

Department of Economics Annual Report

Calendar Year 2005

PART I – EXECUTIVE SUMMARY

Department Chair's Summary

This year the Department of Economics continued on the steady progress path in research, scholarship, teaching, and outreach set during the last five years. This progress has been severely hampered, however, by the diminished faculty resources at this point available to us for use in meeting our extensive teaching commitments.

Research/scholarship. In terms of *scholarly publications* this has been a very good year both in *published* and *forthcoming* papers. This year's scholarly publications bring out both the core component as well as the interdisciplinary dimension of our research. The visibility of the department has been enhanced with some key publications in both key prestigious journals and highly visible Handbooks, as well as faculty involvement in journal editing. There was also significant success in attracting new grant money, with Deborah Mayo and Catherine Eckel receiving *National Science Foundation* Awards. *James M. Buchanan* (University Distinguished Emeritus Professor) has helped greatly to enhance the visibility and scholarship of the department. He financed the 2005 Buchanan Colloquium, entitled: "If Men Were Angels - The Role of Counterfactual Motivational Assumptions in Social Analysis," which was attended by fourteen distinguished academics from the USA and Europe, including five Econ. faculty members. In addition, three members of the department (D. G. Mayo, A. Spanos and S. Ball) organized a *Workshop on the Philosophy and Methodology of Experimental Economics*, with participation from leading experimental economics and eminent philosophers of science, including Vernon Smith (Nobel Prize in Economics 2002).

Graduate and Undergraduate Education. The small number of completed Ph. D.'s this year represents a seasonal effect; the number in the last two years was 13 and for the next two years is likely to be higher than 8. The steady decrease in faculty members over the last several years is now beginning to more obviously affect the department's ability to meet its teaching and research obligations. The loss of our three primary teachers of "Principles of Economics" courses (Econ 2005-6) has hampered our ability to offer as many sections as usual. In our attempt to enable our seniors to graduate on time we were forced to reduce the number of 3000 level courses and increase the number of our 4000 courses, needed for graduation. The loss of Anya McGuirk as a faculty member of the Agricultural and Applied Economics (AAEC) department has stretched our ability to teach our graduate econometrics courses to its limit, with the department Chair having to teach a full load for several years now. The Economics department currently teaches close to 90% of the graduate courses of the joint with (AAEC) Ph. D. program. These additional demands have clearly handicapped the department's efforts to enhance its research money profile.

Outreach. We enhanced our collaboration with Sungkyunkwan University (South Korea); this effort which enabled approximately 24 Korean graduate students to come to Blacksburg in January 2005 for a one-month intensive course in Applied Econometrics taught by A. Spanos. For this activity A. Spanos was awarded the *College of Science Award for Outreach Excellence*.

FACULTY

1. Full-Time Faculty for Calendar Year 2005

Professors:	Richard Ashley, Catherine Eckel, Rob Gilles, Hans Haller, Amoz Kats, Deborah Mayo (50% Economics/50% Philosophy), Djavad Salehi-Isfahani, Aris Spanos, Nicolaus Tideman
Associate Professors:	Richard Cothren, Nancy Lutz, Mark Stegeman, and Dennis Yang
Assistant Professors:	Marcelo Mello and Jeffrey Yau (Fall 2005)
Instructors:	Hojjat Ghandi, Andreas Koutris, Glen Marku and Blair Mongado
Visiting Assistant Professors:	Jannet Chang (Spring 2005), Chetan Dave (Spring 2005), and Steve Jordan (Spring 2005)
Visiting Professors:	Kyung Baik (Fall 2005)

2. Full-Time Faculty on Leave in 2005

Catherine Eckel began leave in the Fall of 2005 to visit The University of Texas at Dallas.

Marcelo Mello began leave in the Fall of 2005 to go to Brazil to honor legal obligations to the Brazilian Government.

Mark Stegeman was on leave as a visiting professor at the University of Arizona during the Spring and Fall of 2005. He resigned effective Spring 2006.

PART 2: ACADEMIC ACCOMPLISHMENTS

I. LEARNING

UNDERGRADUATE PROGRAM

This year our major challenge in the undergraduate program was finding ways to meet the demand for seats in our Principles of Economics (Econ 2005-2006) sequence. We previously relied on a number of very large (500+ student) sections taught by a small group of faculty. These colleagues – Mark Stegeman, Mark McLeod, and Mike Hilmer – have all now left Virginia Tech. So as to partially compensate, we have recruited a number of 5th year doctoral

students as instructors and Professors Djavad Salehi and Richard Cothren are now teaching very large sections of the courses in this sequence.

These efforts are not a permanent solution to the staffing problem. In particular, we would like to rely less on our advanced graduate students. While the students appreciate the greater financial support that comes with a lecturer position, extensive teaching slows their progress to degree.

Department faculty made extensive revisions to existing course offerings this year. Djavad Salehi's efforts to integrate a new web-based technology into a very large section of Principles of Economics and the continuing development of the WITS project under Sheryl Ball and Catherine Eckel deserve special mention. Nancy Lutz has taken over as Director of Undergraduate Studies, so the department once again has a faculty member dedicated to student advising. (Sheryl Ball had continued to serve in this role on an ad-hoc basis after her departure for the COS Dean's Office). Four students were involved in undergraduate research projects.

An itemized list of accomplishments follows, including information on undergraduate program enrollments.

1. Curriculum Development

Richard Cothren

- Prof. Cothren taught a large section on Econ 2006 (Principles of Macroeconomics) for the first time in many years. This was part of our effort to meet student needs after the resignation of Mark McLeod, who had specialized in teaching these sections. Richard developed a full set of new notes and made extensive modifications to the testbank.

Nancy Lutz

- Prof. Lutz reconfigured her Econ 4084 course (Industry Structure). The previous version of the course was taught as a writing intensive course. Last year's adoption of VIEWS requirements means that course format needed to change to include a wider range of student assignments. Students now practice several forms of professional communication in the class.

Deborah Mayo

- In Spring 2005 Prof. Mayo developed a new course (Philosophical Foundations of Statistics), offered as Econ 5984. This class was directed at economics students and was linked to a reading group she has run on this topic.
- Dr. Mayo also revised the materials for her Philosophy of Science and Economic Methodology class to include more areas of economics, including a section on the philosophy of experimental economics. This part of the course was linked to the *Workshop on the Philosophy and Methodology of Experimental Economics* organized in June 2005.

Marcelo Mello

- As part of his obligations to the Brazilian Government, Dr. Mello is currently teaching at Faculdades Ibmecc/RJ at Rio de Janeiro. In the Fall 2005 he taught two new courses. He

used Woolridge's text in econometrics to teach time series and panel data for third-year economics majors. He also wrote lecture notes (in Portuguese) on time series methods for masters students in economics to teach them time series methods and VAR analysis.

Djavad Salehi-Isfahani

- In Spring 2005 Dr. Salehi taught Principles of Economics (Econ 2005) for the first time in over 10 years. He developed a new version of the course which uses computer-aided homework assignments and online experiments to involve students in the class. The assignments and experiments were provided by Aplia, a software publisher owned by a Stanford economist. Using this system means that he can assign regular homework requiring more analytical work than is possible with multiple-choice questions, even in a very large section.
- ECON 3004 Middle East Economics: For the past three years, this course was taught as a Contemporary Issues course. He has submitted a proposal to make this course a regular offering of the Department at the 3000 level. This proposal was approved by the Department Curriculum Committee, and is now going through the College and University Curriculum Committees.

Jeffrey Yau

- Dr. Yau taught two sections of Econ 3254 in Fall 2005. This was the first class he taught at Virginia Tech. He devoted a great deal of effort to developing a full set of lecture notes and assignments. His major goal was to develop a course that would give students a first-class foundation in empirical economics.

2. Undergraduate Research

Rob Gilles

- Worked with undergraduate honors student Jacob Lackewitz (ECAS/BIO) on the development of evolutionary game theoretic models to describe and analyze the behavior of bison.

Djavad Salehi

- Supervised Honors student Ryan Luck in Fall 2005 for preliminary work on his Honors Thesis.

Nic Tideman

- Advised Erik Shilts and Lauren Howard in Spring 2005 in an inquiry into the determinants of economic growth.
- In Fall 05 he supervised Lauren Howard in background work toward a senior thesis on economic methodology.

3. Technology

Djavad Salehi

- As noted above, Prof. Salehi employed a web-based software package for homework assignments and for online experiments that were designed to let students interact with each other in simulated markets. Students were enthusiastic about this technology innovation. Prof. Salehi also employed a tablet PC to add “real time” comments to his Powerpoint slides; this was a significant improvement over his old teaching methods, which relied on standard Powerpoint slides, complemented by hand-drawn transparencies. The Aplia experiments were developed with the assistance of Sheryl Ball, who has worked as an Aplia consultant and served on the company’s board of directors.

Sheryl Ball

- Professors Ball and Eckel continued their work on the WITS project. This year’s efforts included further software development for this system, which uses wireless handheld units to allow students to participate in active classroom experiences. The technology is more flexible and powerful than “clicker” systems.

4. Student Enrollment

Tables 1 and 2 present information on class enrollments for the past five years. Table 1 shows weighted student credit hours (WSCH) for academic years for the first three years, and for calendar years 2003 and 2004, which include Spring, Summer, and Fall semesters. Table 2 shows condensed information on student headcounts for academic years for the first three years, and calendar years 2003 and 2004, which include Spring, Summer, and Fall semesters.

Table 1. Weighted Student Credit Hours: AY and CY Totals

	2000-2001 ¹	2001-2002 ²	2002-2003 ³	2003 ⁴	2004 ⁵	2005 ⁶
Total	25,339	26,749	24,165	25,978	23,276	21,586

Table 2.

Academic and Calendar Year Enrollments

¹ Student Credit Hours and Weighted Student Credit Hours by College and Department Receiving Credit, Fall 2000 + Spring 2001, prepared by the Department of Institutional Research and Planning Analysis. Report may be viewed at the following URL: https://secure.hosting.vt.edu/www.irpa.vt.edu/VT_Stats/IR%20Customers%20/Credit%20Hours,%20Class%20Sections%20and%20Grades/Credit%20Hours/Credit_HR_SCH/current/SCH%20and%20WSCH%20by%20DRC%20SCI.htm.

² *Ibid.*, Fall 2001 + Spring 2002.

³ *Ibid.*, Fall 2002 + Spring 2003.

⁴ *Ibid.*, Spring 2003 + Summer I and Summer II 2003 + Fall 2003.

⁵ *Ibid.*, Spring 2004 + Summer I and Summer II 2004 + Fall 2004.

⁶ *Ibid.*, Spring 2004 + Summer I and Summer II 2004 + Fall 2005.

	2000-2001 ⁷	2001-2002 ⁸	2002-2003 ⁹	2003 ¹⁰	2004 ¹¹	2005 ¹²
Principles (# sections)	4641 (25)	4365 (21)	4546 (23)	4,617 (29)	4,405 (28)	3,905 (27)
3000 - level (# sections)	811 (19)	895 (22)	753 (15)	929 (26)	753 (27)	582 (19)
4000 - level (# sections)	491 (13)	653 (21)	884 (23)	825 (23)	474 (20)	521 (27)
Graduate (# sections)	386 (23)	384 (25)	271 (21)	311 (45)	238 (38)	279 (24)

GRADUATE PROGRAM

In the Spring 2005, the department had a total of twenty six graduate students enrolled in the Ph.D. program, twenty-three with assistantships and three without. The class breakdown was six first-year students, six second-year students, five third-year students, and nine in their fourth or later years.

In Fall 2005, the department had a total of twenty-eight graduate students enrolled in the Ph.D. program, twenty-four with assistantships and four without. The class breakdown was six first-year students, seven second-year students, five third-year students, and ten students in their fourth or later years.

In addition to these students, who were all enrolled through the Department of Economics, the Department of Agricultural and Applied Economics (AAEC) had approximately thirty-eight students enrolled in the Ph.D. program.

1. Graduate Enrollment

Recent course enrollments are reported in Section II with the undergraduate data.

2. Graduate Degrees Awarded

The department graduated one Ph.D. student in 2005.

Christian Rojas, "Demand Estimation with Differentiated Products: An Application to Price Competition in U.S. Brewing (Nancy A. Lutz, Co-Chair; Everett B. Peterson, Co-Chair).

⁷ Virginia Tech On-Campus Teaching Load Reports, Fall 2000 + Spring 2001.

⁸ *Ibid.*, Fall 2001 + Spring 2002.

⁹ *Ibid.*, Fall 2002 + Spring 2003.

¹⁰ *Ibid.*, Spring 2003 + Summer I and Summer II 2003 + Fall 2003.

¹¹ *Ibid.*, Spring 2004 + Summer I and Summer II 2004 + Fall 2004.

¹² *Ibid.*, Spring 2005 + Summer I and Summer II 2005 + Fall 2005.

3. Curriculum Changes and Program Development

Richard Ashley

- ECON 5945 Econometric Theory and Practice: Dr. Ashley prepared the second half of this course (which was co-taught with Dr. Spanos) as an introduction to advanced topics in time series analysis.

Rob Gilles

- ECON 5984 Game Theory Topics: In response to requests from graduate students during the Spring 2005 semester, a special-study graduate course on advanced game theory and its applications was offered in the fall of 2005. The course consisted of the discussion of the following fields: (1) the application of potential game theory to public good provision, (2) the game-theoretical modeling of network formation, (3) evolutionary game theory, (4) evolutionary models of network formation, and (5) applications of network formation to mobile radio networks. This course was mainly taken by graduate students from the Bradley Department of Electrical Engineering, in particular the Ph.D. Students participating in the Mobile and Portable Radio Research Group (MPRG).
- ECON 6004 Graduate Game Theory: In the Spring of 2005, Dr. Gilles substantially revised this course to accommodate the discussion of recent developments in game theory. The course now consists of four sections: (1) a discussion of refinements of the Nash equilibrium concept for non-cooperative games; (2) a treatment of cooperative game theory, including the Core, Shapley value and the cooperative potential concepts; (3) an overview of non-cooperative potential games; and (4) a short discussion of evolutionary game theory and game theoretic models of social learning. Dr. Gilles developed his own lecture notes for this course as presently there are no textbooks tailored exactly for his objectives.

Deborah Mayo

- Econ 5984, Philosophical Foundations of Statistics. This was a new course in Fall of 2005, directed specifically toward economics students. This course was based on a revision of Econ 4985/5984 Philosophy of Science and Economic Methodology) designed to include enhanced readings in Economics and also a section on the philosophy of experimental economics. This course was linked to a reading group on this topic.

Aris Spanos

- ECON 5126: Empirical Research Methods in Economics. This course has been redesigned to put more emphasis on ensuring that the students acquire practical modeling skills in analyzing real economic data. Special emphasis is placed on methodological issues pertaining to statistical and substantive adequacy of empirical models.

Dennis Yang

- ECON 5419 Applied Microeconomic Analysis: In order to provide students a good working knowledge of the properties of various functional forms frequently used in applied research, this course was revised to incorporate the consideration of functional specifications into selective aspects of the course.

4. Graduate Student Job Placement

Christian Rojas, University of Massachusetts-Amherst, Amherst, Massachusetts, Tenure Track Assistant Professor, Resource Economics.

5. Graduate Program Assessment

The Ph.D. program continues to make progress as the result of our work in revamping the program in 1999, but also continues to show signs of stress due administrative uncertainties – e.g., the proposed merger with the Department of Agricultural and Applied Economics in 2005 – and a shortage of faculty for supervising dissertations and teaching graduate level courses in some areas. With one student graduating this year, our 2005 production is below our steady-state average production of three-to-five students per year. Preliminary results for 2006, however, indicate that this was a temporary fluctuation, which is in part related to unusually high production in 2004.

The Ph.D. program is being formally assessed this year, with a detailed report expected by August, 2006.

II. DISCOVERY

This year department faculty published thirteen articles in peer-reviewed journals. Seventeen articles were accepted for future publication in peer-reviewed journals. An additional seventeen articles appeared or were accepted as book chapters or in other scholarly outlets. One member of the faculty signed a book contract; the manuscript is not yet complete.

Two members of the faculty won external grants. Faculty gave 51 invited presentations at conferences and as invited seminar talks at other universities. We also sponsored two small conferences here at Virginia Tech.

FACULTY PUBLICATIONS

1. Papers Published in Peer-Reviewed Journals during the 2005 Calendar Year

Eckel, C. and P. Grossman (2005), “Managing Diversity by Creating Team Identity.” *Journal of Economic Behavior and Organization* 58 (3): 371-392.

Eckel, C. P. Grossman, and M. Johnston (2005), "An Experimental Test of the Crowding Out Hypothesis." *Journal of Public Economics* 89(8): 1543-1560.

Eckel, C. M. McInnes, S. Solnick, et al. (2005) "Bobbing for Widgets: Compensating Wage Differentials." *Journal of Economic Education*. 36(2):129-138.

Raa, T. Ten, and **Gilles, R. P.**, (2005), "Lindahl Equilibrium and Schweizer's Open Club Model with Semi-Public Goods", *Mathematical Social Sciences*, 49, 295-307.

Gilles, R. P., and Diamantaras, D., (2005), "New Classical Economics: Toward a new paradigm for economics?" *Division of Labor and Transaction Costs*, 1, 35-56.

Srivastava, V., Neel, J., MacKenzie, A., Lau, K., Dasilva, L., Reed, J. H., and **Gilles, R. P.** (2005), "Using Game Theory to Analyze Wireless Ad Hoc Networks", *IEEE Communications Surveys*, 7, 2-12.

Haller, H., and Sarangi, S., (2005), "Nash Networks with Heterogeneous Links," *Mathematical Social Sciences*, 50, 181-201.

Spanos, A., (2005), "The Student's t Dynamic Linear Regression: Re-examining Volatility Modeling," *Advances in Econometrics*, **20**, 289-319. [with M. Heracleous]

Spanos, A., (2006) "Econometrics in Retrospect and Prospect," pp. 3-58 in Mills, T.C. and K. Patterson, *New Palgrave Handbook of Econometrics*, vol. 1, MacMillan, London.

Tideman, T.N., and Plassmann, F., (2005) Fair and Efficient Compensation for Taking Property Under Uncertainty. *Journal of Public Economic Theory*, 7, 471-495.

Li, W., and **Yang, D. T.**, (2005), "The Great Leap Forward: Anatomy of a Central Planning Disaster," *Journal of Political Economy*, 113 (4), 840-877.

Yang, D. T., (2005), "On the Economic Analysis of China's Great Leap Forward," *China Journal of Economics*, 1 (1): 45-63. (in Chinese)

Yang, D. T., (2005), "Determinants of Schooling Returns during Transition: Evidence from Chinese Cities," *Journal of Comparative Economics*, 33, 244-264.

2. Papers Accepted at Peer-Reviewed Journals during the 2005 Calendar Year

Ashley, R., and Patterson, D. M., (2006), "Evaluating the Effectiveness of State-Switching Time Series Models for U.S. Real Output," *Journal of Business & Economic Statistics*.

Ashley, R., and Verbrugge, R. J., (2006), Comments on "A critical investigation on detrending procedures for nonlinear processes," *Journal of Macroeconomics* , 28, 192-194.

Baik, K. H., Dijkstra, B. R., Lee, S., and Lee, S. Y., (2006) "The equivalence of rent seeking outcomes for competitive-share and strategic groups," *European Journal of Political Economy*, forthcoming.

Cothren, Richard, "A Model of Optimal Legal Restrictions and Open Market Operations," *Journal of Macroeconomics*, forthcoming.

Eckel, C. and R. Wilson, "Judging a Book by its Cover: Beauty and Expectations in a Trust Game." Forthcoming, *Political Research Quarterly*.

Eckel, C. and P. Grossman, "Do Donors Care About Subsidy Type: An Experimental Study*" Forthcoming, *Research in Experimental Economics*,

Eckel, C. and P. Grossman, "Subsidizing Charitable Giving with Rebates or Matching: Further Laboratory Evidence." Forthcoming, *Southern Economic Journal*, April, 2006

S. Ball, Eckel, C. and **C. Rojas**. "Technology Improves Learning in Large Principles of Economics Classes: Using Our WITS." Forthcoming, *American Economic Review, Papers and Proceedings*, May, 2006.

Eckel, C. and R. Wilson, "Internet Cautions." Forthcoming, *Experimental Economics*, 2006

Gilles, R. P., Lazarova, E. A., and Ruys, P. H. M., "On Socio-Economic Roles and Specialization," *Economic Papers: Special Issue in Memory of Xiaokai Yang*, forthcoming.

Baron, R., Durieu, J., **Haller, H.**, and Solal, P., (2006), "Complexity and Stochastic Evolution of Dyadic Networks," *Computers and Operations Research*, 33, 212-327.

Haller, H., and Pavlopoulos, A., (2006), "To Sample or Not to Sample," *The Manchester School*, 74, 23-39.

Haller, H., Kamphorst, J., and Sarangi, S., "(Non-)Existence and Scope of Nash Networks," forthcoming in *Economic Theory*.

Haller, H., and Mousavi, S., "Uncertainty Improves the Second-Best," accepted for publication in collective volume, edited by M. Abdellaoui, R.D. Luce, M. Machina, and B. Munier.

Mayo, D. G., and **Spanos, A.**, "Severe Testing as a Basic Concept in a Neyman-Pearson Philosophy of Induction," *The British Journal of the Philosophy of Science*, forthcoming June 2006.

Mayo, D. G., and **Spanos, A.**, "Philosophical Scrutiny of Evidence of Risks: From Bioethics to Bioevidence," forthcoming, *Philosophy of Science (symposia proceedings of the 2004 PSA)*, forthcoming 2006.

Mayo, D. G., and Cox, D. R., "Frequentist Statistics as a Theory of Inductive Inference," with D.R. Cox, *The Second Erich L. Lehmann Symposium*, vol. 49, *Institute of Mathematical Statistics (IMS), Lecture Notes-Monograph Series*, forthcoming 2006.

Spanos, A., (2006), "Where Do Statistical Models Come From? Revisiting the Problem of Specification," [28 pages] forthcoming *The Second Erich L. Lehmann Symposium*, Lecture Notes-Monograph Series, vol. 49, Institute of Mathematical Statistics.

Spanos, A., (2006), "Revisiting the Omitted Variables Argument: Substantive vs. Statistical Reliability of Inference," forthcoming in the *Journal of Economic Methodology*.

Fleisher, B., and **Yang, D. T.**, (in press), "Problems of China's Rural Labor Markets and Rural-Urban Migration," *The Chinese Economy*.

Yang, D. T., (in press), "The Sources of Economic Growth," *In Lectures on Modern Economics*, edited by Guoqian Tian, Shanghai: Shanghai University of Finance and Economics Press. (in Chinese)

Pagan, Jose A., Polsky, Daniel, Ross, Sara, and **Yau, Jeffrey**, "Self-Medication in Mexico: Evidence from the Mexican Health and Aging Study," *Health Policy*, forthcoming.

3. Book Chapters and Other Scholarly Outlets. Published or Accepted for Publication During the 2005 Calendar Year

C. Eckel, K. Johnson and C. Montmarquette (2005), "Saving decisions of the working poor: short- and long-term horizons." *Field Experiments in Economics: Research in Experimental Economics*, Volume 10, edited by Jeff Carpenter, Glenn W. Harrison, and John A. List, (Greenwich, CT: JAI Press) 2005, pp. 219-260.

Gersbach, H., and **Haller, H.**, (2006), "Household Inefficiency and Equilibrium Efficiency," in Christian Schultz and Karl Vind (eds.): *Institutions, Equilibria and Efficiency: Essays in Honor of Birgit Grodal*, Springer-Verlag, Heidelberg, pp. 187-209.

Mayo, D. G., "Peircean Induction and the Error-Correcting Thesis," in R. Mayorga (ed.), *Peirce's Perspectives on Metaphysics and the Sciences*, Transactions of the Charles S. Peirce Society, 2005 (R. Mayorga, guest editor), 299-319.

Mayo, D. G., "Evidence as Passing Severe Tests: Highly Probed vs. Highly Proved" in P. Achinstein (ed.), *Scientific Evidence*, Johns Hopkins University Press, Baltimore, 2005, 95-127.

Mayo, D. G., "Philosophy of Statistics", in S. Sarkar and J. Pfeifer (eds.) *Philosophy of Science: An Encyclopedia*, Routledge, London, 2005, 802-815.

Mayo, D. G., "Values and Evidence in Science-Based Policy," for K. Shrader-Frechette (ed.), *Handbook on Environmental Philosophy*, Oxford University Press, 2006.

Mayo, D. G., "Critical Rationalism and Its Failure to Withstand Critical Scrutiny", pp. 63-96 in C. Cheyne and J. Worrall (eds.) *Rationality and Reality: Conversations with Alan Musgrave*, Kluwer series Studies in the History and Philosophy of Science, Springer, The Netherlands, forthcoming 2006.

Salehi-Isfahani, D., "Human resources in Iran: potentials and challenges," *Iranian Studies*, 38(1), March 2005, 117-147.

Salehi-Isfahani, D., "Comment on Rima Khalaf Hunaidi's 'Reform in Hindsight: Promises and Illusions in Jordan', in *Development Challenges in the 1990: Leading Policymakers Speak from Experience*, Timothy Besley and Roberto Zaghera (eds.), Oxford University Press, 2005, 295-299.

Salehi-Isfahani, D., "Microeconomics of growth in Middle East and North Africa: the role of households," in J. Nugent and M. H. Pesaran, eds., *Explaining Growth in Middle East and North Africa*, Elsevier, forthcoming 2006.

Spanos, A., (2005) "Structural Equation Modeling, Causal Inference and Statistical Adequacy," pp. 639-661, *Logic, Methodology and Philosophy of Science*, Editors, P. Hajek, L. Valdes-Villanueva and D. Westerstahl, King's College, London.

Spanos, A., (2006), "The Instrumental Variables Method revisited: On the Nature and Choice of Optimal Instruments," forthcoming in *Essays in Memory of Michael Magdalinos*, ed. by G. D. A. Phillips, Cambridge University Press, Cambridge.

Spanos, A., (2006), "Specification," entry in the *International Encyclopedia of the Social Sciences*, 2nd edition, Editor in Chief: W. A. Darity, MacMillan, London.

Spanos, A., (2006), "Specification Error," entry in the *International Encyclopedia of the Social Sciences*, 2nd edition, Editor in Chief: W. A. Darity, MacMillan, London.

Tideman, N.T., *Collective Decisions and Voting: The Potential for Public Choice*, contract signed with Ashgate Publishing.

Yang, D. T., and Chen, Weijia, (in press), "Rural Household Income Growth during Economic Reforms in China," *In Private Enterprises and China's Economic Development*, edited by Shuanglin Lin, Zhenzhong Wang, and Zunsheng Yin, Beijing: Peking University Press (in Chinese)

Yang, D. T., and Chen, Weijia, (in press), "Policy Reform, Private Enterprises, and Rural Household Earnings," *In Private Enterprise and Economic Development in China*, edited by Shuanglin Lin, London: Routledge Press.

Fleisher, B., and **Yang, D. T.**, (in press), "China's Labor Market," *In Market Reforms in China*, edited by Nick Hope, Stanford: Stanford University Press.

Yang, D. T., (2005), "Understanding Low Returns to Education during Economic Transition," In *Proceedings for International Conference on Sustainable Economic Growth in China*, Chinese Economist Society.

PRESENTATIONS/INVITED TALKS

Department faculty presented their research at 51 conferences/invited seminars.

NEW EXTERNAL GRANTS

Catherine Eckel

- *National Science Foundation Grants* (Co-PI): "The Impact of Hurricane Katrina on Charitable Giving: An Experimental Study." 11/05-10/-7. With Philip J. Grossman (PI). SGER Katrina Competition \$98,776.00 (SES-0554893)

Deborah Mayo

- *National Science Foundation Scholar's Award*: February 1, 2006-July 31, 2006: SES-0549886 (\$41,330) for the project "Learning From Error: A Philosophy of Evidence and Inference."

Djavad Salehi-Isfahani

- "Labor force participation of women in Iran: a cohort perspective. 2005. PI, with Co-PI Marenglen Marku. Economic Research Forum (Cairo). \$15,000.

DEPARTMENT SEMINARS AND CONFERENCES

The department continued its twice-a-week seminar series with some distinguished outside speakers as well as Economics faculty. We also intensified our efforts to host small conferences at the Virginia Tech campus. In addition to the Buchanan 2005 Colloquium, the department also held a *Workshop on the Philosophy and Methodology of Experimental Economics* in June 2005.

III. ENGAGEMENT

Department faculty was engaged in a variety of outreach activities this year. Notable activities included the continuing program with Sungkyunkwan University in Korea. Graduate students from Sungkyungkwan come to Virginia Tech every January for a one-month special course in Applied Econometrics. This program was developed by Aris Spanos, who continues to teach the course. Dr. Spanos received the 2005 College Award for Outreach Excellence for his efforts in this regard.

A detailed list itemized by faculty member follows.

Nancy Lutz

- Dr. Lutz' testimony in the Yamaha Motor Corp case was reported previously. In 2005, the Federal Court of Appeals overturned the district court and found for Yamaha. As a result, the Virginia law limiting the number of new motorcycle dealerships in the Commonwealth was ruled to be unconstitutional. The Commonwealth's Attorney appealed to the Supreme Court, but they refused to hear the case. Her testimony was cited by the Court of Appeals as providing evidence that the previous state statute imposed a significant burden on commerce.

Deborah Mayo

- In February 2005. Dr. Mayo gave seminars on "The Philosophy of Statistics and Philosophy of Science" to the group of Korean graduate students from Sungkyunkwan University, visiting the Economics Department for the one-month graduate course in Applied Econometrics, taught by Aris Spanos.
- June 27-29. Organized and participated in a *Workshop on the Philosophy and Methodology of Experimental Economics*, held, at Virginia Tech; co-organizers Aris Spanos and Sheryl Ball. *Participants*: Vernon Smith (Nobel 2002, George Mason), Jim Woodward (Cal Tech), Francesco Guala (Exeter, England), Cristina Bicchieri (University of Pennsylvania), Robin Cubitt (Newcastle, England), Chris Starmer (Newcastle, England), Deborah Mayo, Aris Spanos, Catherine Eckel and Sheryl Ball (Virginia Tech)
- Elected and served as the U.S. representative to an ad hoc "Ethics Review" Committee of *International Congress of Scientific Unions (ICSU)*, to carry out a strategic review of "The Responsibilities of Science and Society".

Djavad Salehi-Isfahani

- Gave a lecture to Virginia Tech International Club, Women and modernization from below in Iran, 2/25/2005 (related to his research on families and women in Iran).
- Guest lecture in Religious Studies class, spring 2005, at the request of Brian Britt and Grace Kao, instructors (related to his research on Middle East).
- Several radio interviews broadcast on Persian services of Radio France Internationale and Radio Free Europe/Radio Liberty (related to his research on Iran' economy).
- Quoted extensively in RFI/RL weekly News Bulletin and reprinted in the Journal of Turkish Weekly ("Iran: Khatami receives mixed marks for his economic and political legacies," 8/4/2005) about the content of my paper, "Iran's Third Development Plan," (related to his research on Iran).
- Discussed Iran's economy and nuclear energy with David Butterworth, reporter for the PBS nightly program Lehrer News Hour, 3/4/05 (related to his research on the world oil market and Iran).
- Discussed Iran's oil sector with Roger Trilling, reporter for The Village Voice, (related to his research on the world oil market and Iran).

Aris Spanos

- Dr. Spanos taught a month-long intensive course on applied econometrics to twenty two visiting graduate Korean students from the Dept. of Economics, SungKyunKwan University.
- Dr. Spanos organized and participated in the 2005 Buchanan Colloquium, entitled: "If Men Were Angels - The Role of Counterfactual Motivational Assumptions in Social Analysis". *Participants:* James Buchanan, Aris Spanos, Deborah Mayo, Sheryl Ball, Nic Tideman, Djavad Salehi (Virginia Tech), Geoff Brennan (Australian National University), Hartmut Kliemt (Duisburg-Essen), Viktor Vanberg (University of Freiburg), Bob Sugden (East Anglia, England), Bob Tollison (Clemson), Timothy Roth (Texas)

Nicolaus Tideman

- Responded to several inquiries of print reporters who sought the views of an economist.
- Appeared on television to explain the need for gasoline prices to rise in the wake of hurricane Katrina.

Dennis Yang

- Dr. Yang's appointment as a research fellow at the Center for China in the World Economy (CCWE) of Tsinghua University presents an extraordinary opportunity for disseminating his research findings on economic development, labor markets, and the Chinese economy. The CCWE will organize conferences according to the research interests and findings of its research fellows. By inviting policy makers, news media, and leading Chinese scholars to participate in such conferences, the CCWE aims to promote economic research and constructive discussions for making informed policy decisions in China. The working paper series is another channel of publicizing research results. Dr. Yang visited the CCWE in the summer of 2005. The first conference highlighting his research on labor markets in China is planned for the summer of 2006.
- During a trip to China in the summer of 2005, Dr. Yang delivered five public lectures on various topics in economics at Hong Kong University of Science and Technology, Shanghai Jiaotong University, Shanghai University of Finance and Economics, and the Institute of Agricultural Economics, Chinese Academy of Agricultural Science. These lectures drew large audiences from university students and faculty members and were publicized through different forms of media.

IV. DIVERSITY ACTIVITIES

In Spring 2005, Nancy Lutz continued to serve on the ADVANCE implementation group at the National Science Foundation while on leave from Virginia Tech. This group advised and assisted in the management of the ADVANCE program.

Dr. Lutz met with the ADVANCE team upon her return to Virginia Tech in Fall 2005 to discuss goals and strategies.

V. SERVICE

In this section we focus on service to the college, to the university, and to the profession.

Richard Ashley

- Served on University Council.
- Served on the College Governance Committee on behalf of the College Faculty Association.
- Served on the CALS search committee for a new chair for Agricultural and Applied Economics.
- Served on the Ph.D. committees of the following students: Cheng (AAEC), Rusticelli (University of Bologna), and Whitacre (AAEC).

Richard Cothren

- Referee for the *Southern Economic Journal*

Robert Gilles

- Served on the College Curriculum Committee.
- Served on the Ph.D. committees of Rekha Menon (MPRG), Ramakant Komali (MPRG), Emiliya Lazarova (Tilburg University) and Virginie Masson (University of Pittsburgh, Pittsburgh).
- Organized three sessions on network theory for the annual meetings of the Southern Economic Association.
- Associate Editor of *Division of Labour and Transaction Costs*, a new peer-reviewed journal focusing on institutional and Smithian approaches to economic development.
- Referee for *Journal of Economic Theory*, *Games and Economic Behavior*, *Economic Theory*, *International Journal of Game Theory*, *Mathematical Social Sciences*.
- Ad hoc reviewer for NSF, Economics Program.

Hans Haller

- Served on the College Dean's Search Committee.
- Served on the COS Promotion and Tenure Committee.
- Served on the Ph.D. committee of Tak Yamagiwa (AAEC).
- Referee for *American Economic Review*, *Econometrica*, *Economics Letters*, *Economic Theory*, *Games and Economic Behavior*, and *The Journal of Mathematical Economics*.

Amoz Kats

- University Honor System councilor.
- Referee for *International Journal of Game Theory*, *International Journal of Industrial Organization*, *Regional Science and Urban Economics*, *Journal of Regional Science*, and the *Southern Economic Journal*.

Nancy Lutz

- Program Officer for the Economics Program at the National Science Foundation through July 2005.
- Associate Editor of the *Journal of Industrial Economics*
- Referee for the *American Economic Review*
- Ad hoc reviewer for NSF's Economics Program.

Deborah Mayo

- Served on the Lakatos Prize Award Committee.
- Chaired the Virginia Tech hiring committee for Philosophy of Science.
- Organized and ran the *Workshop on the Philosophy and Methodology of Experimental Economics* held in June 2005 at Virginia Tech; this was a joint effort with Sheryl Ball and Aris Spanos.
- Member of the Program Committee for the Philosophy of Science Association.
- Prepared (with J. Woodward, B. Sugden, and F. Guala) a symposium for the 2006 meeting of the Philosophy of Science Association on the philosophy of experimental economics.
- Served on the Ph.D. Committee of Eric Walker (Aeronautical Engineering/NASA).
- Refereed for *The British Journal of Philosophy of Science*, *Journal of Economic Methodology*, and reviewed a book manuscript for Cambridge University Press.

Djavad Salehi

- Chaired the search committee for a new faculty position in Islamic Studies in the Center for Interdisciplinary Studies. The position was filled in March 2005.
- Served on the selection committee for NSF's PIRE (Partnerships in International Research and Education) program.
- Member of the Program Committee for the International Society for Iranian Studies Biennial Conference, planned for August 2006 in London.
- Member of the Board of Trustees of the Economic Research Forum. This is a network of economists interested in the Middle East. Dr. Salehi designed, administered and tabulated a survey questionnaire and solicited views from ERF fellows in order to evaluate the Managing Director. He also served on the sub-committee charged with searching for a new Managing Director.
- Served on the Ph.D. committees of Guy Hareau (AAEC) and Jackline Bonabana-Wabbi (AAEC).
- Served on Masters degree committees of the following students: Marcia Bowman (Forestry), Gentian Kostandini (AAEC), and Eftila Tenellari (AAEC).
- Reviewer for *Economic Development and Cultural Change*.

Aris Spanos

- Served on the Ph.D. Committee of John El Khoury (Civil Engineering); completed Nov. 28.

- Refereed for *Journal of Econometrics*, *Econometric Reviews*, *Econometric Theory*, *Econometrics Journal*, *British Journal for the Philosophy of Science*, *Journal of Financial Econometrics*, *Journal of Economic Methodology*, *NSF*

Nic Tideman

- Served on the College Honorifics Committee.
- Attended the annual meeting of the Council of Georgist Organizations, which is related to his ongoing research on economic justice.
- Attended the annual meeting of the American Monetary Institute, where he presented the paper, “The Rationale for Brick Money.”

Dennis Yang

- Served on the College Cluster Hiring Committee.
- Served on the University International Research Advisory Committee.
- Served on the Ph.D. committees of the following students: Fuzhi Chen (AAEC), Yang Liang (AAEC), Xiang Xue (AAEC), and Chengqui Wu (Political Science and Urban Development).

Jeffrey Yau

- Dr Yau actively participated in meetings and engaged in discussion with the faculty members in the Developmental Science Initiative (DSI) for potential collaborations for grant proposals and research.

VI. HONORS & AWARDS

- **Dr. Rob Gilles**, Outstanding Paper Award from the SDR Forum for the paper “Game Theory Models for Cognitive Radio Algorithm Analysis”, joint with Jody Neel and Jeff Reed.
- **Dr. Nancy Lutz**, National Science Foundation Director’s Award for Collaborative Integration for her contributions to the Human and Social Dynamics Special Initiative.
- **Dr. Aris Spanos**, College of Science Award for Outreach Excellence
- **Dr. Dennis Yang**, invited to become a BP Senior Fellow of the Center for China in the World Economy at Tsinghua University.

VII. FUTURE DIRECTIONS

With only 13.5 faculty members some of whom are on leave the department is currently below the critical mass necessary to survive as a top-50 research department; the Economics Department had 25 full-time faculty positions in 1990. The average number of full-time Economics faculty positions at the 24 peer institutions for Virginia Tech is 33, and the average number of full-time faculty positions in the top 20 U.S. Economics departments is 50.

The current shortfalls in faculty positions are in most core areas, but the most serious and urgent are in macro/international economics, a crucial topic area in an era of globalization.

In order to have any prospect of survival as a serious research department, the number of faculty members in residence needs to rise to 17 over the next two years. The hiring emphasis should be in two areas. The first, as noted above, is the area of macro/international economics. The second area is in applied economics and/or applied econometrics. The department has an excellent opportunity to establish an ongoing strength in applied econometrics crucial for its survival by hiring several new faculty in such areas as labor economics, public economics, industrial organization and health economics. The department has already established a certain reputation for training graduate students very well in the practical aspects of empirical modeling; that could provide an area of actual and perceived comparative advantage for our Ph. D. program. The undergraduate econometrics program also needs strengthening: in all our interactions with prospective employers we find that practical skills in data modeling is a major priority in hiring decisions. In this connection we would like to eventually be able to offer a two-term undergraduate econometrics sequence and a greater variety of applied upper-division courses.

The hiring of new faculty will be done with three interrelated objectives in mind. *First*, each new hire needs to be willing and able to form strong interdisciplinary collaborations, so that he or she can make a significant contribution to the university's goals. This is especially important because funding sources are increasingly focused on interdisciplinary collaborations. The cluster hire program emphasizes this and we intend to take full advantage of this opportunity. The *second* objective is to hire faculty who will be able to collaborate, learn and grow as scholars. This is especially important when hiring junior faculty; we need to ensure that they will be given the opportunity to develop as scholars in their own right in an environment conducive to research. The *third* objective is to solidify the foundation of the department by hiring junior faculty in the immediate future in order to enhance our ability to attract more senior faculty in the intermediate future.