

# CIPRIAN NECULA

## CONTACTS

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- personal page: [www.dofin.ase.ro/cipnec/](http://www.dofin.ase.ro/cipnec/)

## PROFESSIONAL EXPERIENCE

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- Oct. 2001 – present, Bucharest University of Economic Studies, Department of Money and Banking, various teaching and research positions, since 2013 Professor ;
- Oct. 2012 – present, Researcher, University of Zurich, Department of Banking and Finance, Chair in Quantitative Finance (Prof. Walter FARKAS) - SCIEX Fellowship (2012-2013), Marie Curie Fellowship (2015-2017) ;

## EDUCATION

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- 2015 - MSc in Computational Biology and Bioinformatics, ETH Zurich
- 2012 - Habilitation in Economics, Bucharest University of Economic Studies
- 2009 - PhD in Finance, DOFIN, Bucharest University of Economic Studies, supervisor: Prof. Moisa ALTAR
- 2003 - MSc in Stochastic Processes, University of Bucharest, Faculty of Mathematics
- 2002 - MSc in Financial Markets, DOFIN, Bucharest University of Economic Studies
- 2001 - BA in Economics, Bucharest University of Economic Studies, Faculty of Finance and Banking
- 2001 - BA in Mathematics, University of Bucharest, Faculty of Mathematics

## INTERESTS AND ACTIVITIES

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- financial mathematics and risk management;
- macroeconomic modeling;
- complexity

## PROGRAMMING SKILLS

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- OxMetrics, R, Matlab/Octave, Maple, Eviews;
- Visual C++, Visual Basic;

## SELECTED RESEARCH GRANTS

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- **international grants**
- 2015-2017 - **Marie Curie IEF Grant**: “Heterogeneity and the Volatility of Financial Assets” - *post-doctoral fellow*;
- 2012-2013 - **SCIEX Post-Doctoral Grant** : “The Interaction of Agents and Asset Price Dynamics” - *post-doctoral fellow*
- 2010-2011 - **CERGE/GDN RRC-X Grant**: “Macroeconomic Implications of Population Ageing and Pension Reform in Romania” – *principal investigator*;
- 2009-2010 - **CERGE/GDN IRC Grant**, „City Size Distribution Dynamics in Transition Economies: A Cross-Country Investigation” – *principal investigator*;
- 2002-2004 - **British Academy Research Project “Joint Projects with South East Europe”**: “Volatility in Financial Markets in Eastern-European Countries”, coordinator: Dr. Simon BURKE (University of Reading) – *researcher*;
- **national grants**
- 2010-2012 – **CNCS-UEFSCDI PNII\_RU\_PD Project**: “Modeling the Interconnections between the Financial System and the Real Sector using Mechanical Statistics Principles” – *principal investigator*;
- 2011-2012 - **CNCS-UEFSCDI PNII\_PCE Project**, „Uncertainty, Complexity, and Financial Stability” – *researcher*;
- 2009-2011 - **CNCS-UEFSCDI PNII\_PCE Project** “Modeling the Influence of Uncertainty, Volatility and Risk on the Dynamics of Complex Socio-economic Systems” – *researcher*;
- 2007-2010 – **CNCS-UEFSCDI PNII Project**: “Innovation and economic growth” – *researcher*;
- 2005-2008 - **CNCS-UEFSCDI CEEX Project**: “Economic growth, employment and competitiveness in a knowledge-based economy” – *researcher*;

## SELECTED POLICY ORIENTED PROJECTS

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- 2011-2012 – **SPOS Project** – “European Semester: ensuring sustainable economic growth through sound public finances. Lessons for Romania” - *senior researcher*;
- 2009-2010 – **SPOS Project** – “Developing a Medium Term Fiscal Framework for Romania” - *senior researcher*;
- 2007-2008 - **World Bank Project** – “Improving the Capacity of Policy Analysis and Forecasting of the Ministry of Economy and Finance” – *researcher*;
- 2005-2006 – **PAIS III Project**: - “Capital Account Liberalization and the Competitiveness of the Romanian Economy” – *researcher*;
- 2004-2006 - **PHARE Project** – “Strengthening the capacity of analysis, macroeconomic forecast and elaboration of economic policies within the National Commission of Prognosis, the Ministry of Economy and Trade and the Prime Minister Cabinet” – *researcher*;

## REVIEWER

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- member of the editorial board of *The Review of Finance and Banking*
- reviewer for *European Journal of Operational Research*, *Economic Modelling*, *Quantitative Finance*, *Applied Economics*, *Computational Economics*, *Economic Research*

## DISTINCTIONS

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- national: Georgescu Roegen Diploma (2005, 2006), Diploma for Excellence in Research (2013), CFA Romania Award for Best Research Paper, Section “Finance” – “*A General Closed Form Option Pricing Formula*” (2014)
- international: Best Reviewer Award of *European Journal of Operational Research* (2010)

## OTHER PROFESSIONAL ACTIVITIES

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- Director (2009-present) and Assistant Director (2003-2009) of the MSc Program in Finance and Banking – DOFIN
- Director (2009-present) of Center for Advanced Research in Finance and Banking (CARFIB) at the Bucharest University of Economic Studies

## LANGUAGES

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- English: advanced level
- French: intermediate level
- German: beginner

## SELECTED PUBLICATIONS

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### 1. Papers in peer-reviewed journals

- “A Two-Factor Cointegrated Commodity Price Model with an Application to Spread Option Pricing”, *Journal of Banking and Finance*, 77, 2017, [doi: 10.1016/j.jbankfin.2017.01.007](https://doi.org/10.1016/j.jbankfin.2017.01.007) (with W. Farkas, E. Gourier, and R. Huitema);
- “Quantifying the recapitalization fund premium using option pricing techniques”, *Economics Letters*, 114, 3, 2012, [doi: 10.1016/j.econlet.2011.11.002](https://doi.org/10.1016/j.econlet.2011.11.002) (with A-N Radu);
- “Long Memory in Eastern European Financial Markets Returns,” *Economic Research*, 25, 2, 2012, [doi: 10.1080/1331677X.2012.11517512](https://doi.org/10.1080/1331677X.2012.11517512) (with A-N Radu);
- „A Two–Country Discontinuous General Equilibrium Model”, *Economic Computation and Economic Cybernetics Studies and Research*, 44, 2, 2010;
- „Modeling the Dependency Structure of Stock Index Returns using a Copula Function Approach”, *Romanian Journal of Economic Forecasting*, 13, 3, 2010;
- “A Copula-GARCH Model”, *Economic Research*, 23, 2, 2010, [doi: 10.1080/1331677X.2010.11517408](https://doi.org/10.1080/1331677X.2010.11517408) ;
- „Estimating Potential GDP for the Romanian Economy. An Eclectic Approach”, *Romanian Journal of Economic Forecasting*, 13, 3, 2010 (with M. Altar and G. Bobeică);
- „Estimating the Cyclically Adjusted Budget Balance for the Romanian Economy. A Robust Approach.”, *Romanian Journal of Economic Forecasting*, 13, 2, 2010 (with M. Altar and G. Bobeică);
- “Modeling Heavy-Tailed Stock Index Returns Using the Generalized Hyperbolic Distribution”, *Romanian Journal of Economic Forecasting*, 10, 2, 2009;
- “Modeling the Economic Growth in Romania. The Influence of Fiscal Regimes”, *Romanian Journal of Economic Forecasting*, 9, 4, 2008 (with M. Altar and G. Bobeică);
- “Modeling the Economic Growth in Romania. The Role of Human Capital”, *Romanian Journal of Economic Forecasting*, 9, 3, 2008 (with M. Altar and G. Bobeică);
- “Option Pricing in a Fractional Brownian Motion Environment”, *Mathematical Reports*, vol.6(56), no. 3, 2004.

## 2. Papers in conference proceedings and edited volumes

- “The Impact of Cointegration on Commodity Spread Options”, in Glau, K., Z. Grbac, M. Scherer and R. Zagst (Eds.), *Innovations in Derivatives Markets*, Springer, pp. 421-435, 450 pag., 2016, (with W. Farkas, E. Gourier, and R. Huitema);
- “Fiscal policy and economic growth in Central and Eastern European countries”, in Socol C. (Ed), *Emerging macroeconomics. Case studies - Central and Eastern Europe*, Nova Science, 2012 (with Altar M. and G. Bobeică);
- “The Dependency Structure of Stock Market Returns in Central and Eastern European Countries”, in Socol C. (Ed), *Emerging macroeconomics. Case studies - Central and Eastern Europe*, Nova Science, 2012 (with A-N Radu)
- „Modeling Stock Returns Dynamics in Central and Eastern European Emerging Markets,” in Papanikos T. (Ed), *Economic Essays*, ATINER, 2012, (with G.- V. Anghelache and A.-N. Radu)
- „The Dynamics of Bank Assets Volatility in Central and Eastern European Countries”, in Mastorakis N. et al (Eds), *Models and Methods in Applied Sciences*, 2011. (with A-N Radu and A. Trifan).
- “Estimation of Equilibrium Real Exchange Rate and of Deviations for Romania”, in Iancu A. (ed.); *Economic convergence*, C.H. Beck; 2008 (with Altar, M., L. Albu, I. Dumitru)

## 3. Books

- *Implementing a Medium Term Fiscal Framework for Romania*, IER Publishing House, 2010 (coauthor);
- *Option Pricing. Volume I – Black Scholes Merton model* (in Romanian), ASE Publishing House, 2009
- *Option Pricing. Volume II – Multifactor models* (in Romanian), ASE Publishing House, 2009
- *Assessing Public Finance Sustainability in Romania* (in Romanian), ASE Publishing House, 2008 (coauthor)
- *An Assessment of the Volatility of the Romanian Macroeconomic Environment* (in Romanian), ASE Publishing House, 2008 (coauthor)
- *The Impact of Capital Account Liberalization on the Exchange Rate and the Competitiveness of the Romanian Economy*, IER Publishing House, 2006 (coauthor);