Research and Innovation

Research Expenditures

Notable new research awards in 2013-14 (incl. PIs, Amount, Title and Funding Agency)

- **Bahel:**
  - Social Sciences and Humanities Research Council (SSHRC) Insight Grant: "Fairness, Stability, and Non-Manipulability in the Presence of Intermediaries", Collaborator of Christian Trudeau (PI)

- **Ball:**

Faculty awards/honors (e.g., Humboldt Fellowships, NSF CAREER awards, etc.):

Number of manuscripts, number of books and book chapters (CY 2013); list high impact papers:

- **Ashley:** “An ARFIMA Model for Volatility Does Not Imply Long Memory” (with D. M. Patterson, Chapter 1 of *Nonlinear Time Series and Finance*, Universidad de Guadalara: Guadalajara. This was accepted for publication in 2013, will appear in 2014.
  - **Bahel:** 2 papers published
  - **Dominiak:** 2 papers published
  - **Ge:** 1 paper published
  - **Haller:** 2 papers published
  - **Li:** 1 paper published
  - **Salehi:** 1 paper published
  - **Spanos:** 2 papers published
  - **Tideman:** 3 papers published
  - **Tsang:** 1 paper published

Number of presentations (CY 2013); notable invited lectures:

- **Ashley:**
  - **Presentations:**
    - Presented paper (“The Oil Price – Real Output Relationship: Does Persistence Matter?”) at Symposium on Nonlinear Dynamics and Econometrics in Milan, Italy in March, 2013
Bahel:

- **Invited Seminars:**
  - “Strategic Resource Extraction and Adoption of a Substitute under Learning by Doing” (with Ujjayant Chakravorty: University of Windsor, Economics Seminar Series, March 2013)
  - Montreal Natural Resources and Environmental Economics Workshop, March 2013

- **Presentations:**
  - “Strategic Resource Dependence and Adoption of a Substitute under Learning-by-Doing”
    - 9th Spain-Italy-Netherlands Meeting on Game Theory (SING9), Vigo, July 2013
    - European Association of Environmental and Resource Economists (EAERE), Toulouse, June 2013

Ball:

- **Presentations:**

Dominiak:

- **Presentations:**
  - Warsaw International Economic Meetings, (University of Warsaw)

Ge:

- **Presentations:**

Gebremariam:

- **Invited Talks:**
  - Conducted a Radio Interview on “From POW (“Alem Bekagn Prison”, Ethiopia) to PhD (Virginia Tech): The Success Story of an Eritrean Nationalist and Its Lessons to Young Eritreans and their Parents” with Voice of Eritrea, Canada, 13 April 2014
  - Gave a Pal-talk Seminar on “The Mindset of PFDJ Supporters: The Challenges of Transition from Dictatorship to Democracy in Eritrea, ” to the public in Harnnet Paltalk Discussion Room, 05 April 2014
• Participated in a Radio Panel Discussion on “How Important is National Reconciliation in Eritrea?”, Voice of Eritrea, Canada, 09 March 2014
• Conducted a Radio Interview on “How Do We Measure Success and Failure of Eritreans in the Diaspora,” with Voice of Eritrea, Canada, 23 February 2014
• Gave a Pal-talk Seminar on “The Road Map to a Democratic and Prosperous Eritrea: The Challenges of Building Democratic Political Institutions, and Inclusive Economic and Socio-cultural Institutions in Eritrea, Part II,” to the public in Teshamo Eritreafor Democracy and Justice Paltalk Discussion Room, 27 April 2013.

- Presentations:
  - “Regional Spillovers and Convergence in Appalachia: A Spatial Econometric Perspectives,” 9th Annual Appalachian Spring Conference in World History and Economics, in Boone, North Carolina, April 12, 2014

- Haller:
  - Invited Seminars:
    - Queen’s University Belfast
  - Presentations:
    - Networks and Externalities, LSU, Baton Rouge
• SAET, Economic Theory, Paris

  ☐ Li:
    ▪ Presentations:
      • Southern Economic Association Annual Conference, Tampa, FL on Nov. 2013
      • Midwest Economic Association Annual Conference, Chicago, IL on Mar. 2014

  ☐ Macieira:
    ▪ Presentations:

  ☐ Simundza:
    ▪ Presentations:
      • International Atlantic Economic Society Conference, Philadelphia, Oct 2013

  ☐ Spanos:
    ▪ Invited Talks:
      • May 4-5, 2013: Presented an invited seminar at the Conference on Ontology and Methodology, organized by the Philosophy Department, Virginia Tech, entitled: “Ontology and Methodology in Statistical Modeling and Inference,”
      • June, 11, 2013: Seminar presentation at the Central Bank of Cyprus, entitled: “Statistical Misspecification and Untrustworthy Evidence: Revisiting the traditional approach to econometrics”
      • August 6, 2013: Ministry of Finance and Central Bank of Cyprus, presented a paper entitled: “A Small Macroeconometric Model for the Cyprus Economy”
      • November 7, 2013: Ministry of Finance and Central Bank of Cyprus, presented a paper to the representatives of the IMF, the European Central Bank and the European Commission a seminar entitled: “Forecasting key variables of the Cyprus Economy: the sustainability of government debt over the medium term”
• November 26: Department of Economics, University of Washington, Seattle, presented a paper entitled: “Confronting theory with data: evaluating DSGE modeling”

  Presentations:
  • July 14-18, 2013: Participated in the 12th Conference on Research on Economic Theory and Econometrics, Ursuline School of Naxos, Naxos, Greece” – Presented “Confronting Theory with Data: Model Validation and DSGE Modeling”

  Tideman:
  • Presentations:

- Links and support from university’s research investment institutes (ICTAS, VTCRI, VBI, Fralin, VTTI, ISCE, ICAM, ICAT):
  • Ball:
    ▪ Appointed as an ISCE fellow for Fall 2013 to continue to study neuroeconomics
    ▪ Provided assistance to Kelley Kadlec, a freshman Economics major, to earn a position working at VTCRI during the summer

- Number of post-doctoral positions in STEM-H research areas:

- Examples of links with NCR for research into issues of security and resiliency:

- Examples of partnerships with external collaborators which have enabled VT to compete more effectively for external funding:

  **The Life of the Mind**

- Faculty and departmental teaching awards (incl. college, university and national awards):
  • Bahel: 2012-2013 Department of Economics Undergraduate Courses Faculty of the Year
  • Ball: Appointed to the Virginia Tech Faculty of Health Sciences
  • Gebremariam:
    ▪ Virginia Tech Teacher of the Week – Center for Instructional development and education Research (CIDER)
    ▪ Favorite Faculty – Favorite Faculty Committee and Housing and Residence Life
Li: Virginia Tech Teacher of the Week – Center for Instructional development and education Research (CIDER)
Trost: Recognized as an “Outstanding Teacher” by the Panhellenic Community
Tsang: 2012-2013 Department of Economics Graduate Course Faculty of the Year

- Undergraduate student achievements and awards (e.g., Goldwater Scholars, Man/Woman of the Year):
- Graduate student achievements and awards (incl. college, university and national awards):
- Grants in undergraduate teaching and learning (e.g., PhysTec):
- Grants in graduate education (e.g., IGERTS):

- One to two notable events or programs related to undergraduate education (e.g., first year of a signature course or FYE):
  - Ball:
    - New course created: NEUR 4454. This course will be an elective in the new COS undergraduate degree program in Neuroscience and will eventually be cross-listed as ECON 4454 and PSYC 4454. As of Dec 31 the course had been approved by the COS Curriculum Committee and was working its way through the rest of the governance system. The course is designed to be interdisciplinary with appropriate prerequisite courses for students in each of the involved majors.

- One to two notable events or programs related to graduate recruitment and/or education:

- Examples of research experiences and experiential learning opportunities for undergraduates:

- Examples of international experiences for undergraduate students:
  - Natalie Cauley, departmental outstanding junior, received an internship in Senegal to study microfinance

- Examples of international experiences for graduate students:

- Any additional examples that address goals in Virginia Tech’s “Plan for a New Horizon”:
  - Ways in which computational science and skills for managing and analyzing complex data sets are integrated across a wide range of disciplines
  - Use of technology in classrooms and examples of distance-learning opportunities
  - Incentives for teaching and learning through distance education
o Creation of flexible classroom spaces that fully support e-learning components

o Quality and availability of academic advising from orientation through graduation
  ▪ Erika Perdue, our Undergraduate Staff Advisor continues to develop
    methods to help students successfully navigate through our program in a
    timely and efficient manner

o Examples of STEM-related activities fostering entrepreneurship, science and
  technology policy, and ethics

**The Virginia Tech Experience**

➤ Faculty service (Editorships, NSF/NIH program managers or panel members, leadership
positions in professional societies):
  o Ball:  
    ▪ Served as a panelist on the NSF Graduate Research Fellowship Panel, January 2013
    ▪ Served as a panelist on the NSF EARS (Enhancing Access to the Radio
      Spectrum) panel, July 2013
  o Dominiak:  
    ▪ Served as a member of scientific committee for the Risk, Uncertainty, and
      Decisions (RUD) Conference
  o Haller:  
    ▪ Associate Editor for:
      • Journal of Economics, 2005–
      • International Game Theory Review, 2002 –
      • The Manchester School of Economics, 1997 –
  o Salehi:  
    ▪ Associate Editor, Middle East Development Journal
    ▪ Editorial Board, International Journal of Energy Studies

➤ Examples of economic development (e.g., industrial partnerships, patents):

➤ Study Abroad programs:

➤ PK-12 STEM programs:

➤ Examples of Community and Student Engagement:
  o Ashley:  
    ▪ Served on 9 Ph.D. Committees, Co-Chaired 1
    ▪ Served as Director of Graduate Studies
    ▪ Served on College Honorifics Committee
    ▪ Took a lead role on the Departmental P&T Review Committee
    ▪ Mentored Guo Li and Co-Mentored Kwok Ping Tsang
    ▪ Participated in Search Committee Equity & Access program
    ▪ Served on Faculty Senate
Bahel:
- Served on 2 Ph.D. Committees, Co-Chaired 2 and Chaired 1
- Served on Department Head Search Committee
- Served as a member of the College of Science Diversity Committee
- Served as a member of the Editorial Board of the College of Science Student Research Magazine
- Referee for journals:
  - Canadian Journal of Economics
  - Energy Policy
  - Games and Economic Behavior
  - International Journal of Game Theory
  - Journal of Public Economic Theory
  - International Game Theory Review
  - Mathematical Social Sciences
  - Scandinavian Journal of Economics
  - Resource and Energy Economics
  - Journal of Environmental Economics and Management

Ball:
- Served on 5 Ph.D. Committees
- ECON representative to College of Science Promotion and Tenure Committee
- ECON representative to the College of Science Neuroscience Hiring Committee
- Member of the curriculum committee for the proposed Neuroscience undergraduate degree program.
- Member of the curriculum committee for the Translational Biology, Medicine and Health (VTCRI) which has recently been approved by SCHEV.
- Member of the admissions committee for the Translational Biology, Medicine and Health (VTCRI) which has recently been approved by SCHEV.
- Member of Undergraduate Honor System (Panelist)
- Member of Graduate Honor System (Panelist)
- Facilitator for Graduate Honor System
- Participated in Preparing the Future Professorate, 2013 GTA Training Workshop on Tuesday, August 20th by giving a lecture on establishing effecting course policies.
- Member of Department Head Search Committee
- Mentor for Zhou Yang and Adam Dominiak
- Referee for journals: (including)
  - AER
  - Southern Economics Journal
  - Journal of Economic Behavior and Organization
  - Economic Letters
  - Experimental Economics
  - Journal of Economic Psychology.
- National Science Foundation ad-hoc reviewer

Cothren:
- Served as head of the Graduate Qualifying Exam Committee
  - **Dominiak:**
    - Chairs 1 Ph.D. Committee
    - Served on Graduate Qualifying Exam Committee
    - Invited and hosted several seminar speakers
    - Referee for journals:
      - Journal of Economic Theory
      - Mathematical Social Sciences
  - **Ge:**
    - Served on 9 Ph.D. Committees
    - Served as President of the College of Science Faculty Association
    - Served on Graduate Program Committee
    - Served as Chair of Personnel Committee
    - Invited and hosted seminar speaker
    - Referee for journals:
      - Journal of European Economic Association
      - World Economy
  - **Gebremariam:**
    - Served as a Marshall with regalia for Spring Commencement 2013
    - Served as an Usher for the Fall Graduate and Undergraduate Commencements 2013
  - **Haller:**
    - Served on 2 Ph.D. Committees, Co-Chaired 1
    - Referee for journals:
      - Journal of Economic Theory
      - International Journal of Game Theory
      - Journal of Public Economic Theory
      - Review of Economics of the Household
  - **Macieira:**
    - Served on 1 Ph.D. Committee
    - Served on the College of Science Curriculum Committee (COSCUR)
    - Referee for journals:
      - NSF
      - International Game Theory Review
      - Journal of Industrial Economics
  - **Salehi:**
    - Served on 1 Ph.D. Committee, Chaired 1 Ph.D. Committee
    - Served on Department’s Graduate Program Committee
    - Reviewer for:
      - Feminist Economics
      - Iranian Studies
      - Economic Journal
  - **Simundza:**
    - Organized an informal seminar series to allow for opportunities for open discussions on active research
o **Spanos:**
  - Served on 4 Ph.D. Committees
  - Referee for journals:
    - Econometric Theory
    - Communications in Statistics: Theory and Methods
    - Philosophy of Science
    - Statistical Science
    - Journal of Economic Methodology
    - Synthese
    - Journal of Statistical Theory and Practice
    - The American Journal of Political Science
    - Ecology
    - IEEE Transactions on Information Theory

o **Tideman:**
  - Chaired 3 Ph.D. Committees, Co-Chaired 1 Ph.D. Committee
  - Chaired the Department Head Search Committee
  - Referee:
    - Constitutional Political Economy
    - Book proposal for Greenleaf Publishing

o **Trost:**
  - Serves as the Principles and Tutoring Center Coordinator
  - Reviewed manuscripts:
    - Southern Economics Journal
    - Journal of Economics Education

o **Tsang:**
  - Served on 10 Ph.D. Committees, Co-Chaired 1 Ph.D. Committee
  - Department Representative to the Library
  - Faculty Annual Review Committee
  - Graduate Program Committee
  - Qualifying Examination Committee

o **Yang:**
  - Served on 8 Ph.D. Committees

➤ **International collaborations and programs (include description along with region and country):**
  - **Dominiak:** Visiting Professor at Paris-Dauphine University, June-July 2013
    - Completed the paper, “Ambiguity Aversion and Machina’s Paradoxes: A Reappraisal” with Prof. Lefort. The paper has already been submitted for consideration for publication in the *American Economic Review*
  - **Spanos:**
    - **Project 1:** May-July 2013 – Sound econometrics in action - Constructing a Macroeconometric Model for the Cyprus Economy
      - On April 2, 2013, an agreement was signed between troika [European Commission (EC), European Central Bank (ECB) and International Monetary Fund (IMF)] and the government of Cyprus
on ‘An Economic Adjustment Programme’, which aims to address the financial, fiscal and structural challenges facing the economy. In early May of 2013 Spanos was invited by the Central Bank of Cyprus to lead a project on constructing a Macroeconometric Model for the Cyprus economy to be used as the basis for the negotiations between the government of Cyprus and troika as to the most effective economic policy measures for stabilizing the economy and rendering government debt sustainable over the medium run. After constructing a macroeconometric model, began negotiations with troika to avoid Greece’s regrettable experience which was primarily due to unreliable forecasts by troika that led to a much worse recession and three times the period for recovery than the one forecasted by troika. The key points of disagreement with troika’s forecasts was the depth and duration of the recession. Troika based the agreement on a series of GDP forecasts which were very different from those produced the constructed macroeconomic model for Cyprus. Instead of a very deep but short recession the model predicted a much shallower but longer recession. In particular, toika’s forecasts for Cyprus’ GDP growth were: -8.7, -3.9, 1.1, 1.9 and 2.3 for the years 2013-2017. The constructed model’s forecasts were: -5.40 -4.42 -3.23 -0.86 0.73 for the same period. The forecasting reliability of the constructed model for the Cyprus economy was first validated by the actual data for 2013 which turned out to show a reduction exactly as predicted by the model: -5.4! The exact prediction is clearly a coincidence, but all the other predictions for 2013, including that of Standards and Poor, Fitch and Moody’s, where between -8.7 and -12%. The key difference between the forecasts stemming from the constructed macroeconometric model and the other forecasts is that the former was based on the internal dynamics of the Cyprus economy that can only be captured using sound econometric techniques, as opposed to generic multipliers that the other forecasts were based on.

- Project 2: June 14-June 27, 2013 – sound econometric forecasting - Forecasting real estate prices in Cyprus

- An important component of the agreement between the government of Cyprus and troika ‘An Economic Adjustment Programme’ signed on April 2, 2013, pertained to the recapitalization of the Banking sector in Cyprus. A key variable for the total amount of money needed for the recapitalization was the change in the real estate prices in Cyprus for the period 2013-2015. This is because the overwhelming majority of bank loans have real estate as collateral, and when those prices go down a proportion of bank loans are no longer viable. In light of that, Troika, with the IMF leading, put forward a simple econometric model that was used to forecast real estate prices for the period in question which
predicted a cumulative house price reduction of 36%. Spanos was asked by the government of Cyprus to evaluate the IMF model and advise them on the reliability of the 36% reduction in real estate prices forecast. He evaluated the IMF model and found it wanting. He was asked to respecify the model with a view to come up with a more adequate one and use that as the basis for forecasting. The respecified model gave rise to a forecast of cumulative price of -19% reduction in real estate prices for the period 2013-2015. Subsequently, he was asked by the government of Cyprus to lead the team of negotiators with troika which involved explaining the problems with IMF’s original model and making a case for the much lower reduction on the basis of a more reliable model. As a result of the intense negotiations that followed the presentation of the revised model and its forecasts, the representatives of troika accepted a much lower forecast for the real estate price reduction, 25%. This reduction reduced the required recapitalization amount by about 6 billion euros. The current real estate price reductions are closely tracked by the forecasts of the revised model.

- **External Examiner for Economics Department evaluation (May 28-31)**
  - Participated in a committee of external academics from the USA and Europe, appointed by the HELLENIC QUALITY ASSURANCE AND ACCREDITATION AGENCY, to evaluate the Economics Department at the Athens University of Economics and Business, Athens, Greece.

- **Tsang:**
  - Visiting Assistant Professor at City University of Hong Kong – June-August 2013
  - Columnist for:
    - Hong Kong Economic Journal (newspaper)
    - Economic Journal Monthly (magazine)
    - AM730 (newspaper)

➢ Any additional examples that address goals in Virginia Tech’s “Plan for a New Horizon”:
  - Partnerships with businesses and government that “address critical and complex problems by co-locating researchers and practitioners in ‘living labs’ where users, in partnership with researchers, drive problem formulation and research design”
  - Examples leveraging the strengths of our business programs to provide a competitive advantage
  - Examples of strategic global investment, development of research programs on energy and critical technologies, informatics, infrastructure, policy and planning at VT’s international centers

*Diversity*
One to two notable activities by students, faculty and/or staff activities promoting diversity:

Diversity awards and honors (e.g., MAOP scholarships; McNair Scholars):