic Association, Washington DC, November 2005. Workshop on Methods and Applications for DSGE models, Cleveland Fed, October 2005 Housing and the Macroeconomy, Atlanta Fed, May 2005 NBER, Universities Research Council, December 2004 Southern Economic Association, New Orleans, November 2004. 2nd Euro Area Business Cycle Network Conference, Frankfurt, Germany, December 2003. North American Meeting of the Econometric Society, June 2003, Chicago II. Midwest Macroeconomics Conference, May 2003, Chicago, IL. First Workshop, Euro Area Business Cycle Network, March 2003, Madrid, Spain. IMF Global Linkages Conference, January 2003, Washington DC. Winter Meetings of the Econometric Society, January 2003, Washington DC. NSF-NBER Time Series Conference, Fall 2002, Philadelphia, PA. Common Features in Rio, August 2002, Rio de Janeiro, Brazil. Society for Economic Dynamics, 2002 Summer Meeting, New York, NY. IMF Global Linkages Pre-Conference, April 26, 2002, Washington, D.C. Midwest Macroeconomics Conference, Spring 2002, Nashville, TN. Society for Computational Economics, Summer 2001 Meeting, June 2001, New Haven, CT. NBER Monetary Economics Conference, April 2001, Boston, MA. Winter Meetings of the Econometric Society, January 2001, New Orleans, LA. 2000 World Congress of the Econometric Society, August 2000, Seattle, WA. NBER Summer Institute 1999, Boston, MA. North American Meeting of the Econometric Society, Summer 1999, Madison, WI. Midwest Macroeconomics Conference, Spring 1999, Pittsburgh, PA. Midwest Macroeconomics Conference, October, 1998, Bloomington, IN. Society for Economic Dynamics, 1998 Summer Meeting, Philadelphia, PA. Midwest Macroeconomics Conference, St Louis MO, April 1998.

Invited Seminars

2019: Federal Reserve Bank of Dallas, Texas A&M University.

2017: Bank of Greece

2016: University of Texas-Arlington, Notre Dame

2015: North Carolina State University, Bank of England

2014: Cardiff University (Wales, UK), University of East Anglia (England, UK), City University of Hong Kong, University of Hong Kong, The Hong Kong University of Science and Technology, Institue of Economics at Academia Sinica (Taiwan), Shanghai University of Finance and Economics

2013: Bank of Portugal, Guanghua School of Management (Peking University, China), Cardiff University (Wales, UK), Emory University, Federal Reserve Bank of Kansas City.

2012: Federal Reserve Bank of Kansas City, Iowa State University

2011: Federal Reserve Bank of Dallas, Fannie Mae, Michigan State University, Federal Reserve Bank of San Francisco, Australian National University, University of Adelaide (Australia).

2010: University of Missouri, Cardiff Business School, University of Kansas, Bank of England, Riksbank (Sweden), Central Bank of Turkey, Bilkent University (Turkey).

2009: Bundesbank (Frankfurt, Germany), CERGE-EI (Prague, Czech Republic), Cardiff University (Wales, UK), Federal Reserve Board of Governors, Koc University (Istanbul, Turkey), Princeton University, Clemson University.

2008: Bank of England, Cardiff University Business School (Wales, UK), Katholieke Universiteit Leuven (Belgium), College of William and Mary, Reserve Bank of New Zealand.

2007: North Carolina State University, University of Iowa

2006: European Central Bank/Bundesbank/Center For Financial Studies (Frankfurt), George Washington University, Federal Reserve Bank of Richmond, Federal Deposit Insurance Corporation

2005: Emory University, Indiana University, Purdue University, Federal Reserve Board of Governors, Federal Reserve Bank of Atlanta

2004: Bank of Canada, University of Pennsylvania

2003: Georgetown, University of Northern Illinois

2002: Yale University, University of Pittsburgh, Ohio State University, Princeton University, West Virginia University, Virginia Commonwealth University, American University, University Quebec-Montreal, Federal Reserve Banks of Atlanta, Kansas City, St.Louis and Richmond.

2001: Duke University, Federal Reserve Bank of Minneapolis, Federal Reserve Board of Governors, Kogod school of business at American University.

2000: University of Maryland, Davidson College.

1999: University of Michigan, University of Illinois-Urbana-Champaign, Pennsylvania State University, University of Virginia, Federal Reserve Bank of Richmond, University of Texas-Austin, Stanford University, Wharton Business School, Federal Reserve Board of Governors, University of Chicago Graduate School of Business

1998: Purdue University