Graciela Chichilnisky Curriculum Vitae August 2018

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Recent Positions:

2018 -	Member of the editorial board of Economics of Disasters and Climate Change
2018 -	Advisor/board member to H.S.H. Prince Albert II of Monaco – Transition Forum
2015 -	Visiting Professor of Economics, Stanford University
2014 -	Associate Editor, International Journal of Economics and Finance
2013 -	Member of Scientific Advisory Board of the Austrian Institute for Economics Research (WIFO), Vienna, Austria
	Board Member, Ethical Markets Media, Florida
2012 -	Member, Board of Advisors, The Capital Institute, New York
2011 - 2011-	Executive Advisory Board, The Columbia Institute for Tele-Information (CITI) at Columbia Business School
	Advisor to the Climate Bonds Initiative, London, United Kingdom
2010 -	Member, Board of Advisors, Green Economic Institute, Oxford University,
2010 -	UK
	Distinguished Guest Professor, Nankai University, China
2010 -	Distinguished Visiting Professor, Beijing Normal University, Beijing, China
2010 -	Managing Director, Board of Directors Global Thermostat
2009 -	
2009 -	Consultant to the European Environmental Agency (EEA) of the European Union

2009 -	Scientific Editor for the United Nations Environment Program (UNEP) Geneva
2009 -	Consultant to World Bank "International Perspective on Gender Gap" Project
2008-2012	Principal Investigator, Air Force Office of Scientific Research (AFOSR) project, "Optimal Statistical Decisions with Catastrophic Risks" (FA-9550-09-1-0467)
2008 - 2012	Senator, Columbia University, New York
2007 - 2011	Sir Louis Matheson Distinguished Professor, Monash University, Melbourne, Australia
1998 -	Director, Columbia Consortium for Risk Management (CCRM) Columbia University, New York
1996 -	Professor of Statistics, Columbia University Tenured since 1996
1995 - 2008	UNESCO Professor of Mathematics and Economics
1994 -	Director, Program on Information and Resources (PIR)
1979 -	Professor of Economics, Columbia University Tenured since 1979

Personal:

- Born in Buenos Aires, ArgentinaUS citizen since 1991
- Two children
- English, Spanish, and French

Academic Positions:

2010-2012	Referee for the Annual Conference of the European Association of Environmental and Resource Economist
2011-2012	Distinguished Visiting Professor, Beijing Normal University, Beijing, China
2010 -	Distinguished Guest Professor, Nankai University, China
2007 - 2010	International Monetary Fund Institute, Washington DC, June, 2007
2007 - 2012	Sir Louis Matheson Distinguished Professor, Monash University, Melbourne, Australia
1998 -	Director, Columbia Consortium for Risk Management (CCRM)

Visiting Academic, Deakin University, Melbourne, Australia, August 1996, July, 2002
Visiting Professor, Ecole des Hautes Etudes en Sciences Sociales and University of Paris X, Nanterre, June-July, 1996
UNESCO Professor of Mathematics and Economics
Director, Program on Information and Resources, Columbia University (PIR)
Salinbemi Chair, Universita di Siena, Italy
Visiting Professor of Economics and Operations Research, Department of Economics, Department of Operations Research, and Institute for tional Studies, Stanford University
Profesor Visitante, Universidad Catolica de Buenos Aires, Argentina, August, 1993, April, 1994
Visiting Professor, Stanford Institute for Theoretical Economics (SITE), Stanford University, Summers of 1991, 1992, 1993, and 1994
Visiting Professor, University of Siena, Italy, Summer Terms of 1991, 1992, and 1993
Professeur Missionaire, Universite des Antilles et de la Guyane, Short visits, Spring terms
Visiting Professor, Institute of Mathematics and its Applications, University of Minnesota
Keynes Chair in Economics, University of Essex, United Kingdom
Professor of Economics, Columbia University, Tenured since 1979
Fellow, Harvard Institute of International Development, Harvard University
Associate Professor of Economics, Columbia University, Tenured since 1979
Lecturer, Department of Economics, Harvard University
Postdoctoral Fellow, Harvard University

Professional Positions:

2011 -	Guest Editor, <u>Economic Theory</u> : Special Issue on Economic Theory and the Global Environment. Vol. 49, No. 2, February, 2012.
2009 -	Editor for the Journal Environmental Economics
2009 -	Member, Board of Directors of Global Thermostat
2006 -	Editorial Board, Scientific Journal International
2002 -	Editorial Board, SocioTopology, VNTL Publishers
2002 -	Editorial Board, Nonlinear Analysis, Pergamon Press
2002 2001 -	Member of Board of Trustees, Mediterranean College, Athens, Greece Member of Editorial Board of Risk Decision and Policy
2001 -	Editorial Advisory Board, Arthaniti, Department of Economics, University of Calcutta, India
1999 - 2000	National Selection Committee, Fulbright Fellows, USA
1999 -	Member of Advisory Board of Metroeconomica
1996 - 1998	US Lead Author, Intergovernmental Panel on Climate Change (IPCC)
1999 -	Member of Board of Editors, Review of Development Economics
1998 -	Member of the Editorial Advisory Council, Pacific Economic Review
1997	Advisor, United Nations Framework Convention on Climate Change, Lead Negotiator of Kyoto Protocol, EU Committee member and Advisor to Ambassador Raul Estrada Oyuela. In charge of writing carbon market into Kyoto Protocol
1997	Member of Board of Editors, Journal of Economic Integration, Institute for International Economics Sejong Institution, Seoul, Korea
1997 -	Member of Editorial Board, Advances in Applied Mathematics, MIT, Cambridge, Massachusetts
1997 -	Member of Editorial Board, Non Linear World, International Federation of Nonlinear Analysts (IFDA)
1997 -	Member of the Technical and Scientific Advisory Committee for the International Program on Research and Development, Ministry of Environment, Water Resources and Legal Amazon, Brazil

1996 - 2000	Editorial Board, International Review of Economics and Finance JAI Press Inc, 55 Old Post Road No 2, PO Box 1678, Greenwich, Connecticut 06836-1678
1996 - 1997	Member of the Second National Forum on Biodiversity, National Academy of Sciences, Washington, DC
1996 -	Editorial Board, Risk, Decision & Policy Chapman & Hall, 2-6 Boundary Row, London SE1 8HN, United Kingdom
1996 -	Member of the Editorial Advisory Council, Pacific Economic Review, Blackwell Publishers, Oxford, United Kingdom and Cambridge, Massachusetts
1994 -	Member, Advisory Board, Metroeconomica, Blackwell Publishers Journal, PO Box 805, 108 Cowley Road, Oxford OX4 1FH, United Kingdom
1993 - 1996	Contributing Author and Advisor, Intergovernmental Panel on Climate Change (IPCC)
1993 - 1996	Editorial Board, Economics Letters Elsevier Science SA, PO Box 564, CH-1001, Lausanne, Switzerland
1993 - 1994	Chair, Organizing Committee, Conference and Workshop on Geometry, Topology and Markets, The Fields Institute of Mathematical Sciences, Canada
1993 - 1994	Member, Program Committee, Econometric Society North American Summer Meetings, Toronto, Canada
1993 -	Editorial Board, Journal of International Trade and Economic Development, Routledge, 11 New Fetter Lane, London EC4P 4EE, United Kingdom
1993 -	Editorial Board, Journal of International and Comparative Economics Physica-Verlag, Tiegarten Strasse 17, D-69121, Heidelberg, Germany
1991 - 1996	Member of the Council of Social Choice and Welfare Society, Editorial Board, Social Choice and Welfare, Springer-Verlag, Postfach 31.13.40, D- 10643, Berlin, Germany
1985 -	Editorial Board, International Journal of Development Planning Literature Spellbound Publications PVTLTC 177/28, Model Town, Delhi Road, Medical Mor, Rohtak 124001, India
1984 - 1996	Editorial Board, Social Choice and Welfare, Springer-Verlag, Postfach 31.13.40, D-10643, Berlin, Germany

1981 - 1986	Editorial Board, Review of Economic Studies, Blackwell Publishers, 108 Cowley Road, Oxford, OX4 1JF, United Kingdom
1980 - 1985	Editorial Board, Advances in Applied Mathematics Academic Press, 6277 Sea Harbor Drive, Orlando, Florida 32887-4900
1976 - 1986	Associate Editor, Journal of Development Economics, Elsevier Science, Amsterdam, The Netherlands

Professional Associations:

Member of the American Mathematical Society Member of the American Economic Association Member of the American Statistical Association Member of the American Chemical Society

Listed In:

"Great Immigrants - Great Americans" New York Carnegie Foundation NYTimes A5 7/4/17 "Great Minds of the 21st Century" 2008 – 2009 1000 Outstanding Scholars of the 21st Century 2000 Outstanding Intellectuals of the 21st Century Dictionary of International Biography Men of Achievement Outstanding People of the 21st Century Strathmore's Who's Who Who is Who in America Who is Who in American Education Who is Who in the East Who is Who in the East Who is Who in the World Who is Who of Intellectuals Who is Who of Science and Engineering Top 10 Most Influential Latinos in USA – Hispanic Business Magazine 2007

Education:

High School: Instituto National de Lenguas Vivas, Buenos Aires, Argentina

No undergraduate studies

PhD Program in Mathematics, Massachusetts Institute of Technology

PhD Program in Mathematics, University of California, Berkeley Degrees: MA, PhD in Mathematics, Thesis title: Lifting Action on Spin Manifolds PhD Adviser: Professor Jerrold Marsden

PhD Program in Economics, University of California, Berkeley Degree: PhD in

Economics, Thesis title: Manifolds on Preferences and Equilibria PhD Adviser: Professor Gerard Debreu, Nobel Laureate in Economics

Honors, Awards, and Selected Presentations:

2018	"Albert Nelson Marquis Lifetime Achievement Award" 2017-2018 recipient
2015	"2015 CEO of the Year Award", Yale University Club, New York, IAIR, April 16
2015	Keynote Speaker "Rethinking Capitalism: Sustainability with Graciela Chichilnisky." The Buchanan Institute, Edinburgh, Scotland, May 14, 2015
2014	"Global Leadership" Prize, American Renewable Energy Institute Aspen, Colorado, August 10 2014
2014	Opening Keynote Address "Avoiding Extinction." Indian Institute for Foreign Trade (IIFT) New Delhi, India, December 13-19, 2014
2014	Keynote Speaker "Avoiding Extinction." LUCID, Jazz Club 85 Ave A, New York, NY October 15, 2014
2014	Keynote Speaker "Avoiding Extinction" Closing the Carbon Cycle for Sustainability. I-SUP conference Antwerp Belgium, September 1-3, 2014
2014	Keynote Address "Avoiding Extinction." American Renewable Energy Day (AREDAY) Aspen, Colorado, August 10-13 2014
2014	Keynote Speaker "International Seminar on Green Economics: the Road to a Balanced & Healthy Economy", Meghalaya Economic Association, in collaboration with the Indian Institute of Management, Shillong, India, August 7, 2014
2014	Keynote Speaker "Avoiding Extinction." annual conference Green Economics Institute, Oxford University, Trinity College July 2014
2014	Opening Keynote Speaker "Green Capitalism: The End of Fear", EuroMoney Conference on Sustainable & Responsible Capital Markets: Investing & Financing for a Better Future, The Pierre Hotel, New York, March 12, 2014
2013	Plenary Keynote Speaker "The Foundations of Probability with Black Swans". International Congress of Mathematicians Annual Meeting, University of New South Wales, Australia, December 11, 2013

2013	Presentation "CO2 Capture: A Clean and Sustainable Alternative Applicable to Bioenergy". Bio-energy Conference of the Americas, Medellin, Colombia, October 10-11, 2013
2013	"Avoiding Extinction" TEDx Talk, National Technical University NTU Buenos Aires, Argentina, May 4, 2013
2013	Board Member American Renewable Energy Institute. Aspen Colorado, May 2, 2013
2013	Keynote Speaker "The Economic Future of Europe", In <u>Modeling Growth</u> <u>and Socio-Ecological Transition</u> Austrian Institute of Economic Research (WIFO), Vienna, Austria, March 12-14
2012	Plenary Talk "The Foundations of Probability & Statistics with Black Swans". Annual International Meeting of the Mathematical Society & the Canadian Mathematical Society, Montreal, Canada, December 8-10
2012	Keynote Speaker "Avoiding Extinction: Air Capture of CO ₂ " Air Capture Seminar, UK Institute of Mechanical Engineers, London, October 16
2012	"Avoiding Extinction". Invited presentation to Department of Engineering Sciences, University of Oxford, Oxford, UK, October 15
2012	Speaker, "Why Economists Disagree." Helix Center Roundtable, Helix Psychoanalytic Society Institute, New York, October 13
2012	Panelist, Blouin Creative Leadership Summit. Louise Blouin Foundation, New York, NY, September 20-21
2012	Speaker and Moderator, European Association of Environmental and Resource Economists (EAERE), the Fondazione Eni Enrico Mattei (FEEM) and the University of Catania's (UNICT) 2012 Belpasso International Summer School on Environmental and Resource Economics, Belpasso, Sicily, Italy, September 2-8
2012	Keynote Speaker, "Sex and the Ivy League" North Shore Branch of the American Association of University Women (AAUW) Legal Action Fund luncheon, Great Neck, NY, April 26
2012	Invited Speaker, "Markets with Black Swans", Duncan Foley Festschrif, New School, New York City, NY. April 20 th
2012	Keynote Speaker, "Carbon Capture and Use initiatives in US and Europe", Calgary Economic Development, Calgary, Alberta, Canada, March 9

2012	Keynote Speaker, "The Kyoto Protocol Carbon Market: Reflections by its Author" Confluence Philanthropy Practitioners Meeting, Cavallo Point, Sausalito, CA, January 26.
2011	Major Keynote Speaker "History and Future of Economics and Its Methodology," Reform of Economics Workshop at Mansfield College, Oxford, United Kingdom, November 19
2011	Speaker at "Calgary Clean Tech Summit," Global Clean Energy Congress (GCEC), Calgary, Canada, November 2
2011	Speaker "Virgin Earth Challenge Conference," Pricewaterhouse Coopers LLP, London, United Kingdom, October 26
2011	Keynote Speaker, "Global Efforts to Address Climate Change," Sci-Fest Presentation, St. Louis Science Center, St. Louis, Missouri, October 22
2011	Presentation, "The Global Commons," Center in Political Economy Seminar Series, Washington University, St. Louis, Missouri, October 21
2011	Keynote Speech "Avoiding Extinction", at Back2Black Festival, Rio de Janeiro, Brazil, August 27
2011	Invited Presentation "Carbon Negative Technology" at American Renewable Energy Day, Aspen, Colorado, August 18-21
2011	Keynote Speech "A Brief History of Western Economics", New York University, June 15.
2011	Keynote Speech Plenary Panel of CO2 Utilization Workshop, UC Berkeley, California, February 17-18
2010	Panelist "Reality Check – Information & Communication Technologies for Development: what is holding us back," United Nations, Yas Marina Circuit, Yas Island, Abu Dhabi, United Arab Emirates, December 5
2010	Panel Moderator "Broadband Networks and Smart Grids at the Crossroad between ICT and Energy," CITI Conference, Columbia University, New York, December 3
2010	Panelist, "Second Encounter: The Challenge of Perserving Life," Encuentro en Mexico: Construyendo Futuros, Nonoalco-Tlatelolco, Mexico, October 20.
2010	Keynote Speaker Financial Times Conference on Sustainable Banking Renaissance Chancery Court Hotel, London, United Kingdom, June 3

2010	Keynote Speaker "Sex and the Ivy League" American Association of University Women of New Jersey Annual, Forsgate Country Club, New Jersey, April 17
2010	Headline speaker "Names Not Numbers" Second annual Editorial Intelligence symposium known as 'British Davos' – Rock Royalty, Business Leaders and Global Gurus, Portmeirion, North Wales, February 26-28
2010	Special lecture "What Happened in Copenhagen" Alcazar, Marseille Public Library, Organized by Université de la Méditerranée, Greqam- Idep and cosponsored by Université Montpellier – LAMETA, Marseille, France, February 5
2009	Main Keynote Address, "Saving Kyoto: Copenhagen: Do or Die" at the American Hellenic Chamber of Commerce – The Greek Economy Conference, Athens, Greece, November 30
2009	Opening Keynote Speech, "Preparing for Copenhagen: Saving Kyoto" at The Green Economics Institute conference on "Greening the Economy," Oxford University Club, Oxford University, Oxford, UK. November 28, 2009
2009	Keynote Address and Organizer "The Rising Tide at Copenhagen: A Win- Win Solution for Industrialized and Developing Nations" at United Nations Headquarters, New York, forum on "Developing Technical and Financial Solutions for the Survival of Small Island Developing States (SIDS): Looking Beyond Copenhagen" Cosponsored by the Alliance of Small Island States (AOSIS) and the Columbia Consortium for Risk Management (CCRM), November 12
2009	Keynote Speech "The Gender Gap" at 24orMore International Conference on Increasing the Labour Participation of Women, Warehouse de Zwijger, Amsterdam, The Netherlands, November 5
2009	Keynote Speech The Aspen Institute – Water Planted Dialogue, Wye River Conference Center, Queenstown, Maryland, October 20-23
2009	Keynote Speaker Graduate Institute for International and Development Studies Colloquium on Global Environmental Change and Its Impact on Human Societies, Geneva, Switzerland, October 8-9
2009	Public Lecture "Saving Kyoto" at Festival of Ideas, The Watershed Media Centre, Bristol, United Kingdom, October, 2
2009	World Economic Forum Global Risk Brainstorming Session, The Gore Hotel, London, United Kingdom, October 1
2009	Public Lecture "Saving Kyoto: Copenhagen and Beyond," Royal Society of Arts (RSA), London, United Kingdom, October 1

2009	Keynote Speaker "Climate Change: Are we headed for a New Cold War?," London School of Economics (LSE), Old Theatre, Old Building, London, United Kingdom, October 1
2009	Keynote Lecture "What is Sustainability?" INFER Workshop – Sustainable Public Finances in a Turbulent Global Economy, Klagenfurt University, Klagenfurt, Austria, September 29
2009	Keynote Speech "Green Economics: Can it Avert Another Cold War" at 4 th Annual Green Economics Conference, Mansfield College, Oxford University, Oxford, UK July 31
2009	Keynote Speech "How to Overcome the China – US Impasse in the Global Climate Negotiations" at Expert Meeting on Trade and Climate Change: Trade and Investment Opportunities and Challenges under the Clean Development Mechanism (CDM), Geneva, Switzerland, April 27- 29
2009	Keynote Speaker "Beyond the Global Divide: From Basic Needs to the Knowledge Revolution," Gosnell Lecture Series, Golisano Auditorium, Rochester Institute of Technology, College of Liberal Arts, Rochester, New York, April 14
2009	Keynote Speaker and Organizer of one day event at US Congress, US Senate "Sustainable Energy and Environment Caucus" with participation 37 members of the House of Representatives, Cannon Building, Capitol Hill, Washington DC, March 31
2009	Panelist, "Environment & Development", Energy Impact Conference, Geneva, Switzerland, March 16-17
2008	Keynote Address to Members of Australian Parliament on "Emissions Trading and Climate Change at the House of Parliament," Melbourne, Australia, November 12
2008	Keynote Speech "Extreme Uncertainty & the Value of Life," Seminar Series in Economics at Greqam University of Aix-Marseille, December 15
2008	Keynote Speech "Sustainable Development – Cost Benefit Analysis Balancing the Present and the Future," University of Montpellier, December 10
2008	Keynote Speech "Tecnologia y el Sistema Productivo," 8th Congreso de Economia, Buenos Aires, Argentina, November 19

2008	Keynote Speech "Averting Climate Change: New Financial Mechanisms and Technologies', Governance, Organizations and Regional Development Conference, Deakin University, Melbourne, Australia, August 1
2008	Keynote Speech "Financial Mechanisms and New Technologies: Bridging the Gap between Industrial and Developing Nations in the Global Climate Negotiations", Monash University, Workshop on Emissions Trading for Australia, August 1
2008	Keynote Speech 'Energy Security and Climate Change: Financial Mechanisms and New Technologies", Fundacion Rafael Del Pino, Rafael Calvo 39, 28010, Madrid, Spain, July 8
2008	Keynote Speech "Global Financial Mechanisms for International Payments for Ecosystem Services: Watersheds, Forests, DNA & Indigenous Knowledge, and the Global Spectrum", First UNEP Working Group Meeting on Economics, Kenya, May 6-8
2008	Keynote Speech "The Carbon Market, Past and Future", Carbon Finance North America 2008, New York, June 4-6
2008	Radio Interview "Understanding Carbon Markets," The Sound Of Ideas, hosted by Dan Moulthrop, National Public Radio, Cleveland, Ohio, June 4
2008	Keynote Speech "Regional Development & Catastrophic Risks of Natural Events," Asamblea Annual de Economistas de Puerto Rico, Puerto Rico, August 22
2008	Keynote Speech Global Convention on Climate Change, Palampur, India HP, May 30-June 1
2008	Keynote Speech COP9 Convention of Biological Diversity, Bonn, Germany, May 24
2007	Institute Environment Seminar Fiscal Affairs Department, International Monetary Fund, "Policies to Counteract Global Warming Financial Markets Can Overcome the China US Impasse Market," October
2007	IMF Presentation "Climate Change: Financial Innovation And The Carbon Market," IMF, Washington DC, June
2007	Organizer & Bi-partisan Briefing in US Congress "Energy Security and Climate Change in the Americas," Cannon House Building, Capitol Hill, Washington DC, May 23
2007	Senior Advisor to President Robert Shelton, University of Arizona
2007	"Speaking Out For Justice" Award from Feminists Against Academic Discrimination (FAAD)

2006, 2007	Co-Chair of Latin Economic Forum at the United Nations Headquarters, New York, April 2006, September 2007
2006	Invited Presentation "The Topology of Fear," University of Kansas, Laurence, Kansas. September 18-20
2006	Invited Presentation, "The Limits of Econometrics: Non-Parametric Estimation in Hilbert Spaces," (Organized by Prof. Peter Phillips, Yale Univ., in honor of Prof. Rex Bergstrom), University of Essex, Colchester, United Kingdom, May 24-25
2006	Special Advisor, President Oscar Arias, Costa Rica
2006	Selected Top Ten Most Influential Latinos in the US, Hispanic Business Magazine
2006	Program Committee of the 3rd World Congress of Environmental Economists, Kyoto, Japan, July 3-7
2006	Special Advisor, Plenary of the World Federation for United Nations Associations (WFUNA), July
2006 - 2012	Elected Member of Columbia University Faculty Senate, July
2006	Senior Advisor Member of Board of Advisors, Flandrau Science Center, University of Arizona
2006	Executive Director, Global Education, European American Women Council (EAWC)
2006	Keynote Speaker (with Finn Kydland, 2004 Nobel Laureate in Economics), Global Finance and Latin America: Financial Innovation and the Kyoto Protocol, Global Finance Conference, Rio de Janeiro, Brazil, April 26-27
2006	Co-Chair Second Annual United Nations Forum on Latin America, United Nations Headquarters, New York City, New York, April 19-20
2006	Invited Lecture "Science and the Division of Labor," City University of Hong Kong Department of Economics
2006	Invited Lecture "Beyond the Global Divide: From Basic Needs to the Knowledge Revolution," Chinese University of Hong Kong MBA Program, China, March
2006	Invited Lecture "Global Finance and the Kyoto Protocol," Chinese University of Hong Kong Departments of Economics and Business, China, March -13-

2005	Member of the Social Science Research Council Group on Privatizing Risk, and Invited Speaker at the Center for American Progress, Washington DC, December
2005	Invited Lecture, "Axioms of Choice and the Equity Premium Puzzle," Mathematics Finance Seminar, Courant Institute for Mathematical Sciences, New York University, New York, October
2005	Keynote Speaker, "Axioms of Choice and Rare Events," General Equilibrium Conference in Honor of Gerard Debreu (Nobel Laureate in Economics), University of California at Berkeley, California, October
2005	Keynote Speaker, "The Gender Gap," International School for Economic Research (ISER), University of Siena, Italy, July 3-4
2005	Chair and Keynote Speaker (with Mary Robinson, former President of Ireland) on Globalization of Finance and Europe, 12th Annual Global Finance Conference, Trinity College, Dublin, June 27-29
2005	Selected As Leading Thinker, Kiel Institute's Leading Thinkers in Global Economics Affairs, Kiel, Germany, June 24-25
2005	Keynote Speaker, "Beyond the Global Divide," International C onference on Business Management and Economics in a Changing World, Yasar University, Turkey, June 16-19
2005	Invited to deliver First Lecture in Honor of Gerard Debreu (Nobel Laureate in Economics), General Equilibrium Workshop, University of Zurich, Switzerland, May 21-22
2005	Invited Seminar Speaker, "Beyond the Global Divide: From Basic Needs to the Knowledge Revolution," Ecole Polytechnique, Institute du Development Durable et des Relations Internationales (IDDRI), Paris, May 17
2005	Executive Director, Global Education, European American Women Council (EAWC)
2005	Member, Villa Mondragone Association, Rome, Italy
2005 - 2007	Trustee, Mediterranean College, Athens, Greece
2004	Invited presentation, "Sex and the Ivy League," American Association of University Women (AAUW) and the Florida Women Lawyers Association, Miami, Florida, November 21
2004	Invited Seminar, Department of Agricultural and Resource Economics, University of California at Davis, California, October 15

2004	Invited Address, "Volatility and the Knowledge Economy," Meeting in Honor of David Cass, Wharton School, University of Pennsylvania, Pennsylvania, October 10
2004	Presentation on Global Network of Science Centers and Job Training to the Executive Board of Directors, Flandrau Science Center, University of Arizona, Arizona, September 20
2004	Presentation to Radio Program Straightalk, National Public Radio, Miami, Florida, USA
2004	Senior Advisor, Flandrau Science Center, University of Arizona, Arizona
2004	Keynote Speaker, Special Address to the Florida Association of University Women and the Florida Women Lawyers Association, Miami, Florida, October 3
2004	Keynote Speaker, International Conference on Economics of Sustainable Forest Management, University of Toronto, Canada
2004	Invited Speaker, Conference in Honor of Dave Cass, University of Pennsylvania Department of Economics, October 8-10
2004	Invited Speaker, Workshop of Time Preferences (organized by Professor Karl Vind), University of Copenhagen, Denmark, May 21-23
2004	Keynote Speaker, "Sex and the Ivy League," Florida State Convention of American Association of University Women (AAUW), Orlando, Florida, April 30-May 2
2004	Invited Address, "The Greening of Bretton Woods," Symposium of Environmental Policies in Decentralized Governmental Systems: A Blueprint for Optimal Governance, Porto Coute Ricerche Center, Sardinia, Italy, March 17-20
2004	Invited Address, "The Mathematics of Diversity," Brown Symposium for Undergraduates in Mathematical Sciences (SUMS) sponsored by National Science Foundation, Brown University Department of Mathematics, February 28
2004	Invited Address, "Sex and the Ivy League," Women in Science and Engineering (WiSE), Brown University, February 27
2004	Panelist, United Nations Panel of Women Leaders, United Nations, New York, March 8-9

2003	Keynote Lecture, Twelfth International Colloquium on Numerical Analysis and Computer Sciences with Applications, Plovdiv, Bulgaria, August 12-17
2003	Keynote Speaker, Columbia University & Faculty Women, New York State Convention, American Association of University Women (AAUW), Islandia, New York, April 25-27
2003	Keynote Speaker, Columbia University & Faculty Women, Pennsylvania State Convention, American Association of University Women (AAUW), State College, Pennsylvania, April 4-6
2003	Special Lecturer, Global Environment and the World Economy for the course "Science and Society," Department of Earth and Environmental Sciences, Columbia University, New York, April 28
2003	Keynote Speaker, Five Lectures on International Markets, Biosphere and Society to a group of Scandinavian Universities, University of Southern Denmark Department of Environmental and Business Economics, Denmark, March 14-18
2002	Invited Speaker, University of Michigan – Ann Arbor Department of Economics, October 31
2002	Invited Speaker for the graduate course "Earth-Human Systems Department of Earth and Environmental Sciences," Columbia University, New York, Fall
2002	Presentation at Trade Execution Congress, Crowne Plaza, New York City, New York, April 15-16
2002	Invited Lecturer, Organizing Committee of the Eleventh International Colloquium on Numerical Analysis and Computer Science with Applications, Sofia, Bulgaria, August 12-17
2002	Invited Professor, "Globalization and the Environment," Summer School, University of Siena, Italy, June 16-21
2002	Invited Lecturer and Visiting Academic, Deakin University, Australia, July
2002	Invited Lecturer, University of Wollongong, Australia, August
2002	Invited Lecturer, Australian National University, Australia, August
2001	Chairman, The Enhanced Indexing Summit (Organized by The Institute for International Research), San Diego, California, October 15-17

2001	Guest Speaker, "New Risk Instruments for Global Markets," Forum on Operational Risk Management (Organized by The Institute for International Research), New York City, New York, July 30-31
2001	Invited Speaker, "Exploring Strategies and Technologies Poised to Catapult the Securities Industry to 'T+0'," Straight Through Processing Forum (Organized by The Institute for International Research), New York City, New York, June 25-26
2001	Keynote Speaker, "The Economic Value of the Earth Resources" (published in The Biodiversity Crisis Losing What Counts, New York Press, 2001) The Biodiversity Crisis, University of Toronto, Canada
2001	Chairman and Organizer, International Conference Catastrophic Environmental Risks, 2001, Fields Institute for Mathematical Sciences, University of Toronto, Canada, Presentation published as An Axiomatic Approach to Choice under Uncertainty in Topology and Social Choice
2000	Invited Lecturer, "Hedging Chaotic Risks," Universita degli Studi di Roma Department of Mathematics, La Sapienza, Italy, October
2000	Columbia Center for Risk Management Chaired Board Meeting of Reinsurance Companies Supporting the Columbia Center for Risk Management (Karaindros Marine Hull, LaSalle Ltd, Wills Faber, Renaissance Re, Centre Insurance), and Mini Course on Risk Management, Columbia University, New York, August 3
2000	Chair and Organizer, The Green Hand, Are Efficient Markets the Path to Sustainable Development?, Reuters Forum, Columbia University Graduate School of Journalism, New York, May 3
1999	Keynote Address, XII World Congress of the International Economics Association, Buenos Aires, August 23-27
1999	Keynote Address, "General Equilibrium: Problems, Prospects, and Alternatives," 12th Workshop of the International School of Economic Research, Siena, Italy, July
1999	Three Distinguished Lectures (Pegram Lectures), Biosphere and Society,Brookhaven National Laboratory, Brookhaven, Long Island, New York. March 12, 15, and 17
1998	Keynote Address, "Advances in Emissions Trading," Third International Symposium on Global Accords for Sustainable Development, Massachusetts Institute of Technology, Cambridge, Massachusetts. Sept 4
1998	National Academy of Sciences Public Lecture on Biosphere and Society, June

1998	Presentation to the US Congress Technology Committee, "Emissions Trading and Economics Efficiency," White House, Washington DC, June
1998	Keynote Address, "Clean and Sustainable Industrial Development," Presentation to the General Assembly of UNIDO Meeting on Industrialization in the 21st Century, Vienna, May
1998	Organized and Led the International Conference "Kyoto to Buenos Aires: Technology Transfer and Emissions Trading" at Columbia Earth Institute, Italian Academy, New York, April 24-26
1998	Organized Executive Course on Finance and Insurance for Columbia on Risk Management, 2000 at Centre Solutions, Inc, Hamilton, Bermuda, March 13-18
1998	Hosted Distinguished Lectures on the Global Environment, Program on Information and Resources (PIR), Columbia University (with the participation of Ralph Gomory, Director of the Sloan Foundation, Professor Lynn Margulis of the University of Massachusetts, and Raul Estrada Oyeula Esq, Chair of the Negotiating Committee of the Kyoto Protocol, United Nations Framework Convention of Climate Change (UNFCC)), March 31, April 15, 28
1998	Keynote Address, "The Knowledge Revolution: Updating Property Rights," Missouri Botanical Garden Conference on Managing Human Dominated Ecosystems, St. Louis, Missouri, March
1998 - 2000	IPCC Meetings Lead Author, Attended Intergovernmental Panel on Climate Change (IPCC) Meetings, Toronto, Canada, Washington DC, and Tucson, Arizona
1997	Keynote Address, "Markets with Endogenous Uncertainty," Australasian Meetings of the Econometric Society, Melbourne, Australia, July
1997	Invited Lecturer, "Chaotic Risks," IBM Research Division, Yonkers, New York, June
1997	Lectured at the Smithsonian Institution on Biosphere Reserves and World Heritage Sites, Washington DC
1996	Keynote Address, "The Future of Global Reinsurance," Independent Reinsurance Underwriters Association of the USA, New Jersey, September 9
1996	Keynote Presentation, "Environmental Markets: Equity and Efficiency," New York University Law School Workshop at Villa La Pietra, Florence, Italy, July 22

1996	Plenary Address, "A Topological Invariant for Competitive Markets," Second World Congress of Nonlinear Analysts, Athens, Greece, July 10- 17
1996	Chairman of the Organizing Committee of the Workshop on Catastrophic Environmental Risks, The Fields Institute for Mathematical Sciences, Toronto, Canada, June
1996	Distinguished Lectures on Managing the Global Environment: Between Equity and Efficiency, University of Paris Nanterre, EHESS, and CIRED, Paris, France, June 19-27
1996	Invited Address, "Property Rights in Markets for Knowledge," American Economic Association Yearly Meetings, San Francisco, California, January
1995	Member, Review Panel on Mathematical Science Education, National Science Foundation, June
1995	Invited Speaker and Session Chair on Topology & Resource Allocation, Conference on Current Trends in Economics: Theory and Applications, Cephalonia, Greece, May 22-28
1995	Keynote Plenary Address, "Markets with Emissions Trading: the Case for an International Bank for Environmental Settlements," The Third Annual World Bank Conference on Effective Financing of Environmentally Sustainable Development, The World Bank, Washington DC, October 5
1995	Leif Johansen Award, "Endogenous Uncertainty & Resource Allocation," University of Oslo, Norway, March
1995	Invited Speaker, Topics in Mathematical Finance, Colloquium, Columbia University Department of Applied Mathematics, Columbia University, New York, April
1995	Invited Speaker, "Perspectives of General Equilibrium Analysis," Colloquium in Honor of Frank Kahn's Seventieth Birthday, University of Siena Department of Political Economy, Siena, Italy, April
1994	Keynote Speaker, "Trade Regimes and GATT," CIDEI, University of Rome, La Sapienza, December
1994 - 1998	Member, Board of Trustees, Natural Resources Defense Council (NRDC), New York
1994	David Kinley Distinguished Lecture, "Global Environmental Policy: Equity and Efficiency," University of Illinois, Illinois, November 28

1994	Invited Speaker, "Limited Arbitrage, Gains from Trade and Social Diversity: a Unified Perspective on Resource Allocation," University of California at Irvine, California, August
1994	Plenary Speaker, "Markets With Endogenous Uncertainty," FUR VII OLSO Foundation of Uncertainty and Risk, July
1994	Invited Speaker, "What is Sustainable Development?," Conference on Incommensurability and Value, Chateau du Baffy, Normandy, France, April
1994	Invited Speaker, Conference on Biological Diversity: Exploring the Complexities, University of Arizona, Arizona, March
1994	Invited Speaker, "A Unified Perspective on Resource Allocation," International Economic Association Round Table on Social choice, Schloss Hernstein, Vienna, Austria, May
1994	Invited Speaker, "Property Rights, North-South Trade, and the Global Environment," Conference on Agricultural Trade and the Environment: Understanding and Measuring the Critical Linkages, International Agricultural Trade Research Consortium and the US Agency for International Development, Toronto, Canda, June 17-18
1994	Invited Minicourse, "Topology and Markets," The Fields Institute of Mathematical Sciences of Canada, August
1994	Keynote Speaker, "Meanings of Equity," Intergovernmental Panel on Climate Change (IPCC), UNEP, Nairobi, Kenya, July
1994	Contributed Author IPCC, Equity and Social Considerations
1994	Keynote Speaker, "Markets With Emission Permits: Equity and Efficiency," Ivon Conference on the Environment, Beijer Institute, Royal Swedish Academy of Sciences, Ivon, Sweden, May
1994	Invited Speaker, "Intersecting Families of Sets," Colloquium, Department of Mathematics, University of California Berkeley, February
1994 - 1995	Salinbemi Chair, University of Siena, Siena, Italy
1994	Invited Speaker, "Arbitrage, Gains from Trade and Social Diversity: A Unified Perspective on Resource Allocation," American Economic Association Yearly Meetings, Boston, January 3-5
1993	Invited Speaker, "A Topological Interpretation of Hirsch's Monotone Dynamics," Hirsch Symposium, Midwest Dynamical Systems Seminar, University of California Berkeley, California, October 24

1992	Invited Speaker, "The Topology of Markets and Games," European Congress of Mathematicians, Satellite Seminar on Mathematics and Economics, Chaired by Gerard Debreu, Paris, July 4
1991 - 1993	Siena Fellowship, Monti di Pashi di Siena, University of Siena, Italy
1991	Newcombe Foundation and ODE, Honor Society in Economics Award: Most Distinguished Women Economist, Tulane University, Louisiana
1985 - 1986	Awarded National Science Foundation Professorship, University of California Berkeley Department of Mathematics
1983 - 1984	Rockefeller Foundation, International Relations Award at Columbia University
1977	Fellowship, Banco Central de la Republica Argentina
1968 - 1969	Ford Foundation Fellowship for Studies in Mathematics at Massachusetts Institute of Technology

Publications:

- 1. "Group Actions on Spin Manifolds," <u>Transactions of the American Mathematical</u> <u>Society</u>, vol. 172, pp. 307-315, October, 1972.
- 2. "Manifolds of Preferences and Equilibria," <u>Ph D Dissertation at UC Berkeley</u>, 1976.
- 3. "Properties of Critical Points and Operators in Economics," with P. J. Kalman, Journal of Mathematical Analysis and Applications, vol. 57, no. 2, pp. 340-349, February, 1977.
- 4. "Spaces of Economic Agents," <u>Journal of Economic Theory</u>, Academic Press, New York and London, vol. 15, no. 1, pp. 160-173, June, 1977.
- 5. "Trends in Mathematical Modelling," <u>Applied Mathematical Modelling</u>, vol. 1, June, 1977.
- 6. "Development Patterns and the International Order," <u>Journal of International</u> <u>Affairs</u>, vol. 31, no. 2, pp. 275-304, Fall/Winter, 1977.
- "Economic Development and Efficiency Criteria in the Satisfaction of Basic Needs," <u>Applied Mathematical Modelling</u>, vol. 1, no. 6, pp. 290-297, September, 1977.
- 8. "Nonlinear Functional Analysis and Optimal Economic Growth," <u>Journal of</u> <u>Mathematical Analysis and Applications</u>, vol. 61, no. 2, pp. 504-520, November 15, 1977.
- "Comparative Statics of Less Neoclassical Agents," <u>Lecture Notes in Economics</u> and Mathematical Systems, Some Aspects of the Foundation of General <u>Equilibrium Theory</u> (Ed. J. Green), Springer-Verlag Publishing, New York, no. 159, pp. 61-76, 1978.
- 10. "Comparative Statics of Less Neoclassical Agents," with P. J. Kalman, International Economic Review, vol. 19, pp. 141-148, February, 1978.

- 11. "Problems of Market Adjustments to Occupational Safety and Health Hazards," <u>Technical Report</u>, Office of Assistant Secretary for Policy, Evaluation and Research (ASPER), U.S. Department of Labor, no. B-9-D-63788, February, 1978.
- 12. "Modelling with Scenarios: Technology in North-South Development," with S. Cole, <u>Futures</u>, pp. 303-321, August, 1978.
- 13. "Technology Distribution and North-South Relations," with S. Cole, <u>UNITAR</u> <u>Report</u>, Project on the Future, pp. 1-90, August, 1978.
- 14. "An Extension of Comparative Statics to a General Class of Optimal Choice Models," with P. J. Kalman, <u>Lecture Notes on Economics and Mathematical</u> <u>Systems, Some Aspects of the Foundations of General Equilibrium Theory: The</u> <u>Posthumous Papers of Peter J. Kalman</u> (Ed. J. Green), Springer-Verlag Publishing, New York, no. 159, pp. 1-25, 1978.
- 15. "Some Results from a Model of Trade, Aid and the Development of the South," (Eds. Acero, Cole and Rush), <u>Issues and Analysis of Long Term Development</u>, <u>Proceedings of Seminar at the Institute of Development</u>, University of Sussex, November 20 - December 2, 1978.
- "A Model of Technology, Domestic Distribution and North-South Relations," with S. Cole, <u>Technological Forecasting and Social Changes</u>, vol. 13, no. 4, pp. 297-320, May, 1979.
- 17. "Thought and Action to Date Towards a Conceptual Framework Four Position Papers," with B. Roling, N. Ball, M. Leitenberg, and U. Albrecht, <u>Disarmament</u> <u>and Development</u>, pp. 1-64, June, 1979.
- "Comparative Statics and Dynamics of Optimal Choice Models in Hilbert Spaces," with P. J. Kalman, <u>Journal of Mathematical Analysis and Applications</u>, vol. 70, no. 2, pp. 490-504, August, 1979.
- "On Fixed Point Theorems and Social Choice Paradoxes," <u>Economic Letters</u>, vol. 3, pp. 347-351, 1979.
- 20. "Models and Mystification: The Use of Mathematics to Support Vested Interests," <u>Models, Planning and Basic Needs</u> (Eds. S. Cole and H. Lucas), Pergamon Press, pp. 165-171, 1979.
- "A Model of the Relation between Technology and North-South Income Distribution," with S. Cole and J. Clark, <u>Models, Planning and Basic Needs</u> (Eds. S. Cole, H. Lucas), Pergamon Press, pp. 87-96, 1979.
- 22. "Application of Functional Analysis to Models of Efficient Allocation of Economic Resources," with P. J. Kalman, <u>Journal of Optimization Theory and Applications</u>, vol. 30, no. 1, pp. 19-32, January, 1980.
- "Agriculture and the Rest of the Economy: Macroconnections and Policy Restraints," with L. Taylor, <u>American Journal of Agricultural Economics</u>, vol. 62, pp. 303-309, May, 1980.
- 24. "North-South Interdependence, Development and Trade," <u>IFDA Dossier</u>, no. 18, pp. 59-74, July/August, 1980.
- 25. "Social Choice and the Topology of Spaces of Preferences," <u>Advances in</u> <u>Mathematics</u>, vol. 37, no. 2, pp. 165-176, August, 1980.
- 26. "Authoritarianism and Development: A Global Perspective," with R. Falk and J. Serra, <u>IFDA Dossier</u>, no. 19, pp. 3-14, September/October, 1980.
- 27. "Basic Goods, the Effects of Commodity Transfers and the International Economic Order," <u>Journal of Development Economics</u>, vol. 7, pp. 505-519, December, 1980.

- "An Extension of Comparative Statics to a General Class of Optimal Choice Models," with P. J. Kalman, <u>Journal of Mathematical Analysis and Applications</u>, 1980.
- 29. "Basic Needs and Global Models: Resources, Trade and Distribution," <u>Alternatives</u>, vol. 6, pp. 453-472, 1980.
- "Continuous Representation of Preferences," <u>Review of Economic Studies</u>, vol. 47, pp. 959-963, 1980.
- 31. "Choix Sociaux et Theorie des Jeux: Resultats Recents d'une Approche Topologique," <u>Cahiers du Seminaire d'Econometrie</u>, no. 23, pp. 47-75, 1981.
- 32. "Existence and Characterization of Optimal Growth Paths Including Models with Non-Convexities in Utilities and Technologies," <u>Review of Economic Studies</u>, vol. 48, pp. 51-61, 1981.
- 33. "Existence of Optimal Savings Policies with Imperfect Information and Non-Convexities," Journal of Mathematical Economics, vol. 8, pp. 1-14, 1981.
- 34. "Terms of Trade and Domestic Distribution: Export Led Growth with Abundant Labour," Journal of Development Economics, vol. 8, pp. 163-192, 1981.
- 35. "Some Results from a Model of Trade, Aid and the Development of the South," UNESCO, pp. 96-112, 1981.
- 36. "Social Aggregation Rules and Continuity," <u>Quarterly Journal of Economics</u>, pp. 337-352, May, 1982.
- 37. "Trade and Development in the 1980s: Report to the Secretary General of UNCTAD," with G. Heal, United Nations, Geneva, November, 1982.
- "Structural Instability of Decisive Majority Rules," <u>Journal of Mathematical</u> <u>Economics</u>, vol. 9, pp. 207-221, 1982.
- 39. "The Topological Equivalence of the Pareto Condition and the Existence of a Dictator," <u>Journal of Mathematical Economics</u>, vol. 9, pp. 223-233, 1982.
- 40. "Basic Needs and the North/South Debate," <u>World Order Models Project</u>, Working Paper Number Twenty-One, pp. 1-37, 1982.
- 41. "Energy-Capital Substitution: A General Equilibrium Analysis," International Institute for Applied Systems Analysis, Working Paper CP-83-6, February, 1983.
- 42. "Community Preferences and Social Choice," with G. Heal, <u>Journal of</u> <u>Mathematical Economics</u>, vol. 12, pp. 33-61, 1983.
- 43. "Social Choice and Game Theory: Recent Results with a Topological Approach," <u>Social Choice and Welfare</u> (Eds. P.K. Pattanaik and M. Salles), North Holland, chapter 6, pp. 79-102, 1983.
- "The Transfer Problem with Three Agents Once Again: Characterization, Uniqueness and Stability," <u>Journal of Development Economics</u>, vol. 13, pp. 237-248, 1983.
- 45. "Resources, Trade and Debt: The Case of Mexico," with G. Heal and D. McLeod, <u>Global Analysis and Projections Division</u>, The World Bank, Washington D.C., Division Working Paper No. 1984-5, pp. 10-34, September, 1983.
- 46. "Necessary and Sufficient Conditions for a Resolution of the Social Choice Paradox," with G. Heal, <u>Journal of Economic Theory</u>, vol. 31, no. 1, pp. 68-87, October, 1983.
- 47. "Non-Conflicting Resource Pricing Policies in an Interdependent World," <u>OPEC</u> <u>Review</u>, vol. VII, no. 4, pp. 330-356, 1983.
- 48. "The World of Oil Market, Past and Future," with G. Heal, <u>The Columbia Journal</u> of World Business, vol. XIX, no. 7, pp. 47-55, Spring, 1984.

- 49. "Competitive Equilibrium in Sobolev Spaces Without Bounds on Short Sales," with G. Heal, <u>Institute for Mathematics and its Applications</u>, University of Minnesota, Working Paper no. 79, June, 1984.
- 50. "Necesidades Basicas, Recursos no Renovables y Crecimiento en el Contexto de las Relaciones Norte-Sur," <u>Desarrollo Economico</u>, vol. 24, no. 94, pp. 171-186, July/September, 1984.
- "Agricultural Productivity and Trade: Argentina and the U.S.A," with D. McLeod, <u>Global Analysis and Projections Division</u>, The World Bank, Washington D.C., Division Working Paper No. 1984-5, pp. 1-57, October, 1984.
- 52. "North-South Trade and Export-Led Policies," Journal of Development Economics, vol. 15, pp. 131-160, 1984.
- 53. "Patterns of Power: Bargaining and Incentives in Two-Person Games," with G. Heal, Journal of Public Economics, vol. 23, pp. 333-349, 1984.
- 54. "Terms of Trade, Domestic Distribution and Export-Led Growth: A Rejoinder to Rejoinders," Journal of Development Economics, vol. 15, pp. 177-184, 1984.
- 55. "The Transfer Problem in Stable Markets: A Rejoinder to Rejoinders," Journal of Development Economics, vol. 16, pp. 319-320, 1984.
- "Manipulations and Repeated Games in Futures Markets," <u>The Industrial</u> <u>Organization of Futures Markets</u> (Ed. R. Anderson), D.C. Heath, Lexington, MA, pp. 193-214, 1984.
- 57. "International Trade in Resources: A General Equilibrium Analysis," <u>Environmental and Natural Resource Mathematics: Proceedings of Symposia in</u> <u>Applied Mathematics</u> (Ed. R. McElvey), American Mathematical Society (Short Course, Eugene, Oregon, 1984), Providence, RI, vol. 32, pp. 75-125, 1985.
- 58. "Von Neuman Morgenstern Utilities and Cardinal Preferences," <u>Mathematics of</u> <u>Operations Research</u>, vol. 10, no. 4, pp. 633-641, November, 1985.
- 59. "Oil Prices and the Developing Countries: the Evidence of the Last Decade," Intereconomics, vol. 20, no. 6, pp. 288-296, November/December, 1985.
- 60. "Necesidades Basicas, Recursos Naturales y Crecimiento en el Contexto Norte-Sur: Respuesta a un Comentario," <u>Desarrollo Economico</u>, vol. 25, no. 97, pp. 128-133, 1985.
- 61. "Trade and the Evolving World Economy," with G. Heal, Columbia University Graduate School of Business, Hermes Publishing, pp. 30-38, Winter, 1986.
- 62. "A General Equilibrium Theory of North-South Trade," <u>Equilibrium Analysis,</u> <u>Essays in Honor of Kenneth J. Arrow</u> (Eds. W. Heller, D. Starrett and R. Starr), Cambridge University Press, Cambridge, UK, vol. II, chapter 1, pp. 3-56, 1986.
- 63. "Topological Complexity of Manifolds of Preferences," <u>Contributions to</u> <u>Mathematical Economics: In Honor of Gerard Debreu</u> (Eds. Werner Hildenbrand and Andreu Mas-Colell), North Holland, chapter 8, pp. 131-142, 1986.
- 64. "Trade and Development in the 1980s," with G. Heal, <u>One World One Future:</u> <u>New International Strategies for Development</u> (Ed. Ashok Bapna), Praeger Publishers, New York, chapter 18, pp. 195-240, 1986.
- "Prix du petrole, prix industriels et production: une analyse macroeconomique d'equilibre general," <u>Resources Naturelles et Theorie Economique</u> (Eds. G. Gaudet and P. Laserre), Les Presses de l'Universite Laval, Quebec, chapter 1, pp. 26-56, 1986.
- 66. "The Walrasian Mechanism from Equal Division Is Not Monotonic with Respect to Variations in the Number of Consumers," with W. Thomson, <u>Journal of Public Economics</u>, pp. 119-124, 1987.

- 67. "Resources and North-South Trade: A Macro Analysis in Open Economies," <u>Challenges of South-South Cooperation</u> (Eds. H. Singer, N, Hatti, R. Tandon), Ashish Publishing House, New Delhi, India, pp. 263-290, 1988.
- 68. "Trade and Structural Change in Pacific Asia Book Review," <u>Journal of</u> <u>Economic Literature</u>, vol. XXVII, no. 2, pp. 633-635, June, 1989.
- 69. "North-South Trade and Basic Needs," <u>International Journal of Development</u> <u>Planning Literature</u>, vol. 4, no. 4, pp. 180-221, 1989.
- 70. "On the Mathematical Foundations of Political Economy," <u>Contributions to</u> <u>Political Economy</u>, vol. 9, pp. 25-41, 1990.
- 71. "On the Mathematical Foundations of Political Economy," <u>Invited Political</u> <u>Economy Lecture</u>, Harvard University, March 22, 1990.
- 72. "An Alternative Vision," with G. Heal, <u>Global Custodian</u>, p. 103, September, 1990.
- 73. "General Equilibrium and Social Choice in Economies with Increasing Returns," <u>Annals of Operations Research</u>, vol. 23, pp. 289-297, 1990.
- 74. "North-South Trade and Basic Needs," <u>North South Trade in Manufactures: New</u> <u>World Order Series</u> (Eds. H. Singer, N. Hatti and R. Tandon), INDUS Publishing Co., New Delhi, India, vol. 7, chapter 25, part G, pp. 661-711, 1990.
- 75. "Global Models and North-South Relations," <u>International Political Science</u> <u>Review</u>, vol. 11, no. 2, pp. 177-185, 1990.
- 76. "The Opportunities in U.S.-Soviet Aid," <u>The New York Times: Op-Ed</u>, March 24, 1991.
- 77. "Setting standards: Letting 100 flowers bloom," with G. Heal, <u>Global Custodian:</u> <u>Communications Technology</u>, June/July, 1991.
- 78. "The Wonder Years: New Communications Technology is Set to Alter the Way International Investors do Business," with G. Heal, <u>Global Custodian:</u> <u>Communications Technology</u>, pp. 90-93 & 142, June/July, 1991.
- 79. "Social Choice and the Closed Convergence Topology," <u>Social Choice and</u> <u>Welfare</u>, vol. 8, pp. 307-317, 1991.
- 80. "Development at the Turn of this Century," <u>Adjustment and Liberalization in the</u> <u>Third World</u> (Eds. H. Singer, N. Hatti and R. Tandon), INDUS Publishing Co., New Delhi, India, chapter 6, part B, pp. 159-167, 1991.
- 81. "North-South Trade and Basic Needs," <u>Theoretical Foundations of Development</u> <u>Planning</u> (Ed. Shri Bhagwan Dahiya), Vedams Books International, New Dehli, India, vol. IV, 1991.
- 82. "Large and Small Models: Their Suitability for North-South Issues," <u>Asian</u> Journal of Economic and Social Studies, pp. 237-246, 1991.
- 83. "Market Innovation and the Global Environment," <u>Columbia Journal of World</u> <u>Business</u>, vol. XXVII, nos. III & IV, pp. 37-41, Fall/Winter, 1992.
- 84. "The Rain Drain," with G. Heal, Hermes Publishing, Columbia University School of Business, pp. 26-29, 1992.
- 85. "Chaotic Price Dynamics, Increasing Returns and the Phillips Curve," with G. Heal and Y. Lin, Working Paper Columbia University, 1992.
- 86. "A proposal for New York," <u>The New York Times</u>, January 2, 1993.
- 87. "On Strategic Control," <u>Quarterly Journal of Economics</u>, pp. 285-290, February, 1993.
- 88. "How NAFTA Can Improve Trade," <u>Journal of Commerce</u>, Washington D.C., April 16, 1993.

- 89. "Traditional Comparative Advantages vs. Economies of Scale: NAFTA and GATT," <u>Rivista Di Politica Economica</u>, pp. 161-197, April, 1993.
- 90. "Competitive Equilibrium in Sobolev Spaces Without Bounds on Short Sales," Journal of Economic Theory, vol. 59, no. 2, pp. 364-384, April, 1993.
- 91. "Sustainable Growth and the Green Golden Rule," with A. Beltratti and G. Heal, presented at conference on Sustainable Growth, Paris, May, 1993.
- 92. "The Abatement of Carbon Emissions in Industrial and Developing Countries," presented at <u>Organization for Economic Cooperation and Development (OECD)</u> <u>Conference on The Economics of Climate Change</u>, June 14-16, 1993.
- 93. "Energy-Capital Substitution: A General Equilibrium Analysis," (Ed. G. Heal), <u>Critical Writings in the Economics of Exhaustible Resources</u>, Edward Elgar Publishing, chapter 17, pp. 339-90, 1993.
- 94. "Intersecting Families on Sets and the Topology of Cones in Economics," <u>Bulletin of the American Mathematical Society, Expository and Research Papers</u>, vol. 29, no. 2, pp. 189-207, October, 1993.
- 95. "Global Environmental Risks," with G. Heal, <u>Journal of Economic Perspectives:</u> Special Issue on the Environment, vol. 7, no. 4, pp. 65-86, Fall, 1993.
- 96. "Property Rights on Biodiversity and the Pharmaceutical Industry," Case Study, Columbia Business School, Fall, 1993.
- "International Trade in Resources: A General Equilibrium Analysis," <u>The</u> <u>Economics of Exhaustible Resources</u> (Ed. G. Heal), Edward Elgar Publishing, 1993.
- 98. "Topology and Economics: The Contribution of Stephen Smale," <u>Topology to</u> <u>Computation, Proceedings of the Smalefest</u> (Eds. M. Hirsch, J. Marsden and M. Shub), Springer-Verlag Publishing, New York, pp. 147-161, 1993.
- 99. "The Cone Condition, Properness and Extremely Desirable Commodities," <u>Economic Theory</u>, vol. 3, pp. 177-182, 1993.
- 100. "North-South Trade and the Dynamics of Renewable Resources," <u>Structural</u> <u>Change and Economic Dynamics</u>, Oxford University Press, vol. 4, no. 2, pp. 219-248, December, 1993.
- 101. "The City as a Home," New York Times: Op-Ed, January 2, 1994.
- 102. "Social Diversity, Arbitrage, and Gains from Trade: A Unified Perspective on Resource Allocation," Invited Lecture, American Economic Association Yearly Meeting, Boston, January, 1994.
- 103. "Who Should Abate Carbon Emission? An International Perspective," with G. Heal, <u>Economics Letters</u>, pp. 443-449, Spring, 1994.
- 104. "Social Diversity, Arbitrage, and Gains from Trade: A Unified Perspective on Resource Allocation," <u>American Economic Review, Papers, and Proceedings</u>, vol. 84, no. 2, pp. 427-434, May, 1994.
- 105. "North-South Trade and the Global Environment," <u>American Economic Review</u>, vol. 84, no. 4, pp. 851-874, September, 1994.
- 106. "Rejected: Leading Economists Ponder the Publication Process," (Ed. George B. Sheperd, Foreword by K. Arrow), Thomas Horton and Daughters Publishing, chapter 55, pp. 56-66, November 1, 1994.
- 107. "Topological Aggregation of Preferences: The Case of a Continuum of Agents," with J. Candeal and E. Indurain, <u>Social Choice and Welfare</u>, November 20, 1994.
- 108. "Limited Arbitrage is Necessary and Sufficient for the Existence of a Competitive Equilibrium and the Core, and Limits Voting Cycles," <u>Economics Letters</u>, vol. 46, pp. 321-331, December, 1994.

- "North-South Trade, Property Rights and the Dynamics of Environmental Resources," <u>The Environment after Rio: International Law and Economics</u> (Eds. L. Campiglio, L. Pineschi, D. Siniscalco and T. Treves), Graham and Trotman/Martinus Nijhoff Publishing, London, pp. 205-233, 1994.
- 110. "The Abatement of Carbon Emissions in Industrial and Developing Countries," <u>Organization for Economic Cooperation and Development (OECD): The</u> <u>Economics of Climate Change</u> (Ed. T. Jones), pp. 159-170, 1994.
- 111. "The Environment and the Long Run: A Comparison of Different Criteria," with A. Beltratti and G. Heal, <u>Richerche Economiche</u>, vol. 48, pp. 319-340, 1994.
- 112. "Traditional Comparative Advantage vs. Economies of Scale: NAFTA and the GATT," <u>International Problems of Economic Interdependence</u> (Eds. M. Baldassarri, M. Di Matteo, and R. Mundel), New York, St. Martin's Press, pp. 161-197, 1994.
- 113. "Limited Arbitrage is Necessary and Sufficient for the Existence of a Competitive Equilibrium With or Without Short Sales," <u>Economic Theory</u>, vol. 5, no. 1, pp. 79-108, January, 1995.
- 114. "Sustainable Development and North-South Trade," <u>Fondazione Eni Enrico</u> <u>Mattei (FEEM) Newsletter</u>, Milano, Italy, March, 1995.
- 115. "Lectures on Topology and Resource Allocation," <u>Leif Johansen lectures</u>, Department of Economics, University of Oslo, Norway, April, 1995.
- 116. "The Green Golden Rule," with G. Heal and A. Beltratti, <u>Economic Letters</u>, vol. 49, no. 2, pp. 175-180, August, 1995.
- 117. "No Block to Trade," <u>New Economy</u>, Institute for Public Policy Research (IPPR), London, pp. 186-192, September, 1995.
- 118. "Strategies for Trade Liberalization in the Americas," <u>Trade Liberalization in the Western Hemisphere</u>, Inter-American Development Bank United Nations: Economic Commission for Latin America and the Caribbean (ECLAC), Washington, D.C., pp. 165-188, 1995.
- 119. "Existence of Optimal Growth Paths With Endogenous Technical Change," with P. Gruenwald, <u>Economic Letters</u>, vol. 48, pp. 433-439, 1995.
- 120. "Chaotic Price Dynamics, Increasing Returns and the Phillips Curve," with G. Heal and Y. Lin, Journal of Economic Behavior and Organization, vol. 27, pp. 279-291, 1995.
- 121. "Markets for Tradeable C02 Emission Quotas Principles and Practice," with G. Heal, <u>Organization for Economic Cooperation and Development (OECD)</u>, Paris, Economics Department Working Paper No. 153, 1995.
- 122. "Option Values and Endogenous Uncertainty in ESOPs, MBOs and Asset-Backed Loans," with G. Heal and D. Tsomocos, <u>Economic Letters</u>, vol. 48, pp. 379-388, 1995.
- 123. "A Unified Perspective on Resource Allocation: Limited Arbitrage is Necessary and Sufficient for the Existence of a Competitive Equilibrium, the Core and Social Choice," <u>Social Choice Re-examined</u> (Eds. K. Arrow, A. Sen and T. Suzumura), McMillan, London, and Universite Catholique de Louvaine, Belgium, CORE Discussion Paper no. 9527, 1995.
- 124. "Sustainable Growth and the Green Golden Rule," with A. Beltratti and G. Heal, <u>Economic Approaches to Sustainable Development</u> (Eds. I. Goldin and A. Winters), Organization for Economic Cooperation and Development (OECD), Paris, pp. 147-165, 1995.

- 125. "NAFTA and the WTO," Case Study, Columbia Business School, 1995.
- 126. "Network Evolution and Coalition Formation," <u>Private Networks Public</u> <u>Objectives</u> (Eds. Eli M. Noam and Aine Ni Shuilleabhain), Elsevier Science B.V., Amsterdam, pp. 117-133, 1995.
- 127. "The Evolution of a Global Network: A Game of Coalition Formation," <u>Journal</u> of International and Comparative Economics, vol. 4, pp. 179-197, 1995.
- 128. "The Economic Value of the Earth's Resources," <u>Trends in Ecology and</u> <u>Evolution (TREE): Perspectives</u>, vol. 11, no. 3, pp. 135-140, 1995-1996.
- 129. "The Greening of the Bretton Woods," Financial Times, pp. 8, January 10, 1996.
- 130. "Global bank seeks to swap environmental risks," <u>Risk Management</u>, February, 1996.
- 131. "Catastrophe Bundles Can Deal With Unknown Risk," <u>Best's Review</u>, pp. 44-48, February, 1996.
- 132. "Fischer Black: The Mathematics of Uncertainty," <u>Notices of The American</u> <u>Mathematical Society</u>, pp. 319-322, March, 1996.
- 133. "Individual Risk and Mutual Insurance," with D. Cass and H. Wu, <u>Econometrica</u>, vol. 64, no. 2, pp. 333-341, March, 1996.
- "Financial Innovation in Property Catastrophe Reinsurance: The Convergence of Insurance and Capital Markets," <u>Risk Financing Newsletter</u>, vol. 13, no. 2, June, 1996.
- 135. "The Future of Global Reinsurance," Presentation at the National Bureau of Economic Research Workshop on Public Policy and the Environment, Boston, August 1, 1996.
- 136. "The Future of Global Reinsurance," Presentation for the Independent Reinsurance Underwriters Association, New Jersey, September 9, 1996.
- 137. "The Future of Global Reinsurance," <u>Global Reinsurance: North American</u> <u>Special</u>, pp. 67-71, September, 1996.
- 138. "Markets and Games: A Simple Equivalence among the Core, Equilibrium and Limited Arbitrage," <u>Metroeconomica</u>, vol. 47, no. 3, pp. 266-280, October, 1996.
- 139. "An Axiomatic Approach to Choice under Uncertainty with Catastrophic risks," Invited Presentation, Proceedings of a Workshop on Catastrophic Environmental Risks, The Fields Institute for Mathematical Sciences, University of Toronto, Canada, June 9-11, 1996.
- 140. "On the Existence and the Structure Pseudo-equilibrium Manifold," with G. Heal, Journal of Mathematical Economics, vol. 26, pp. 171-186, 1996.
- 141. "Property Rights and the Dynamics of Renewable Resources in North-South Trade," <u>Trade, Innovation and the Environment</u> (Ed. C. Carraro), Kluwer Academic Publishers, chapter 1, pp. 15-54, 1996.
- 142. "Property Rights and the Dynamics of North-South Trade," <u>Agriculture, Trade</u> and the Environment: Discovering and Measuring the Critical Linkages (Eds. M. Bredahl, N. Ballenger, J. Dunmore and T. Roe), Westview Press, HarperCollins Publishers, Boulder, CO and Oxford, UK, chapter 8, pp. 97-110, 1996.
- "Limited Arbitrage is Necessary and Sufficient for the Non-Emptiness of the Core," <u>Economic Letters</u>, vol. 52, pp. 177-180, 1996.
- 144. "A Robust Theory of Resource Allocation," <u>Social Choice and Welfare</u>, vol. 13, pp. 1-10, 1996.
- 145. "Actions of Symmetry Groups," <u>Social Choice and Welfare</u>, vol. 13, no. 3, pp. 357-364, 1996.

- 146. "An Axiomatic Approach to Sustainable Development," <u>Social Choice and</u> <u>Welfare</u>, vol. 13, no. 2, pp. 231-257, 1996.
- 147. "Trade Regimes and GATT: Resources Intensive versus Knowledge Intensive Growth," <u>Journal of International and Comparative Economics</u>, vol. 20, pp. 147-181, 1996.
- 148. "Markets with Endogenous Uncertainty: Theory and Policy," <u>Theory and</u> <u>Decision</u>, vol. 41, pp. 99-131, 1996.
- 149. "Market Arbitrage, Social Choice and the Core," <u>Social Choice and Welfare</u>, vol. 14, no. 2, pp. 191-210, 1997.
- 150. "Catastrophe Futures: Financial Markets and Changing Climate Risks," with G. Heal, <u>Sustainability: Dynamics and Uncertainty</u>, 1997.
- 151. "Topological Aggregation of Preferences: the case of a continuum of agents," with J. Candeal and E. Indurain, <u>Topological Social Choice</u> (Ed. G. Heal), Springer-Verlag Publishing, pp. 187-197, 1997.
- 152. "Property Cat Woes Have Financial Solutions," <u>World Reinsurance Report</u>, pp. S-20-S-24, September 1, 1997.
- 153. "Ecology and the Knowledge Revolution," Proceedings of the National Academy of Sciences Second National Forum on Biodiversity: Nature and Human Society, Washington, D.C., October 27-28, 1997.
- 154. "Ecology and the Knowledge Revolution," Key Note Address at the US National Science Foundation Forum on Biodiversity in Washington D.C., October 30, 1997.
- 155. "What is Sustainable Development," <u>Land Economics</u>, vol. 73, issue 4, pp. 467-491, November, 1997.
- 156. "A Topological Invariant for Competitive Markets," Journal of Mathematical <u>Economics</u>, vol. 28, pp. 445-469, 1997.
- 157. "Development and Global Finance: The Case for an International Bank for Environmental Settlements," <u>Sustainability and Global Environmental Policy:</u> <u>New Perspectives</u> (Eds. A. K. Dragun and K. M. Jakobsson), Edward Elgar Publishing, Cheltenham, UK, chapter 13, pp. 249-278, 1997.
- 158. "Market Arbitrage, Social Choice and the Core," <u>Social Choice and Welfare</u>, vol. 14, pp. 161-198, 1997.
- 159. "Social Choice with Infinite Populations: Construction of a Rule and Impossibility Results," with G. Heal, <u>Social Choice and Welfare</u>, vol. 14, no. 2, pp. 303-319, 1997.
- 160. "The Knowledge Revolution," <u>New Economy</u>, Institute for Public Policy Research (IPPR), The Dryden Press, London, pp.107-111, 1997.
- "Limited Arbitrage is Necessary and Sufficient for the Existence of an Equilibrium," <u>Journal of Mathematical Economics</u>, vol. 28, pp. 470-479, 1997.
- 162. "The Costs and Benefits of Benefit-Cost Analysis," <u>Environment and</u> <u>Development Economics</u> (Ed. C. Perry), Cambridge University Press, UK, vol. 2, issue 2, pp. 202-206, 1997.
- 163. "The Geometry of Implementation: A Necessary and Sufficient Condition for Straightforward Games," with G. Heal, <u>Social Choice and Welfare</u>, vol. 14, pp. 259-294, 1997.
- 164. "PIR Update," Earth Matters, Winter, 1997-1998.

- 165. "A Radical Shift in Managing Risks: Practical Applications of Complexity Theory," <u>Contingencies</u>, American Academy of Actuaries, pp. 28-32, January/February, 1998.
- 166. "Economic Returns from the Biosphere," with G. Heal, <u>Nature</u>, vol. 391, pp. 629-630, February 12, 1998.
- 167. "Chacun peut y gagner," <u>Courrier de la Planete #10: Les Cahiers de Global</u> <u>Chance</u>, pp. 28-29, March/April, 1998.
- 168. "The Knowledge Revolution and its Impact on Consumption and Resource Use," <u>1998 Human Development Report</u>, United Nations Development Program (UNDP), New York, 1998.
- 169. "Financial Instruments for Human Development," <u>1998 Human Development</u> <u>Report</u>, United Nations Development Program (UNDP), New York, 1998.
- 170. "Topology and Invertible Maps," <u>Advances in Applied Mathematics</u>, vol. 21, pp. 113-123, 1998.
- 171. "The Economics of Global Environmental Risks," <u>International Yearbook of</u> <u>Environmental and Resource Economics</u> (Eds. T. Tietenberg and H. Folmer), Edward Elgar Publishing, vol. II, pp. 235-273, 1998.
- 172. "Smooth Infinite Economies," with Y. Zhou, Journal of Mathematical Economics, vol. 29, no. 1, pp. 27-41, 1998.
- 173. "Biodiversity and Economic Values," <u>Protection of Global Biodiversity:</u> <u>Converging Strategies</u> (Eds. Lakshman Guruswamy and Jeffrey McNeely), Duke University Press, Durham and London, 1998.
- 174. "Global Environmental Risks," with G. Heal, <u>Sustainability: Dynamics and</u> <u>Uncertainty</u> (Eds. G. Chichilnisky, G. Heal, and A. Vercelli), Kluwer Academic Publishers, The Netherlands, chapter 1.2, pp. 23-46, 1998.
- 175. "Sustainable Use of Renewable Resources," with A. Beltratti and G. Heal, <u>Sustainability: Dynamics and Uncertainty</u> (Eds. G. Chichilnisky, G. Heal, and A.Vercelli), Kluwer Academic Publishers, The Netherlands, chapter 2.1, pp. 49-76, 1998.
- 176. "North-South Trade and the Dynamics of the Environment," with R. Abraham and R. Record, <u>Sustainability: Dynamics and Uncertainty</u> (Eds. G. Chichilnisky, G. Heal and A. Vercelli), Kluwer Academic Publishers, The Netherlands, chapter 2.2, pp. 77-108, 1998.
- 177. "Trade, Migration, and Environment: A General Equilibrium Analysis," with M. Di Mateo, <u>Sustainability: Dynamics and Uncertainty</u> (Eds. G. Chichilnisky, G. Heal, and A. Vercelli), Kluwer Academic Publishers, The Netherlands, chapter 2.3, pp. 109-128, 1998.
- 178. "Uncertain Future Preferences and Conservation," with A. Beltratti and G. Heal, <u>Sustainability: Dynamics and Uncertainty</u> (Eds. G. Chichilnisky, G. Heal, and A. Vercelli), Kluwer Academic Publishers, The Netherlands, chapter 3.4, pp. 257-276, 1998.
- 179. "Financial Markets for Unknown Risks," with G. Heal, <u>Sustainability: Dynamics</u> <u>and Uncertainty</u> (Eds. G. Chichilnisky, G. Heal, and A. Vercelli), Kluwer Academic Publishers, The Netherlands, chapter 3.5, pp. 277-294, 1998.
- 180. "Kyoto Protocol: The way ahead," with Matt Varilek, <u>Earth Matters</u>, Spring, 1998.
- "Solving the Riddle of Development: An Economist's View," <u>Amicus</u>, vol. 20, no. 2, pp. 13-15, Summer, 1998.

- 182. "Managing Unknown Risks: the Future of Global Reinsurance," with G. Heal, <u>The Journal of Portfolio Management</u>, vol. 24, no. 4, pp. 85-91, Summer, 1998.
- 183. "Trade Regimes and GATT: Resources Intensive versus Knowledge Intensive Growth," <u>Handbook on the Globalization of the World Economy</u> (Ed. A. Levy-Livermore), Edward Elgar Publishing, Cheltenham, UK, chapter 10, pp. 226-249, August, 1998.
- 184. "The Economic Value of the Earth's Resources," <u>Biodiversity Resource Book</u>, American Museum of Natural History, New York, September, 1998.
- 185. "Program on Information and Resources: Science & Policy beyond the selfish gene," <u>Earth Matters</u>, Fall, 1998.
- 186. "The Knowledge Revolution," <u>The Journal of International Trade & Economic</u> <u>Development</u>, Routledge Publishing, vol. 7, issue 1, pp. 39-54, 1998.
- 187. "Sustainable Development and North-South Trade," <u>Protection of Global</u> <u>Biodiversity: Converging Strategies</u> (Eds. Lakshman D. Guruswamy and Jeffrey A. McNeely), Duke University Press, Durham and London, pp. 101-117, 1998.
- 188. "A unified treatment of finite and infinite economies: limited arbitrage is necessary and sufficient for the existence of equilibrium and the core," with G. Heal, <u>Economic Theory</u>, vol. 12, pp. 163-176, 1998.
- 189. "A Radical Shift in Managing Risk: Practical Applications of Complexity Theory," with C. Barton, <u>Earth Matters</u>, Winter, 1998-1999.
- 190. "Program on Information and Resources Update," <u>Earth Matters</u>, Winter, 1998-1999.
- 191. "The Economics of Global Environmental Risks," <u>The International Yearbook of Environmental and Resource Economics 1998/1999: A Survey of Current Issues</u> (Eds. Tom Tietenberg and Henk Folmer), New Horizons in Environmental Economics, Edward Elgar Publishing, Cheltenham, UK and Northampton, MA, USA, chapter 7, pp. 255-278, July, 1999.
- 192. "Markets for Tradeable C02 Emission Quotas Principles and Practice," <u>Topics in</u> <u>Environmental Economics</u> (Eds. M. Boman, et. al.), Kluwer Academic Publishers, The Netherlands, chapter 10, 1999.
- 193. "Existence and Optimality of a General Equilibrium with Endogenous Uncertainty," <u>Markets, Information, and Uncertainty</u> (Ed. G. Chichilnisky), Cambridge University Press, New York, chapter 5, pp. 72-96, 1999.
- 194. "A Unified Perspective on Resource Allocation: Limited Arbitrage is Necessary and Sufficient for the Existence of a Competitive Equilibrium, the Core and Social Choice," <u>Topology and Markets</u> (Ed. G. Chichilnisky), American Mathematical Society and the Fields Institute for Research in Mathematical Sciences, pp. 31-69, 1999.
- 195. "Intergenerational Choice: A Paradox and A Solution," with Y. Baryshnikov, <u>Topology and Markets</u> (Ed. G. Chichilnisky), American Mathematical Society and Field Institute for Mathematical Sciences, vol. 22, pp. 99-110, 1999.
- 196. "Catastrophe Futures: Financial Markets for Unknown Risks," with G. Heal, <u>Markets, Information, and Uncertainty</u> (Ed. G. Chichilnisky), Cambridge University Press, chapter 7, pp. 120-140, 1999.
- 197. "An Axiomatic Approach to Choice Under Uncertainty with Catastrophic Risks," <u>Resource & Energy Economics</u>, vol. 22, issue 3, pp. 221-231, July, 2000.

- 198. "Equity and Efficiency in Global Emissions Markets," <u>Environmental Law, the</u> <u>Economy, and Sustainable Development</u> (Ed. R. Revesz, P. Sands, and R. Steward), Cambridge University Press, pp. 263-279, August 28, 2000.
- 199. "Equity and Efficiency in Global Emissions Markets," <u>Environmental Law, the</u> <u>Economy, and Sustainable Development</u> (Ed. R. Revesz, P. Sands, and R. Steward), Cambridge University Press, pp. 263-279, August 28, 2000.
- 200. "The Global Environment and the Knowledge Revolution," <u>Missouri Botanical</u> <u>Gardens Press</u> (Ed. V. C. Hollowell), Proceedings of the conference Managing Human-dominated Eco-Systems organized at the Missouri Botanical Gardens by Graciela Chichilnisky, 2001.
- 201. "The Environmental Impact of Globalization on Latin America: a Prospective Approach," with G. Gallopin, <u>Managing Human Dominated Ecosystems</u> (Ed. V. C. Hollowell), Missouri Botanical Gardens Press, pp. 271-303, 2001.
- 202. "Catastrophical Risk," <u>Encyclopedia of Environmetrics</u> (Eds. Abdel H. El-Shaarawi and Walter W. Piegorsch), John Wiley & Sons Publishing, Chichester, UK, vol. 1, pp. 274-279, 2002.
- 203. "Globalization and Cross-Border Exchanges," <u>Institutional Investor</u>, pp. 90-94, Spring, 2002.
- 204. "Property Rights and Efficiency of Markets for Environmental Services," <u>Sustainability, Institutions and Natural Resources</u> (Eds. S. Kant and R. A. Berry), Kluwer Academic Publishers, chapter 6, 2004.
- 205. "The Job Creating Machine," <u>Department of Economics: Discussion Papers</u>, Columbia University, no. 0304-17, May, 2004.
- 206. "Think Small If You Want to Create More Jobs," Financial Times, May 14, 2004.
- 207. "Why small companies are best placed to meet the big challenges of the knowledge economy," <u>Financial Times</u>, May 22-23, 2004.
- 208. "Telecoms' Path to Global Progress," Financial Times, July 4, 2004.
- 209. "Volatility in the Knowledge Economy," with O. Gorbachev, <u>Economic Theory</u>, vol. 24, no. 3, September, 2004.
- 210. "The Gender Gap," Columbia Spectator, October 1, 2004.
- 211. "Sex and the Ivy League," <u>Reflections of Eminent Economists</u> (Eds. M. Szenberg and L. Ramrattan, Foreword by K. Arrow), Edward Elgar, Cheltenham, UK and Northampton MA, USA, chapter 7, pp. 108-143, December, 2004.
- 212. "The Glass-Ceiling," Columbia Spectator, February 7, 2005.
- 213. "The Gender Gap," <u>XVIII Workshop on Gender and Economics</u>, International School of Economic Research, Certosa di Pontignano, Italy, July, 2005.
- 214. "The Topology of Fear," presented at NBER Conference, <u>Mathematical</u> <u>Economics: The Legacy of Gerard Debreu</u>, UC Berkeley, October 21, 2005.
- 215. "Volatility and Job Creation in the Knowledge Economy," with O. Gorbachev, <u>Essays in Dynamic General Equilibrium Theory, Festschrift for David Cass,</u> <u>Series: Studies in Economic Theory</u> (Eds. A. Citanna, J. Donaldson, H. Polemarchakis, P. Siconolfi, and S. Spear), vol. 20, pp. 45-74, 2005.
- 216. "General Equilibrium with Endogenous Uncertainty and Default," with H. Wu, Journal of Mathematical Economics, vol. 42, May, 2006.
- 217. "Catastrophic Risks: The Need for New Tools, Financial Instruments and Institutions," <u>Privatization of Risk Social Science Research Council</u>, June, 2006.
- 218. "The Topology of Fear," presented at NBER General Equilibrium Conference in Honor of Gerard Debreu, University of Kansas, September 18-20, 2006.

- 219. "Global Property Rights: The Kyoto Protocol and the Knowledge Revolution," <u>Institut du Development Durable et Relations Internationales (IDDRI)</u>, Ecole Polytechnique, Paris, France, September, 2006.
- "Seguridad energetica, desarrollo economico y calentamiento global: desafios de corto y largo plazo," <u>El Boletin Informativo del Techint</u>, issue no. 345, pp. 53-76, April, 2008.
- 221. "The Gender Gap," <u>Review of Development Economics</u>, vol. 12, no. 4, pp. 828-844, 2008.
- 222. "The Gender Gap," <u>Frontiers in the Economics of Gender</u> (Eds. F. Bettio and A Verashchagina), Routledge Publishing, part 2, chapter 4, pp. 57-76, May 13, 2008.
- 223. "Innovative preventive measures are needed," <u>www.Business.TheAge.com.au</u>, July 31, 2008.
- 224. "Making a profit while doing good," <u>The Australian Financial Review</u>, August 19, 2008.
- 225. "It's the Mortgages: How to Restore the Health and Stability of the Economy," <u>The Huffington Post</u>, November 17, 2008.
- 226. "Une analyse en termes équilibre de écart salarial entre hommes et femmes," <u>Revue internationale du Travail</u>, vol. 147, no. 4, pp. 321-345, 2008.
- 227. "Análisis del desnivel salarial entre hombres y mujeres con un modelo de equilibrio," <u>Revista Internacional del Trabajo</u>, vol. 127, no. 4, pp. 331-356, 2008.
- 228. "An equilibrium analysis of the gender wage gap," with E. Frederiksen, International Labor Review, vol. 147, no. 4, pp. 297-320, 2008.
- 229. "The Limits of Econometrics: Nonparametric Estimation in Hilbert Spaces," <u>Econometric Theory</u>, vol. 25, issue 4, no. 2009-08, pp. 1070-1086, January 12, 2009.
- 230. "Le paradoxe des marchés verts," Les Echos, p. 15, January 26, 2009.
- 231. "Avoiding Extinction: Equal Treatment of the Present and the Future,"
 <u>Laboratoire Montpellierain d'Economie Theorique et Appliquee (LAMETA)</u>,
 Faculte des Sciences Economiques, Universite de Montpellier, France, DR 2009-07, June, 2009.
- 232. "How air capture could help to promote a Copenhagen solution," with P. Eisenberger, <u>Nature</u>, vol. 459, June 25, 2009.
- 233. "Avoiding Extinction: Equal Treatment of the Present and the Future," <u>Economics: The Open-Access, Open-Assessment E-Journal</u>, vol. 3, no. 2009-32, July 16, 2009.
- 234. "The Topology of Fear," Journal of Mathematical Economics, vol. 45, pp. 807-816, 2009.
- 235. "Surviving Kyoto's 'do or die' summit," BBC News, September 15, 2009.
- 236. "Forward Trading: A proposal to end the standoff between the U.S. and China on climate change," <u>Time Magazine: Heroes of the Environment Issue</u>, October 5, 2009.
- 237. "Energy Security, Economic Development and Global Warming: Addressing short and long term challenges," with P. Eisenberger, <u>International Journal of Green Economics</u>, vol. 3, issue 4, 2009.
- 238. "Global Warming and Carbon-Negative Technology: Prospects for a Lower-Cost Route to a Lower-Risk Atmosphere," with P. Eisenberger, R. Cohen, N.

Eisenberger, R. Chance, and C. Jones, <u>Energy and Environment</u>, vol. 20, issue 6, 2009.

- 239. "Gender Pay Gap," <u>International Journal of Green Economics</u>, vol. 3, no. 2, pp. 157-174, 2009.
- 240. "Catastrophic Risks," <u>International Journal of Green Economics</u>, vol. 3, no. 2, pp. 130-141, 2009.
- 241. "What to Do in Copenhagen," International Law Observer, October 15, 2009.
- 242. "Foot in carbon trading door for small nations?," <u>Reuters AlertNet</u>, October 21, 2009.
- 243. "Does the Copenhagen conference matter?," with J. Lovelock, B. Lomborg, Z. Goldsmith, et al., <u>Prospect Magazine: Web Exclusive</u>, issue 164, October 21, 2009.
- 244. "Nothing will happen at Copenhagen until the 11¹/₂ hour," <u>Ecologist</u>, October 27, 2009.
- 245. "Kyoto or Bust," The Big Issue, November 2-8, 2009.
- 246. "Saving Kyoto," China Dialog, November 05, 2009.
- 247. "Financial Innovation & Carbon Markets," <u>UN Chronicle</u>, nos. 3 & 4, pp. 63-69, 2009.
- 248. "Asteroids: Assessing Catastrophic Risks," with P. Eisenberger, <u>Laboratoire</u> <u>Montpellierain d'Economie Theorique et Appliquee (LAMETA)</u>, Working Paper DR 2009-13, 2009.
- 249. "Copenhagen: Europe in a Changing World," <u>European Alternatives</u>, November 27, 2009.
- 250. "The Influence of Fear in Decisions: Experimental Evidence," with O. Chanel, Journal of Risk and Uncertainty, vol. 39, no. 3, December, 2009.
- 251. "Salvation lies in carbon trading," <u>CNN.com/2009/World</u>, December 3, 2009.
- 252. "The Unseen Benefits And Profits," <u>National Journal: Expert Blogs</u>, December 7, 2009.
- 253. "How To Achieve Chinese Emissions Cuts," <u>National Journal: Expert Blogs</u>, December 7, 2009.
- 254. "Copenhagen expectations," <u>Financial Times: Climate Experts' Forum</u>, December 7, 2009.
- 255. "Cautious hopes for five steps and a one-two punch," <u>Financial Times: Climate</u> <u>Experts' Forum</u>, December 8, 2009.
- 256. "Should climate sceptics have a greater voice at Copenhagen?," <u>Financial Times:</u> <u>Climate Experts' Forum</u>, December 9, 2009.
- 257. "Two Competitors Get Into The Ring," <u>National Journal: Expert Blogs</u>, December 10, 2009.
- 258. "Are NGOs in danger of sabotaging the talks?," <u>Financial Times: Climate</u> <u>Experts' Forum</u>, December 10, 2009.
- 259. "Are financial instruments the right tool to help developing countries?," <u>Financial</u> <u>Times: Climate Experts' Forum</u>, December 11, 2009.
- 260. "Voices from Hopenhagen," The Hopenhagen Blog, December 11, 2009.
- 261. "Voices from Hopenhagen," TakePart: News & Blogs, December 11, 2009.
- 262. "Technologies Could Bridge Gap Between Wealthier, Poorer Nations," <u>National</u> Journal: Expert Blogs, December 14, 2009.
- 263. "Was the first week a waste of time?," <u>Financial Times: Climate Experts' Forum</u>, December 14, 2009.

- 264. "The Kyoto question," <u>Financial Times: Climate Experts' Forum</u>, December 15, 2009.
- 265. "Pushing Public, Private Funding," <u>National Journal: Expert Blogs</u>, December 17, 2009.
- 266. "Who is responsible for the chaos?," <u>Financial Times: Climate Experts' Forum</u>, December 18, 2009.
- 267. "The Copenhagen agreement: a disappointment or a relief?," <u>Financial Times:</u> <u>Climate Experts' Forum</u>, December 19, 2009.
- 268. "The Copenhagen Accord," National Journal: Expert Blogs, December 21, 2009.
- 269. "Yasuní: The New Economics of Planet Earth," Foreword to <u>The Economics of</u> <u>the Yasuní Initiative</u> (by Joseph Henry Vogel), Anthem Press, New York and London, pp. xiii-xviii, 2009.
- 270. "Avoiding extinction: the future of economics," <u>International Journal of Green</u> <u>Economics</u>, vol. 3, no. 1, pp. 1-18, 2009.
- 271. "Nuclear Limited Part Of Energy Mix," <u>National Journal: Expert Blogs</u>, January 13, 2010.
- 272. "Who Needs a Carbon Market?," Environmental Leader, January 13, 2010.
- "Who Needs a Carbon Market?," <u>National Journal: Expert Blogs</u>, January 21, 2010.
- 274. "Arrow, Kenneth (biography)," <u>Encyclopedia of Quantitative Finance</u>, John Wiley & Sons, Chichester, vol. 1, pp. 76-82, February, 2010.
- 275. "Business Opportunities Abound," <u>National Journal: Expert Blogs</u>, February 15, 2010.
- 276. "Risk Considerations Make Sense," <u>National Journal: Expert Blogs</u>, February 16, 2010.
- 277. "The Copenhagen Solution," Europe's World, March 2, 2010.
- 278. "General Equilibrium with Uncertainty: The Work of Kenneth Arrow," Encyclopedia of Quantitative Finance, March, 2010.
- 279. "The Foundations of Statistics with Black Swans," <u>Mathematical Social Sciences</u>, vol. 59, issue 2, March, 2010.
- 280. "Managing catastrophic risks and climate change," <u>Reuters: The Great Debate</u> <u>UK Blog</u>, March 19, 2010.
- "Insurance Against Offshore Risks," <u>National Journal: Expert Blogs</u>, May 3, 2010.
- 282. "Ressources Naturelles, Commerce et Endettement," with G. Heal and D. McLeod, <u>Resources Commerce et Endettement</u>, pp. 57-87, 2010.
- 283. "The Foundations of Probability with Black Swans," Journal of Probability and <u>Statistics</u>, vol. 2010, 2010.
- 284. "Asteroids: Assessing Catastrophic Risks," with P. Eisenberger, <u>Journal of</u> <u>Probability and Statistics</u>, 2010.
- 285. "The Missing Signal: How Ecological Prices Change Markets and Decision Making," UNESCAP 6th Ministerial Conference on Environment and Development in Asia and the Pacific, September 3, 2010.
- 286. "Will 21st century capitalism go green?" The Ecologist, September 21, 2010.
- 287. "The Global Environment in the Knowledge Revolution" <u>The Economics of</u> <u>Climate Change</u> (Ed. G. Chichilnisky), Edward Elgar Publishing Ltd, Cheltenham, 2010.

- 288. "Sustainable development: equal treatment of the present and the future?" International Journal of Green Economics, vol. 4, pp. 347-357, November 4, 2010.
- 289. "International Payments for Ecosystem Services (IPES)," with Wendy Proctor, In <u>United Nations Environment Programme (UNEP)</u>, 2010.
- 290. "Catastrophic Risks with Finite or Infinite States" <u>International Journal of</u> <u>Ecological Economics & Statistics</u>, vol. 23, no. F11, p. 4, March, 2011.
- 291. "Carbon Negative Power Plants," with P. Eisenberger, In <u>CryoGas International</u>, April, 2011.
- 292. "Sustainable Markets with Short Sales" <u>Economic Theory</u>, vol. 49, no. 2, pp. 293-307, April 20, 2011.
- 293. "A changing climate in Economics: New Responses to Crisis" <u>Ecological</u> <u>Economics</u>, 2011.
- 294. "The Limits of Econometrics: Nonparametric Estimation in Hilbert Spaces" <u>Advances in Econometrics – Theory and Applications</u> (Ed. Miroslav Verbič), InTech, pp. 3-18, July, 2011.
- 295. "Avoiding Extinction: Negative Carbon and the Green Power Fund" <u>International</u> Journal of Green Economics, October 11, 2011.
- 296. "Economic Theory and the Global Environment" <u>Economic Theory</u>, (Guest ed. Graciela Chichilnisky) vol. 49, no. 2, pp. 217-225, February, 2012.
- 297. "Valuing life: experimental evidence using sensitivity to rare events," with O. Chanel, <u>Ecological Economics</u>, March 5, 2012.
- 298. "The Missing Signal: How Ecological Prices Change Markets and Decision Making" <u>Biodiversity: Property Rights, Economics and Environment</u>. Bruxelles: Bruylant Press, 2012
- 299. "Short Sales and Financial Innovation: How to Take the Good While Avoiding Widespread Default" <u>Handbook of Short Selling.</u> Elsevier Inc., 2012
- 300. "Real Market forces now drive action on climate change" <u>The Guardian</u>. March 21, 2013
- 301. "How should Washington address climate change?" <u>The National Journal.</u> February 3, 2013
- 302. "Avoiding Extinction" <u>The Economics of Climate Change.</u> Oxford University Press, Fall, 2013
- 303. "A changing Climate in Economics: Responses to Crisis" <u>Ecological Economics</u>. co-author K.A. Sheeran, Volume 85, January 2013, Pages 143-144
- 304. "Valuing Life: Experimental Evidence Using Sensitivity to Rare Events" <u>Ecological Economics.</u> co-author O. Chanel, Volume 85, January 2013, Pages 143-144
- 305. <u>Mathematical Economics.</u> Introduction to three volume work by same name, New York, New York, January 2013
- 306. "Managing the Global Commons: Principles and Practice" <u>Environmental</u> <u>commons</u>. October 2012
- 307. "Special Issue on Economic Theory and the Global Environment" <u>Economic Theory</u>. Guest edited by Graciela Chichilnisky, Volume 49, no. 2, pp. 217-512, February 2012
- 308. "Seguridad energetic, desarrollo economic y calentamiento global. Desafios de corto y largo plazo" <u>Bioeconomia: de los limites al crecimiento a la incertidumbre global.</u> Universidad del Tolima Facultad de Ciencias Economicas y Administrativas Oficina de Publicaciones, October, 2012

- 309. "Markets with Black Swans" <u>Social Fairness and Economics: Economic essays</u> in the spirit of Duncan Foley. Pages 122-139, Routledge, 2013
- 310. "Carbon Capture" New York Times. November 27, 2013
- 311. "The Economics of Global Environment Catastrophic Risk in Theory and Practice" <u>Economic Theory</u>, Vol 55, Issue 2, February 2014
- 312. "Business as usual' is not an environmentally viable option" <u>Financial Times</u>. p.8, March 2, 2014
- 313. "Arrow, Kenneth J." M. T. Gibbons (Ed.) <u>The Encyclopedia of Political Thought</u>. Oxford: Wiley Blackwell, forthcoming
- 314. "The Topology of Greed & Fear" <u>The Global Financial Crisis: Economics</u>, <u>Psychology</u>, and <u>Values</u>. Oxford University Press, 2014
- 315. "North-South Relations and Potential" <u>Achieving Sustainability: Visions,</u> <u>Principles, and Practices</u>. Vol. 2, p. 545. Ed. Debra Rowe, Detroit, Macmillan 2014.
- 316. "The Topology of Change: Foundations of Probability with Black Swans" in Geometry Mechanics and Dynamics, (Eds. Dong Eui Chang, Darryl D. Holm, George Patrick, Tudor Ratiu) Fields Institute of Communications Toronto, Canada, Springer Verlag, NY 2015
- 317. "The Need for Sustainable Development and a Carbon Market: Avoiding Extinction" The Oxford Handbook of the Macroeconomics of Global Warming (Eds. Lucas Bernard and Willi Semmler) p. 647-672, Oxford University Press, UK, 2015
- 318. "The need for Sustainable Development and a Carbon Market: Avoiding Extinction" Oxford Handbooks Online (Eds Lucas Bernard And Willi Semmler), http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199856978.001.0 001/oxfordhb-9780199856978-e-027, May 2015
- 319. "Climate Policy Without Intertemporal Dictatorship: Chichilnisky Criterion Versus Classical Utilitarianism in Dice" p. 1-16, World Scientific Publishing, 2018 DOI# 10.1142/S2010007818500021 Published in Climate Change Economics (CCE) Volume No.09, Issue No. 02

Books:

- Catastrophe or New Society? A Latin American World Model (co-author), International Development Research Center, Ottawa, Canada, 1976; translation of Catastrofe o Nueva Sociedad?, Fundacion Bariloche, 1976; translation to Japanese, Diamond, Inc, 1-412 Dasumigaseki, Chiyoda-ku, Tokyo, 1977. ISBN: 978-0889360839
- 2. **Un Monde Pour Tous: Le Modele Mondial Latino-Americain**, Presses Universitaires de France, Paris, 1977. ISBN: 978-0692092613
- 3. **Grenzen des Elends,** S Fischer Verlag GmbH, Frankfurt am Main, 1977. ISBN: 978-3100334015
- 4. **The Evolving International Economy** (with G. Heal), Cambridge University Press, 1986. ISBN: 978-0521267168
- 5. **Oil in the International Economy** (with G. Heal), Clarendon Press, Oxford University Press, 1991. ISBN: 978-0198285175
- 6. **Development and Global Finance: The Case for an International Bank for Environmental Settlements,** United Nations Development Program and United

Nations Educational & Scientific Organization, Discussion Series #10, 1996- 1997. ISBN: 978-9211260649

- 7. **Sustainability, Dynamics and Uncertainty** (with G. Heal and S. Vercelli), Kluwer Academic Publishers, 1998. ISBN: 978-9401148931
- 8. **Mathematical Economics,** vol. I, II, and III, Edward Elgar Publishing Ltd, London, 1998. ISBN: 978-1858982601
- 9. **Markets, Information, and Uncertainty**, Cambridge University Press, New York, 1999. ISBN: 978-0521553551
- 10. **Topology and Markets**, American Mathematical Society and the Fields Institute for Mathematical Sciences, Toronto, Canada, 1999. ISBN: 978-0821871300
- 11. **Environmental Markets: Equity and Efficiency**, Columbia University Press, 2000. ISBN: 978-0231504478
- 12. **The Evolving International Economy** (with G. Heal), Cambridge University Press, Paperback edition, February, 2006. ISBN: 978-0521310017
- 13. **Saving Kyoto** (with K. Sheeran), New Holland, United Kingdom, Fall, 2009. ISBN: 978-1847734310
- 14. **The Economics of Climate Change**, Edward Elgar Publishing Ltd, 2010. ISBN: 978-1847207678
- 15. **The Economics of Global Environment: Catastrophic Risks in Theory & Policy** (co-author with A. Rezai), Springer Verlag, Vienna, 2014-2015. ISBN: 978-3319319414
- Reversing Climate Change: How Carbon Removals Can Resolve Climate Change and Fix the Economy (co-author with P. Bal), World Scientific Publishing, 2018. ISBN: 978-9814719353
- 17. **Handbook on the Economics of Climate Change** (co-author with A. Rezai), Edward Elgar Publishing Ltd, 2018. ISBN: 978-0857939050

Book Reviews:

- 1. C.J. Bliss, "Capital Theory and the Distribution of Income," (North-Holland, 1975), <u>Mathematical Reviews</u>, vol. 58, no. 1, July, 1979.
- 2. Irma Adelman and Sherman Robinson, "Income Distribution Policy in Developing Countries: A Case Study of Korea," A World Bank Research Publication (Oxford University Press, 1978), <u>Economic Development and Social Change</u>, 1980.
- 3. S. Afriat, "Demand Functions and the Slutsky Matrix," Princeton Studies in Mathematical Economics, Princeton University Press, 1980, <u>Mathematical Reviews</u>, 1981.
- 4. David M.G. Newbery and Joseph E. Stiglitz, "The Theory of Commodity Price Stabilization: A Study in the Economics of Risk," (Clarendon Press, Oxford, 1981), in Journal of International Economics, vol. 15, pp. 177-198, 1983.
- 5. Lance Taylor, "Structuralist Macroeconomics: Applicable Models for the Third World," Basic Books, Inc, New York, 1983, Journal of Economic Literature, 1984.
- 6. Colin I. Bradford and William H. Branson, "Trade and Structural Change in Pacific Asia," (University of Chicago Press, Chicago, London), Journal of Economic Literature, pp. XIX, 558, 1987.
- C. Bradford and W. Branson (Eds.), "Trade and Structural Change in Pacific Asia," NBER, The University of Chicago Press, Chicago, <u>Journal of Economic Literature</u>, 1988.

8. Vernon Ruttan, "Technology, Growth and Development: An Induced Innovation Perspective," Stanford University Graduate School of Business, <u>Journal of Economic</u> <u>Literature</u>, vol. 40, pp. 963-964, 2002.

Other Professional Positions and Research Projects:

- 1971 Member of the Presidential Cabinet of Banco Central de la Republica Argentina (Central Bank of Argentina), President Daniel Fernandez
- 1971 1974 Director, Economics and Mathematical Economics, Bariloche Model, Fundacion Bariloche, Argentina
- 1974 1975 Co-Principal Investigator, National Science Foundation, Grant No. 6S18174, Harvard University, with K.J. Arrow and P. Kalman
- 1975 1977 Co-Principal Investigator, The Urban Institute, Washington DC, with K.J. Arrow and P. Kalman
- 1975 1986 Visiting Scholar, Several short-term visits, International Institute of Applied Systems Analysis, Laxenburg, Austria
- 1976 1977 Office of Naval Research, Contract No. NOO 14-67-A-0298-0019, Project No. NR-47-004, with K.J. Arrow
- 1976 1977 Special Fellow, and Director of Research, "Technology & North-South Relations", United Nations Institute for Training and Research
- 1977 1978 Principal Investigator, United States Department of Labor, No. B-9-D-6-3788 (ASPER) on Problems of Labor Market Adjustment to Industrial Health Hazards
- 1979 1983 Project Director, "Development and North-South Trade," United Nations Institute for Training and Research, United Nations, New York
- 1980 1982 Principal Investigator, National Science Foundation, Grant No. SES-7914050, "Classic Income Distribution Growth"
- 1980 1994 List of NIH/NSF grants profile
- 1981 1983 Principal Investigator, Rockefeller Foundation Project in International Relations
- 1982 Economic Consultant, OPEC Secretariat, Vienna, Austria
- 1982 Economic Consultant, UNCTAD Secretariat, Geneva, Switzerland

1984 - 1985	Principal Investigator, National Science Foundation, Grant No. SES-8409857, "Market Organization and Public Policy with Increasing Returns"
1984 - 1985	Consultant, The World Bank, Division of Global Analysis and Projections
1985	Awarded National Science Foundation Professorship at the Department of Mathematics, University of California Berkeley
1985 - 1986	Principal Investigator, National Science Foundation, Grant No. SES-8420244, "International Dimension in Regulation"
1985 - 1989	CEO and Chairman, FITEL Limited (New York, London, Tokyo)
1989 - 1990	Executive Director, Science International Limited
1990	Consultant on Capital Markets to Gunes Taner (Minister of State, Prime Ministry, Ankara, Republic of Turkey), Mehmet Tekbas (President of Capital Markets Board, Ankara, Turkey), and The Istanbul Stock Exchange (Istanbul, Turkey)
1991 - 1993	Siena Fellowship, University of Siena, Italy
1992	Economic Consultant, Program of Trade Liberalization of the Americas, United Nations, ECLAC, Washington DC
1992 - 1993	Consultant on International Environmental Policy, Fondazione Eni Enrico Mattei, Milano, Italy
1993	Economic Consultant, OECD, Paris, Environmental Division, The Economics of Climate Change, Spring/Summer, 1993
1993 - 1995	Principal Investigator, National Science Foundation, Grant No. SBR 9216028, "Environmental Policies in an International Context"
1994	Consultant, OECD, Paris, Economic Division, "International Markets with Property Rights on Carbon Emissions"
1994	Organizer, LEAD Conference on Trade and Sustainable Development, Module Two, The Rockefeller Foundation, Chiang Mai, Thailand, May 20-30
1994	Advisor and Contributing Author, International Panel on Climate Change (IPCC), Writing Team Four, "Equity and Social Considerations"
1994	Principal Investigator, National Science Foundation, Mathematical Sciences, Grant No. DMS 94-08798, "Geometry, Topology and Markets"
1994 - 1998	Member of Board of Trustees, Natural Resources Defense Council (NRDC), New York

1998	Principal Investigator, UN Foundation Grant, awarded by UN Foundation for work with United Nations, "Technology Transfer and Emissions Trading: A Win-Win Approach to the Kyoto Protocol"
1998	Lead Author, Intergovernmental Panel on Climate Change (IPCC)
1999	Sloan Foundation, Grant on the Knowledge Revolution, Sloan Foundation, New York
2000	Director, Columbia Consortium for Risk Management (CCRM)
2000 - 2002	CEO, Consultant, and Director, CrossBorder Exchange Corporation, New York City, New York
2003	Consultant and Chairman, CrossBorder Exchange Corporation, New York City, New York
2008	Co-Founder & CEO, Global Thermostat LLC, New York & Silicon Valley
2009 - 2012	Principle Investigator Optimal Statistical Decisions with Catastrophic Risks (FA9550-09-1-0467)
2012 -	Board Member, Ethical Markets Media, Florida
2012 -	Member, Bank of America's The Capital Institute, New York
2013 -	Member of Scientific Advisory Board of the Austrian Institute for Economics Research, Vienna, Austria

INTERVIEWS

Capping Emissions Is Not Enough: An Interview With the Creator of the Kyoto Protocol Carbon Market Truthout, November 28, 2015 http://www.truth-out.org/news/item/33783-architect-of-the-kyoto-protocol-capping-emissions-isnot-enough Kyoto by any other name: Interview with Graciela Chichilnisky Open Democracy, December 3, 2015 https://www.opendemocracy.net/c-j-polychroniou-graciela-chichilnisky/kyoto-by-any-othername-interview-with-graciela-chichilnisky Interview - Graciela Chichilnisky E-International Relations, January 20, 2016 http://www.e-ir.info/2016/01/20/interview-graciela-chichilnisky/ Interview with Graciela Chichilnisky Part 1 - Climate Change: The Mother of All Geopolitical Challenges Global Policy Journal, March 3, 2016 http://www.globalpolicyjournal.com/blog/03/03/2016/interview-graciela-chichilnisky-part-1climate-change-mother-all-geopolitical-challe

Interview with Graciela Chichilnisky Part 2 - Reflections of an Innovated-Minded Economist Global Policy Journal, March 9, 2016 http://www.globalpolicyjournal.com/blog/09/03/2016/interview-graciela-chichilnisky-part-2reflections-innovated-minded-economist Bound to Nothing: Interview with Graciela Chichilnisky on the Paris Climate Agreement International Affairs Forum, December 24, 2015 http://www.ia-forum.org/Content/ViewInternalDocument.cfm?ContentID=8457 Climate Change and the Future of the World: An Interview with Graciela Chichilnisky International Affairs Forum, December 24, 2015 http://www.ia-forum.org/Content/ViewInternalDocument.cfm?ContentID=8484

ARTICLES

"While leaders talk in Paris, carbon-negative tech could save the planet" The Globe and Mail, December 8, 2015 http://www.theglobeandmail.com/report on business/rob_commentary/while leaders

http://www.theglobeandmail.com/report-on-business/rob-commentary/while-leaders-talk-in-paris-carbon-negative-tech-could-save-the-planet/article27636208/

Paris COP21: the worst deal in the history of global climate negotiations

Open Democracy, December 16, 2015

https://www.opendemocracy.net/can-europe-make-it/c-j-polychroniou/paris-cop21-worst-deal-in-history-of-global-climate-negotiations

Paris COP21 Climate Agreement is Bound to Nothing: What is the Solution?

E-International Relations, December 29, 2015

http://www.e-ir.info/2015/12/29/paris-cop21-climate-agreement-is-bound-to-nothing-what-is-the-solution/

Climate Change: The Mother Of All Geopolitical Challenges ~ Interview With Graciela Chichilnisky

Rozenberg Quarterly, March 26, 2016

http://rozenbergquarterly.com/interview-with-graciela-chichilnisky-climate-change-the-mother-of-all-geopolitical-challenges/

Intellectual Property Rights - registered with US Trademark Office:

- Knowledge Revolution
- Carbon Negative Technology
- Global Thermostat
- Biosphere and Society

Intellectual Property Rights - Patents:

Multiple US patents for capturing carbon dioxide from air