AERE NEWSLETTER

Association of Environmental and Resource Economists (AERE) *Vol. 31, No. 1* *May 2011*

FROM THE PRESIDENT…

The world waits, spellbound with anticipation. This event has been years in the making. Every detail has been attended to, checks and re-checks have been made. So much glamour, romance, and creative energy combined into a single event. Rarely in one's lifetime does one observe firsthand the joining of commoners with royalty, the simultaneous preservation of rich traditions with innovative adaptations to new realities, and of course, the luxury and flourish of so many celebrities coming to a single location.

Am I talking about the British royal wedding? Of course not—I am talking about the Inaugural AERE Summer Conference and the "royalty" of the environmental and resource economics profession! As you all know, the first annual conference will be held June 9-10 at the Renaissance Seattle Hotel in Seattle, Washington. Max Auffhammer and Laura Taylor, as co-chairs of the organizing committee (with Randy Walsh coordinating the sponsored sessions), have done a splendiferous job of putting together an outstanding program in a great venue. In addition to our outstanding keynote speaker, there is an exciting collection of general sessions, sponsored sessions, and a pre-conference training workshop. Sincere thanks are extended to the federal agencies (see below); The Brattle Group; and the Center for Agricultural and Rural Development, Iowa State University who have generously supported this undertaking.

We are extremely pleased to welcome Dr. Edward Glaeser, the Fred and Eleanor Glimp Professor of Economics at Harvard, and Director of the Taubman Center for State and Local Government and the Rappaport Institute for Greater Boston, to deliver our keynote address on the topic of "Metropolises, Urbanization, and the Environment" on the first day of the conference. Immediately following his presentation, we will gather at lunch for the AERE Awards Program to present the AERE Fellows Award, the Publication of Enduring Quality Award, and the Best *JEEM* Paper Award. The awardees have been notified but you will have to come to Seattle to hear the announcement before your curiosity is quenched.

The Sponsored Sessions in 2011 focus on the research questions at the nexus of urbanization and the

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environment under the theme "Metropolises, Urbanization, and the Environment." Eight papers will be presented in the sponsored sessions which will extend throughout the two days of the conference. These sessions are sponsored by the following federal agencies: The National Oceanic and Atmospheric Administration, U.S. Department of Commerce; the U.S. Fish and Wildlife Service, U.S. Department of the Interior; and the Economic Research Service, U.S. Department of Agriculture . Their generous support is very much appreciated. Please be sure to thank representatives from these agencies when you get an opportunity; their funding really makes a big difference to the depth and breadth of programming we can provide.

Seven parallel session containing papers representing the full range of environmental and natural resource economics will span the two day conference. A total of over 500 paper abstracts were submitted and many of you served as careful and efficient reviewers. Thank you! Since we had a cap on room size, we were not able to accommodate all strong papers but this means that an outstanding intellectual palette will be provided for you to choose from during the conference. I am confident that regardless of whether your interests run to the empirical or are primarily theoretical, whether your focus is on a specific resource such as fisheries or water or bends more towards methodological development, and whether you are a newcomer to the field or have spent many years in the saddle, you will find much to choose from in this broad program.

We are also delighted to offer a pre-conference workshop entitled "Recent Developments in the Design and Implementation of Discrete Choice Experiments" on June 8 from 12:30 – 5:00 p.m. This four hour workshop will cover four topics, each consisting of a 45 minute lecture, followed by 10 minutes of discussion. The four sessions are:

Session 1: *Advances in Best-Worst Scaling (BWS) and Choice-Based Measurement Methods*
Session 2: *Advances in Modeling Individuals*
Session 3: *Advances in Models*
Session 4: *Advances in Optimal Design of Choice Experiments*

Finally, as an old time AERE member or associate knows, no AERE gathering occurs without stimulating and enjoyable social opportunities. Plan to greet old friends, develop new comrades in arms, and rev up your intellectual curiosity at the opening reception which will take place on the evening of June 8 and will feature drinks and hors d'oeuvres.

To learn more about all aspects of the conference visit www.aere2011.com. The preliminary program is posted and many other details are provided.

AERE Election and Board Meeting

In the election last fall, AERE elected two new outstanding members to the Board, Dr. Patricia Champ from the Rocky Mountain Research Station of the U.S. Forest Service and Dr. Andrew Plantinga, Professor in the Department of Agricultural and Resource Economics at Oregon State University. We are very pleased to welcome these two new energetic economists who bring a diverse range of interests and backgrounds to the Board. Take a minute to introduce yourselves at the Seattle meeting if you see them and thank them for the willingness to take up the banner on behalf of AERE. The nominating committee will be inviting candidates for President-Elect, Vice President and Board to be on the ballot this fall: when the phone call comes, I urge you to just say yes! The AERE Board will be meeting in Seattle—please contact me with any issues or ideas you may have.

Volunteer Time and Thanks

In my first few months as AERE President (and previous year as President-Elect), I have observed firsthand the enormous role that dedicated volunteers in our Association make on a daily basis towards maintaining and enhancing the capability of AERE to provide many services. There are far too many for me to individually name and in any attempt to do so, I would undoubtedly fail to mention some deserving names. However, I don't feel I can pass up this opportunity without singling out three volunteers who have gone far above and beyond the normal degree of public good provision for the benefit of all AERE members.

First, Kathy Segerson stepped down as AERE president at the end of 2011. She passed me the baton of a healthy and vibrant organization that is full of energy and enthusiasm. To do so, she invested an inordinate number of hours in advertising for, evaluating, and ultimately choosing a new management company for AERE (keeping us all well informed of these developments and decisions in the 2009-2010 newsletters as well as via discussions at our professional conferences, workshops and Board meetings). If this were not enough, she also oversaw the choice of a new managing editor for *JEEM*(Dr. Daniel Phaneuf, who has now been at the helm of our premier research journal for nearly half a year); the decision to begin a stand-alone, AERE annual conference; and the new web-based administrative support system. I urge you to thank her in any way that works best for you: give her a hug, shake her hand, buy her a cup of coffee or a glass of wine, or simply say "thank you" the next time you pass her at an AERE gathering.

Second, Laura Taylor and Max Auffhammer have thrown themselves into the creation and implementation of the inaugural AERE Summer Conference with such vigor that several times I have sighed with relief that economists are not subject to tests for performance enhancing substances. I am kidding, of course, but the amount of care and enthusiasm they have put into assuring the success of the Conference is beyond any reasonable expectation. Their attention to detail and willingness to sprint up the learning curve will make it substantially easier for future organizing committees to accomplish their work and to provide high quality conferences. Again, I urge you to thank them in whatever way you see most appropriate.

Finally, sincere thanks are also extended to our University and Institutional members (listed in this newsletter) and to the U.S. Environmental Protection Agency, National Center for Environmental Economics, for their support of AERE.

Our Association is alive, well, and growing! I hope to see many of you in Seattle. Those of you who cannot join us in our inaugural year, mark your calenders for June 4 - 5, 2012 and plan to join us for the second annual AERE conference which will be held in Asheville, North Carolina at the beautiful Grove Park Inn and consider stepping forward to serve on the Organizing Committee—see page 8 for the call for expressions of interest. Current plans call for an opening reception on Sunday, June 3rd, with a full array of sponsored and general sessions on June 4 – 5

Have a great summer. Cathy

Catherine Kling
AERE President
Department of Economics
Iowa State University
Ames, Iowa 50014
ckling@iastate.edu
Office phone: 515-294-5767

AERE Newsletter

Co-Editors
John Loomis
Colorado State University
Dept. of Agricultural and Resource Economics
jloomis@lamar.colostate.edu

Marilyn M. Voigt
AERE Executive Director
voigt@rff.org

Assistant Editor
Kathleen Meaney Stobie
kmstobie@verizon.net

Publisher
Association of Environmental and Resource Economists
1616 P Street NW, Suite 600
Washington, DC 20036
202-328-5125

AERE MEMBERSHIP SERVICES

Please direct any questions or requests regarding your membership, subscriptions to *REEP*, luncheon or AERE Conference registrations, receipts, or related membership matters to:

AERE Membership Services
13006 Peaceful Terrace
Silver Spring, MD 20904
info@aere.org
Telephone: 202-559-8998
Fax: 202-559-8998

Marilyn M. Voigt, AERE Executive Director, can be reached at:

AERE
1616 P Street NW, Suite 600
Washington, DC 20036-1400
voigt@rff.org
Telephone: 202-328-5125

AERE BOARD OF DIRECTORS MEETING

The AERE Board meeting will be held on Thursday, June 9, 2011, from 5:15 p.m.—7:30 p.m. at the Renaissance Seattle Hotel, Salon C, Madison Ballroom. Anyone with matters to be brought before the Board should contact the president:

Cathy Kling
Department of Economics
Iowa State University
Ames, Iowa 50014
ckling@iastate.edu
Office phone: 515-294-5767

NOMINATIONS FOR AERE OFFICERS AND BOARD MEMBERS

This year, AERE members will vote for a President Elect who will serve for one year before taking office in January 2013, a Vice President who will serve for two years beginning January 2012, and two new members of the Board of Directors who will serve for three years beginning in January 2012. The nominations are being handled by a committee chaired by AERE Vice President Vic Adamowicz (University of Alberta) with committee members Anna Alberini (University of Maryland, College Park), and Madhu Khanna (University of Illinois at Urbana-Champaign). Elections will occur in the fall of 2011.

Nominations may also be made by the membership through petitions, each of which contains signatures of 5% of the association's members who are then in good standing. Such petitions should be sent to arrive at the AERE Secretary's (Sarah Stafford) address no later than August 1, 2011.

Dr. Sarah L. Stafford
Department of Economics
College of William and Mary
P.O. Box 8795
Williamsburg, VA 23187-8795
Email: slstaf@wm.edu

AERE PUBLICATION OF ENDURING QUALITY AWARD 2011 CALL FOR NOMINATIONS

The AERE Board of Directors will present the annual award (to co-authors if appropriate) for a publication of enduring quality that appeared at least five years prior to the year of the award. Nominated works are to be evaluated on their seminal nature and enduring value. Place and type of publication are unrestricted but posthumous awards will not be given. Nominees may include individuals who are not members of AERE.

Evaluation of nominated works and final selection for the 2011 award will be undertaken by a committee chaired by Robert Innes, University of California, Merced. Nomination packages should consist of four copies each of a cover letter, a document supporting the nomi-nation, and the publication itself. The supporting docu-ment (not to exceed three pages) should include quantitative as well as qualitative information (e.g., number of citations or copies printed). Nominations should be sent to arrive no later than November 1, 2011. This is an important award for AERE and for the recipients. Please give serious consideration to nominating a publication and to observing the submission requirements.

Dr. Robert Innes
Department of Economics
University of California, Merced
rinnes@ucmerced.edu
Subject Line: AERE PEQ Award

AERE FELLOWS 2011
CALL FOR NOMINATIONS

This program recognizes outstanding contributions to the field by members of the association. The 2010 AERE Fellows will be announced at the AERE Summer Conference.

Criteria: Awardees will have demonstrated a significant contribution to the advancement of the profession of environmental and resource economics. A candidate must be living at the time of nomination and be a current member of the association or have been a member for at least ten years (not necessarily continuously).

Nomination Process: Any member of AERE can nominate a candidate for Fellow. A nomination packet should include a vita of the nominee, three letters of support, and a two-page nomination letter outlining what contributions the individual has made that warrant the award. In addition, members of the AERE Board of Directors can consider candidates that have not been otherwise nominated that they feel are especially worthy.

Selection Process: Nomination packages are to be submitted **by November 1, 2011,** to:

Catherine Kling
Department of Economics
Iowa State University
Ames, Iowa 50014
ckling@iastate.edu
Office phone: 515-294-5767

The president will distribute copies to each of the Board members who will select newly appointed Fellows from the set of nominations. Announcements of the new Fellows will be made formally at the annual AERE luncheon; newly elected Fellows will be notified ahead of time to provide ample time for travel arrangements. In future years, a separate Fellows Committee may be impaneled to aid in the initial screening of candidates.

Maximum Number of Awards: 3 for 2011

AERE Fellows 2009
Richard T. Carson
Charles D. Kolstad
Robert N. Stavins

AERE Fellows 2008
Thomas Crocker
A. Myrick Freeman III
Alan Randall

AERE Fellows 2007
Daniel W. Bromley
Gardner M. Brown, Jr.
Charles W. (Chuck) Howe
Kenneth E. (Ted) McConnell
Kathleen Segerson
David Zilberman

AERE Fellows 2006
Richard C. Bishop
Nancy E. Bockstael
Ronald G. Cummings
Anthony (Tony) C. Fisher
Geoffrey M. Heal
Clifford S. (Cliff) Russell

Inaugural AERE Fellows 2005
Maureen L. Cropper
W. Michael Hanemann
Karl-Göran Mäler
Wallace E. Oates
V. Kerry Smith
Tom Tietenberg

AERE AWARD FOR BEST *JEEM* PAPER 2011

AERE instituted a new award in 2009, the "Ralph C. d'Arge and Allen V. Kneese Award for Outstanding Publication in the *Journal of Environmental Economics and Management*," to recognize an exemplary research paper published in *JEEM* during the past year.

Criteria: Any article published in the July 2010 through May 2011 issues of *JEEM* is eligible for this award. There is no requirement that the author(s) be a member of AERE.

Nomination Process: Any current member of AERE may nominate an article for this award. The nomination should be submitted in a letter that briefly describes why the nominator believes the paper is deserving of this award. Letters of nomination should be submitted by **November 1, 2011** to:

Dr. Daniel Phaneuf
Department of Agricultural and Resource Economics
North Carolina State University
Raleigh, NC
dan.phaneuf@ncsu.edu
Subject Line: Best JEEM Paper

Selection Process: The winner of the award will be selected by a three-person selection committee comprised of the editor of *JEEM*, one associate editor of *JEEM*, and one AERE representative. The winner(s) will be notified **by February 1, 2012**.

INSTITUTIONAL AND UNIVERSITY MEMBERSHIP PROGRAM

The AERE Officers and Board of Directors invite colleges, universities, and university research centers to become University Members of AERE and research institutions, nonprofit organizations, government agencies, and corporations to become Institutional Members of AERE.

Intellectual entrepreneurship is a distinguishing characteristic of AERE. Equally important, AERE research activities also display a remarkable degree of involvement with other disciplines because the issues require it. But the dues of its individual members are not sufficient to support the growing needs of the organization. AERE needs the help of organizations involved in the same fields of interest to help with its programs and outreach to students and young professionals in both the U.S. and overseas. In addition, financial support will help with the increasing costs of managing membership services including the membership database, journal subscriptions, and workshop and annual meeting registrations among other association costs.

To become a **University Member** of AERE, a contribution of $350 is required. With this contribution, colleges and universities:

- may designate one person to receive a 2011 individual membership in AERE (which includes an electronic subscription to *REEP*, reduced rate for *JEEM*, the bi-annual *AERE Newsletter*, and a reduced fee for submitting an article to *JEEM*);
- are entitled to a sponsorship listing on the AERE Web page (www.AERE.org) and in the *AERE Newsletter* and *JEEM*;
- will receive one free advertisement on the AERE Web page and in the *AERE Newsletter* for the calendar year (a savings of $250).

To become an **Institutional Member** of AERE, a contribution of $1,000 is required. With this contribution, institutions receive the above benefits plus:

- two nontransferable tickets for institution staff to the annual AERE luncheon in Chicago, Illinois in January 2012;
- one nontransferable registration to the AERE Summer Conference in Seattle, Washington in June 2011;
- recognition at the annual AERE business meeting.

2011 INSTITUTIONAL AND UNIVERSITY MEMBERS OF AERE

Institutional Members

The Brattle Group*

Fondazione Eni Enrico Mattei – FEEM*

Industrial Economics, Inc.

National Institute of Food and Agriculture (NIFA)

Resources for the Future

W.H. Desvousges & Associates, Inc.

University Members

Appalachian State University
Department of Economics

Clark University
Department of Economics

Colorado State University
Department of Agricultural and Resource Economics

Duke University
Nicholas School of the Environment and Earth Sciences

Georgia State University
Department of Economics

Harvard University
Harvard Environmental Economics Program (HEEP)

Indiana University
School of Public and Environmental Affairs (SPEA)

Iowa State University
Department of Economics

Massachusetts Institute of Technology
Department of Economics

North Carolina State University
Center for Environmental and Resource Economic Policy

Oregon State University
Department of Agriculture & Resource Economics

University of Alaska, Anchorage*
Department of Economics

University of California, Berkeley
Department of Agriculture and Resource Economics

University of California, Los Angeles*
The Lewis Center

University of California, San Diego
Department of Economics

University of California, Santa Barbara
Bren School of Environmental Science & Management

University of Calgary
Department of Economics

University of Connecticut
Department of Agricultural and Resource Economics

University of Delaware
College of Marine Science and Policy

University of Gothenburg
Department of Economics

University of Illinois at Urbana-Champaign
Department of Agricultural and Consumer Economics

University of Maine
School of Economics

University of Maryland, College Park
Department of Agricultural and Resource Economics

University of Michigan
ERB Institute for Global Sustainable Enterprise

University of Michigan
School of Natural Resources and Environment

University of Montreal
CIREQ (Centre Interuniversitaire de Recherche en Économie Quantitative)

University of Oregon
Department of Economics

University of Tennessee
Department of Economics

University of Washington
Department of Economics

University of Wyoming
Economics and Finance Department

Virginia Tech
Department of Agricultural and Applied Economics

Yale University
School of Forestry and Environmental Studies

** Denotes new member in 2011*

CALLS FOR PAPERS/PROPOSALS

AERE NEWSLETTER

The *AERE Newsletter* is soliciting essays about natural resource and environmental economics issues of general interest to the membership. These essays can be relatively short (6-10 double spaced pages) and address a topic that does not fit into the traditional journal outlet. There is currently no backlog, so your essay would likely be published in the following *AERE Newsletter*. Marilyn Voigt and I need your essay in February for the May issue and August for the November issue. If you wish to float an idea by me, feel free to contact me.

John Loomis
***AERE* Newsletter Co-Editor**
jloomis@lamar.colostate.edu
Telephone: 970-491-2485

CALL FOR EXPRESSIONS OF INTEREST FOR THE ORGANIZING COMMITTEE OF THE SECOND ANNUAL AERE SUMMER CONFERENCE

June 4 – 5, 2012
Grove Park Inn
Asheville, North Carolina

AERE solicits expressions of interest for the Organizing Committee of the Second Annual AERE Summer Conference to be held June 4-5, 2012 in Asheville, North Carolina:
(http://www.groveparkinn.com/Leisure/TheResort/).

The primary responsibilities will focus on the academic programming and related events at the conference, including development of the theme for sponsored sessions in coordination with conference federal agency sponsors; selection of keynote speaker(s); provision of academic program (in a Word document, formatted for use in the program) to the AERE management firm for inclusion in the conference program; and development of special events and social programs if desired. (A pre/post-conference training workshop may also be organized but should be included as part of the application.)

Expressions of interest are solicited from AERE members at universities, research organizations, or groups of organizations that can assume all of the administrative and organizational responsibilities listed in the forthcoming "AERE Summer Conference Guidelines." Normally a team of two to three individuals would be expected to comprise the committee. The organizing committee will also coordinate with AERE's management company on logistical details, although the management company has primary responsibility for most logistical items such as banquet and audio-visual orders, general hotel contracting and coordination, and on-line registration.

Expressions of interest should include each individual's full contact information, expected role in the conference organization, and a brief description of experience in this role.

Applications should be sent by e-mail to the President of AERE, Cathy Kling (ckling@iastate.edu), **by August 15, 2011**. (Subject Line: AERE Conference Proposal.) A decision will be made by September 15th. Note that a call for expressions of interest for the 2013 conference will appear in the November 2011 *AERE Newsletter.*

More information about the AERE Summer Conference and the role of the Organizing Committee will be posted on the AERE web site in mid-June 2011. Individuals may also contact the organizers of the 2011 conference, Maximilian Auffhammer andor Laura Taylor for more information:
(aereconference@gmail.com).

CALL FOR PAPERS SOCIETY FOR BENEFIT-COST ANALYSIS 2011 ANNUAL CONFERENCE

October 21-22, 2011
L'Enfant Plaza Hotel
Washington, DC

Expanding the Scope of Benefit-Cost Analysis: Practical Applications and Analytical Frontiers

Call for Papers is open: Abstracts **due June 15, 2011**.

The Society for Benefit-Cost Analysis promotes the development and appropriate application of benefit-cost analysis to a broad range of public policy issues. This year, our Fourth Annual Conference and Meeting continues the focus of past conferences on the practical use of Benefit-Cost Analysis (BCA) in a variety of institutional and national settings, with special attention to the role of BCA in both prospective and retrospective program evaluation; and to broadening and improving measurement of benefits and/or costs.

As always, we welcome abstracts on any topic related to improving the use of benefit-cost analysis, cost-effectiveness analysis, risk-benefit analysis, applied welfare economic analysis, and damage assessments in policy settings, from scholars, practitioners, and others interested in these areas who wish to present research at the conference.

Some examples of areas of interest include the following: - Developing innovative analytic tools and testing their application in case studies - Extending the use of benefit-cost analysis to new policy areas - Improving the use of benefit-cost analysis in decisionmaking - Incorporating research on happiness, life-satisfaction - Behavioral economics - Developing principles and standards for benefit-cost analysis - Determining the appropriate treatment of discounting - Assessing and accounting for risk and uncertainty - Valuing costs and benefits and assessing distributional impacts - Incorporating moral sentiments and equity considerations - The role of retrospective benefit cost analysis in program evaluation and policy analysis - Evaluating the use of benefit-cost analysis in practice in the U.S. and other countries - Communicating analytic results effectively

Abstracts should be 200–300 words in length and provide adequate detail on the content of the research. Proposals for panels that include three to four speakers are also welcome, and should include a summary of the overall focus of the panel as well as a 200–300 word abstract for each presentation. Note that the program committee reserves the right to select the panel abstracts and to reorganize the panels as needed. Submission of an abstract is viewed as a firm commitment to participate in the conference if accepted.

Abstracts and panel proposals should be submitted as email attachments in Word document (.doc) format to sbcainfo@uw.edu along with complete contact information for all prospective presenters (name, title, affiliation, email, phone, and address), by June 15, 2011. Please write "Abstract: SBCA 2011" in the subject of the email.

2011 Conference Program Committee

Joseph Cordes, Coordinator (The George Washington University), Glenn Jenkins (Queens University, Canada and Eastern Mediterranean University, Northern Cyprus). Clive Belfield, (City University of New York), Elena Ryan, (U.S. Department of Homeland Security), Trudy Ann Cameron (University of Oregon), and Tony Homan (U.S. Department of Transportation)

CALL FOR PAPERS SUSTAINABLE CONSUMPTION CONFERENCE 2011

November 6 – 8, 2011
Hamburg, Germany

Sustainable Consumption – Towards Action and Impact

Deadline for abstract submission extended to May 24, 2011. Abstracts already submitted may be updated online until the end of the deadline.

In modern societies, private consumption is a multifaceted and ambivalent phenomenon: it is a ubiquitous social practice and an economic driving force, yet at the same time, its consequences are in conflict with important social and environmental sustainability goals. Finding paths towards "sustainable consumption" has therefore become a major political issue. However, despite considerable knowledge about the unsustainability of current consumption patterns and numerous initiatives in the field of consumer information, a general trend towards sustainable consumption has yet to develop.

The scholars of the inter- and transdisciplinary research programme «From Knowledge to Action – New Paths towards Sustainable Consumption», funded by the German Federal Ministry of Education and Research since 2008 as part of its «Social-ecological Research» initiative (SÖF), invite the international and interdisciplinary scientific community to present and discuss new research findings on sustainable consumption.

The focus of the conference is on consumer behavior, its social and cultural embeddedness, and its interdependencies with institutional, economic, physical and political frameworks. Researchers from different disciplines (e.g. Sociology, Psychology, Economics, Political Science, Business Administration, Environmental Sciences, Ethics), studying different fields of consumption (e.g. residence, mobility, nutrition, clothing, leisure) are addressed. The conference aims at promoting a comprehensive academic discourse on issues concerning sustainable consumption.

Keynote Speakers

Lucia Reisch, Copenhagen Business School, DK
Inge Røpke, Technical University of Denmark (DTU), DK
Elizabeth Shove, Lancaster University, UK
Kate Soper, London Metropolitan University, UK
Arnold Tukker, Norwegian University of Science and Technology (NTNU), NO
Alan Warde, University of Manchester, UK

http://www.sustainableconsumption2011.org/

CONFERENCES AND MEETINGS

AGRICULTURAL & APPLIED ECONOMICS ASSOCIATION (AAEA) AND NORTHEASTERN AGRICULTURAL AND RESOURCE ECONOMICS (NAREA) ANNUAL MEETING

July 24 – July 26, 2011
Pittsburgh, Pennsylvania

Session 1: Private and Public Pollution Prevention Programs

Paper 1:
Presenter: Antung Anthony Liu (University of California San Diego)
Coauthor: Junjie Zhang (University of California San Diego)
Title: Fiscal Incentives and Pollution Infrastructure: The Case of Sewage Treatment in China

Paper 2:
Presenter: Dennis Guignet (University of Maryland)
Title: What Do Property Values Really Tell Us? A Hedonic Study of Pollution from Underground Storage Tanks

Paper 3:
Presenter: Donna Ramirez Harrington (University of Vermont)
Title: Motives for Pollution Prevention (P2): P2 Types and Facility Characteristics

Paper 4:
Presenter: Presenter: Shanti Gamper-Rabindran (University of Pittsburgh)
Coauthor: Stephen Finger (University of South Carolina)
Title: Does Self-regulation Improve Worker Safety? Responsible Care in the Chemical Industry

Session 2: Climate Policy
Paper 1:
Presenter: Nicholas Z. Muller
Title: Optimal Climate Policy with Air Pollution Co-Benefits.

Paper 2:
Presenter: Sebastian Rausch (MIT)
Coauthors: Gilbert E. Metcalf (Tufts, NBER and MIT), John M. Reilly (MIT), Serge Paltsev (MIT)

Title: Distributional Impacts of Carbon Pricing: A General Equilibrium Approach with Micro-Data for Households

Paper 3:
Presenter: Jonah Busch (Conservation International)
Coauthors: Ruben Lubowski (Environmental Defense Fund), Fabiano Godoy (Conservation International), Daniel Juhn (Conservation International), Kemen Austin (World Resources Institute), Jenny Hewson (Conservation International), Marc Steininger (Conservation International), Muhammad Farid, (Conservation International), Fred Boltz (Conservation International)
Title: Climate and Revenue Benefits of Policies to Reduce Emissions from Deforestation in Indonesia

Paper 4:
Presenter: Ruben Lubowski (Environmental Defense Fund)
Coauthor: Alexander Golub (Environmental Defense Fund), Ram Ranjan (Macquaire University), Jonah Busch (Conservation International)
Title: Risk Management in a Large-scale Emissions Reduction Program: Estimating the Insurance Value of REDD Buffers in Indonesia

Session 3: Water Management Issues
Paper 1:
Presenter: Sakib Mahmud (University of Wyoming)
Coauthor: Edward B. Barbier (University of Wyoming)
Title: Are Private Defensive Expenditures against Storm Damages Affected by Public Programs and Natural Barriers? Evidence from Bangladesh Coastal Areas

Paper 2:
Presenter: Inoussa Boubacar (University of Wisconsin – Stout)
Title: The Returns to Irrigation and Farm Incomes in Sudano-Sahelian Africa

Paper 3:
Presenter: Christian Langpap (Oregon State University), Department of Agricultural and Applied Economics
Coauthor: Benjamin Rashford (University of Wyoming)
Title: Wetland Rotations: Implications of a New Conservation Approach for Wildlife Habitat and Farm Prosperity

Session 4: Ecosystems and Environmental Kutznets Curve
Paper 1:
Presenter: Sahan T. M. Dissanayake (University of Illinois)
Coauthor: Amy W. Ando (University of Illinois)
Title: Preferences for Restoring Ecosystems: Evidence From a Choice Experiment Survey of Grassland Restoration

Paper 2:
Presenter: Adrienne M. Ohler (Illinois State University)
Title: Testing for Environmental Kuznets Curves in Energy Markets

Paper 3:
Presenter: Aaron Strong (University of Iowa)
Title: Measuring Environmental Quality: Ecosystem Services or Human Health Effects

ASSOCIATION FOR PUBLIC POLICY ANALYSIS AND MANAGEMENT (APPAM)

November 3-5, 2011
Washington Marriott
Washington, DC

Seeking Solutions to Complex Policy and Management Problems

APPAM's Annual Fall Research Conference is a gathering of leaders within the policy analysis and management field. It has become the preeminent venue for the presentation and discussion of applied public policy and management research, attracting more than 1000 participants for over 160 sessions across three days of meetings each year. The Program Committee organizes an agenda that spans the interests and background of APPAM members across all issues areas and methodologies.

Noteworthy highlights of the 2011 conference include the invited symposia, the Presidential Address, the Poster Session Luncheon, and the Opening Night Reception.

For all 2011 Fall Research Conference information including the schedule of events, registration, hotel reservations and travel planning, please go to: https://netforum.avectra.com/eweb/DynamicPage.aspx?Site=APPAM&WebCode=fc2011

Questions? Email info@appam.org

ALLIED SOCIAL SCIENCE ASSOCIATIONS (ASSA) ANNUAL MEETING

January 6 - 8, 2012
Chicago, Illinois

AERE will sponsor sessions at the 2012 winter meeting of the Allied Social Sciences Association (ASSA) in Chicago, Illinois scheduled for January 6-8, 2012, and will hold a members' luncheon and Fellow's Talk on January 7. A committee chaired by Wolfram Schlenker is organizing the AERE sessions. The Call for Papers is now closed.

For details, visit:
http://www.aeaweb.org/Annual_Meeting

CAMP RESOURCES XVIII

August 8 – 9, 2011
Blockade-Runner Beach Resort
Wrightsville Beach, North Carolina

Camp Resources will return to the Blockade-Runner Beach Resort in Wrightsville Beach, North Carolina. The dates are **Monday and Tuesday, August 8 and 9, 2011**. The Blockade-Runner Beach Resort was a big hit with last year's attendees. You may want to consider arriving early or staying a few days after the workshop, or both, to enjoy a little extra time at the beach.

This year's highlights feature a learning tutorial on "Nonparametric Estimation and Inference" by Christopher Parmeter, Assistant Professor of Economics at the University of Miami in Coral Gables, Florida. Stephen Polasky, Fesler Lampert Professor of Ecological and Environmental Economics in the Department of Applied Economics at the University of Minnesota, will be one of our featured faculty mentors attending the conference and providing feedback to presenters. Dr. Polasky also will present an overview of his current research interests. In addition, Camp Resources enjoys the support from an outstanding community of environmental and resource economists at NC State, Duke, RTI International, and throughout North Carolina and the Southeast who regularly attend the workshop.

For those interested in making either a regular presentation or a research sketch, please email a one-page abstract to Jack Crawley (jack_crawley@ncsu.edu) by **Wednesday, June 1, 2011**. Please email your abstract in *.pdf or MS Word format. Be sure to put CAMP RESOURCES in the subject line and indicate your preference for either a regular presentation or a research sketch in the body of the email. Note that if you indicate a preference for a regular presentation and your abstract is not selected, we will automatically consider it for a sketch unless you tell us otherwise. We will confirm, via email, receipt of all abstracts within one week of submission. Abstract selection and notification will be completed by Friday, June 17, 2011. Of course, all graduate students, young professionals and faculty are welcome! A modest registration fee will be charged to all attendees.

In addition to regular twenty-minute presentations, this year's Camp Resources will include sessions of short, five-minute research sketches. These sketches are ideal for students in the early stages of dissertation work. Some travel support will be available for students who participate in these sessions.

Camp Resources XVIII will be held at the Blockade-Runner Beach Resort on Wrightsville Beach Island, North Carolina. This full-service resort is located on the ocean front. The hotel is within walking distance of restaurants and nightlife. A block of rooms has been reserved for us: our conference rate is $149.00 per night, plus taxes, for a single or double room on Sunday and Monday nights, August 7-8. The same rate, on a space available basis, applies for Tuesday, Wednesday, and Thursday nights (August 9-11). For those who wish to arrive early, we have also negotiated, again on a space available basis, a discounted rate of $209.00 plus tax for Saturday night, August 6, 2011. Reservations can be made by calling the hotel directly at 1-800-541-1161. Be sure to request a room in the "Camp Resources" block to receive our reduced rates. Group reservations must be received by the Blockade-Runner on or before July 7, 2011, so make your reservations as early as practicable.

Contact: Jack Crawley at jack_crawley@ncsu.edu
Conference Website:
http://www.ncsu.edu/cenrep/workshops/CENREP2011.php

EAERE 19TH ANNUAL CONFERENCE

June 27 – 30, 2012
Prague, Czech Republic

Organizers: EAERE and Charles University Prague (in collaboration with the University of Economics Prague)
Information: eaere@eaere.org

GAME THEORY PRACTICE (GTP) MEETING

July 11 - 12, 2011
Mission Inn Hotel
Riverside, CA

The 8th Game Theory Practice meeting will be will be dedicated to Transboundary and Global Issues, including natural resources (water, fisheries, and forestry), environment, climate change, terrorism, peace talks, weapon control, trade, technology transfer, and migration.

Relevant information, including the topics, venue, time table, registration fees, and keynote speakers can be found on http://www.wspc.ucr.edu/gtp/index.html. For more information send an email to adinar@ucr.edu.

14th ANNUAL CONFERENCE ON GLOBAL ECONOMIC ANALYSIS GLOBAL TRADE ANALYSIS PROJECT (GTAP)

June 16-18, 2011
Ca' Foscari University of Venice
San Giobbe Campus
Venice, Italy

Governing Global Challenges: Climate Change, Trade, Finance and Development

The goal of the conference is to promote the exchange of ideas among economists conducting quantitative analysis of global economic issues. Particular emphasis will be placed on applied general equilibrium methods, data, and application. Related theoretical and applied work is also welcome.

A global network of individuals and institutions conducting economy-wide analysis of trade, resource, and environmental policy issues has emerged. Thousands of these researchers now use a common data base, supplied by GTAP. The project is coordinated by the Center for Global Trade Analysis at Purdue University with the support of a consortium of national and international agencies. The GTAP Data Base is a key input into most of the contemporary applied general equilibrium (AGE) analysis of global economic issues. Participants are given the opportunity to present their work, interact with other professionals in the field, and learn about the most recent developments in global economic analysis.
https://www.gtap.agecon.purdue.edu/events/conferences/

SOUTHERN ECONOMIC ASSOCIATION (SEA)

November 19 - 21, 2011
Marriott Wardman Hotel
Washington, DC

AERE Sessions at the Southern Economic Association (SEA) Annual Meeting

AERE members will be participating in the Southern Economic Association's (SEA) annual meeting at the Marriott Wardman Park Hotel in Washington, DC on November 19-21, 2011 (Saturday - Monday). John C. Whitehead, Appalachian State University, and Sarah L. Stafford, College of William and Mary, organized the SEA sessions which are intended to provide an accessible conference option for our regional members.

For details, visit http://www.southerneconomic.org

ESSAY

TRANSLATIONAL ECONOMIC RESEARCH: INTEGRATING GENETICS, NEUROSCIENCES & BEHAVIORAL SCIENCES

Kevin J. Boyle, Department of Agricultural and Applied Economics, Virginia Tech
George Davis, Department of Agricultural and Applied Economics and
Department of Human Nutrition, Foods and Exercise, Virginia Tech
Paul A. Estabrooks, Department of Human Nutrition, Foods and Exercise, Virginia Tech
Deborah J. Good, Department of Human Nutrition, Foods and Exercise, Virginia Tech
Brooks King-Casas, Carilion Research Institute and Department of Psychology, Virginia Tech
Achla Marathe, Department of Agricultural and Applied Economics and Virginia Bioinformatics Institute, Virginia Tech
Wen You, Department of Agricultural and Applied Economics, Virginia Tech

Introduction

Economics is fundamentally concerned with the choices people make whether they be statements of intended behavior (stated preferences) or observations of actual choices (revealed behavior). These can be choices people make as individuals or choices they make as representatives of businesses, government agencies or NGOs.

Money is the numeraire used to make comparisons of relative value across different choices. From an economic perspective the observations are quite simple when taken at face value. If alternative A is chosen over alternative B then A is preferred to B, and through the monetary component of the transaction it is possible to infer the marginal value of A over B.

To interpret why different people make different choices can be complex in terms of the theoretical framework of choices and the econometric analysis of choice data. In environmental economics the context for choices is generally observable characteristics of individuals (e.g. age, sex, income, etc), the relevant environmental resource (e.g., change in air quality) and any public policies that affect choices.

In the research described below we propose a more holistic or systemic view of the choice process. Translational Economic Research is the integration of the research process from a genetic and biological perspective to individual behavior through time, and asks if policy shocks, confounds or moderators change the structure of choices. Translation research is commonly used in medical research to the translation of research innovation from the laboratory bench to practice.

Here, we use Translational Economic Research to go beyond the current interest in behavioral economics and neuroeconomics. Camerer (1999) states that "'behavioral economics' improves the realism of the psychological assumptions underlining economic theory, promising to reunify psychology and economics (and) … should lead to better predictions about economic behavior and better policy prescriptions." For example, in bounded rationality Kahneman (2003) proposes three cognitive systems – perception, intuition and reasoning. Bernhiem and Rangel (2005) note an emerging theme in behavioral economics is to justify and test anomalies in economic choices through "… careful use of data from psychology and neurosciences" and suggest most investigations have been "… experimental manipulations that lead to nonsensical self reports."

In our research we integrate genetics, neurosciences, psychology, behavioral sciences and economics to investigate what factors influence choices and how choices might change through time. We allow that what may be viewed as choice anomalies may be due to a lack of a fundamental understanding of how genetic, biological, and environmental considerations affect choices. From a medical research perspective the environment is everything outside of the biology of a person (not just the natural environment) and changes in the environment can change biological responses that may be associated with changes in choices, which would seem anomalous if preferences are assumed to be stable and fixed.

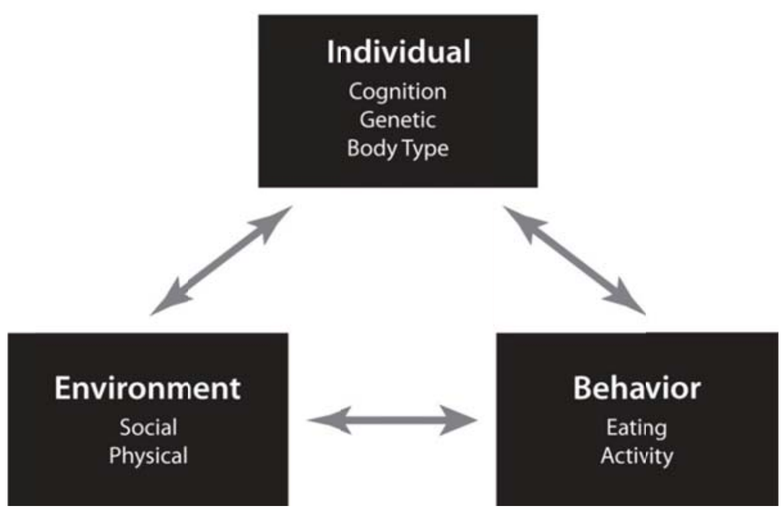
As an example, we discuss Translational Economic Research within the context of designing incentive programs for successful weight loss that can include rewards (i.e., carrot) or punishments (i.e., stick). One possible incentive is a monetary payment for meeting weight loss goals.[1] Another incentive is the role/consideration of others, interdependent utilities, play in successful weight loss. We first discuss individual choice contexts and then move to dynamic change through the period of a weight-loss program in the context of components of the Translational Economic Research program. In the process we discuss research from mice experiments with different genes and different feeding regimens, to observations of people's food and weight-loss choices, to group behavior effects. We close with some broader implications for this research paradigm with specific consideration for applications in environmental and resource economics.

Individual Choices

Individual choices can be considered temporally in terms of the conditions that describe the initial decision to enroll in a weight loss program followed by the dynamic process associated with initiating and sustaining program participation. We start with a brief discuss of the current conditions, or status quo, from which change is consideration and then discuss the dynamic process of choice.

Status Quo. The individual context is described in the triadic relationship presented in Figure 1. Here intra-individual characteristics include bio-physical and psychological characteristics. From the psychological perspective, cognition includes an individual's ability to understand the proposed program, its potential outcomes, and one's belief that he/she has the ability to complete the tasks associated with the program. From a bio-physical perspective, genetic characteristics may predispose an individual to be more or less likely to participate in a weight-loss program due to, for example, different levels of tolerance for physical activity. Further, body type (e.g., slightly overweight, overweight, obese) might also influence choices.

Figure 1. **Triadic Individual Context**



[1] Another planned design point in the experiments is self-imposed fines for failing to accomplish weight loss (a stick), which has been suggested as an effective weight-loss incentive (http://www.economist.com/node/10661442, accessed April 24, 2011). The success of stick-based (rather than carrot-based) incentives is consistent with the asymmetry between gains and losses asserted by Tversky and Kahneman (1991) who claimed that people have a higher preference for avoiding losses than acquiring gains.

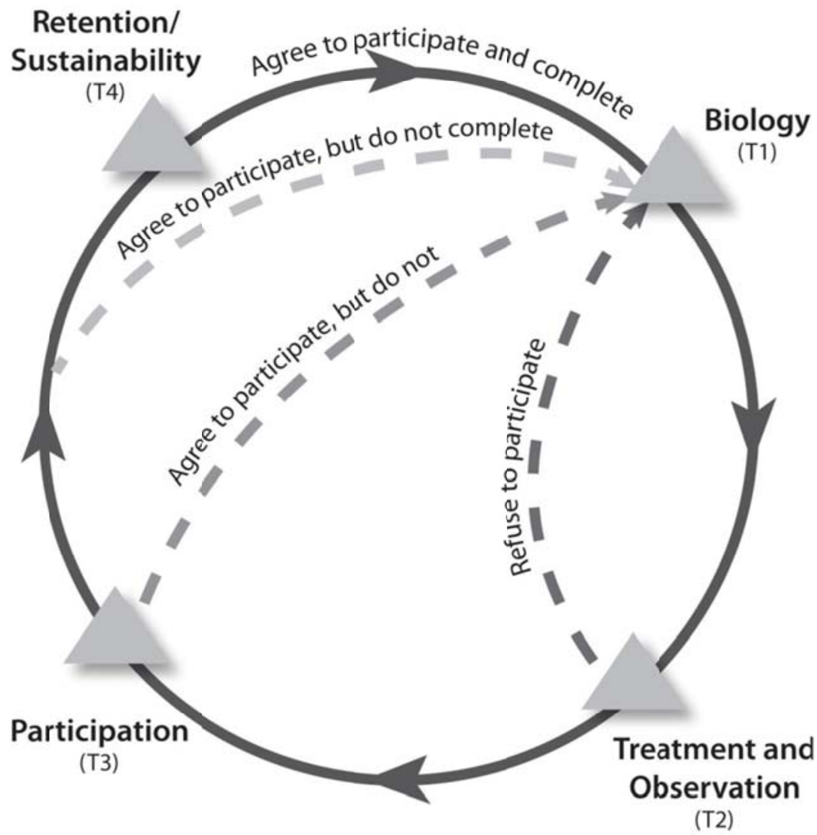
The environment might include social factors such as whether the individual lives in a household with other overweight people or has a social network that is predominantly filled with normal weight, overweight or obese members. The physical environment may include whether the individual must regularly walk up and down stairs or can take an elevator, if the individual works in an environment where food is readily available (e.g., a fast-food restaurant) or other elements of a person's daily life. More broadly, neighborhoods, schools, modes of transportation, local food availability, recreational environment, and the entire range of structural and social elements that make up the fabric of a community contribute to obesity (Cummins and Macintyre, 2006). For example, the presence of a single supermarket within a census tract was associated with a 32% increase in fruit and vegetable intake compared with neighborhoods without supermarket (Morland et al., 2002).

Our intention is not to suggest that Figure 1 is a comprehensive description of the factors that make up intra-individual or environmental dimensions, but rather to give examples of what might affect choices (or behavior). These choices may be volitional choices from a structured utility framework or may be involuntary. Consider physical activity. If one works in building with an elevator and stairs, and chooses to use the stairs then this is a volitional choice. However, if the building only has stairs, then the person involuntarily participates in physical activity.

If someone works in a building with both stairs and an elevator, they are overweight and they use the elevator, one might ask why they do not volitionally engage in physical activity when they have a low cost and convenient opportunity to do so. This, taken at face value, may seem to be a violation of rational behavior given the many and costly health consequences of being overweight. However, there may be genetic, psychological, social and other types of moderators that influence choices that do not appear in traditional utility theoretic explanations of this behavior. Taking a broader, more holistic view of the individual that takes into account potential genetic, biological and social heterogeneity may help to better explain and understand choices.

Dynamic Change. A dynamic model of translational research reflects factors that affect choices and, in our example, relate to the effectiveness of a weight loss program (Khoury et al., 2007). This process of translational Economic Research is shown in Figure 2. Type 1 translation (T1) includes the transition from genetic discovery to the development of a health application (e.g., genetic predisposition to respond positively to different incentives). Type 2 translation (T2) is reflected in the movement from the health application (e.g., phenotype matched incentives) to evidence-based guidelines for weight loss in our example. Type 3 translation (T3) includes the implementation of the guidelines within the community or in clinical practice. Finally, Type 4 translation (T4) represents the process by which the implemented guideline results in sustained practice.

Figure 2. **Dynamic Translational Economic Analyses**



From an economic perspective the triangle labeled Genetics at time T1 represents all relevant individual characteristics, including and perhaps based on genetics, before any weight-loss program has been introduced. T1 Translational Economic Research may attempt to understand the relationships between genetic factors and choices people might make in response to incentives to change eating and physical activity habits. At time T2 the individual is presented with a weight-loss program, asked whether they would participate (stated behavioral intention), and a functional MRI (fMRI) is concurrently taken to observe brain activity when the choice is posed. A field trial of incentive packages proven successful in T1 and T2 occurs at T3 translation. Specifically, these are the trials that demonstrate the proposed guidelines are successful under real world conditions. Finally, T4 is the operationalization of incentive programs into the policy environment.

Considering Figure 2 from an individual participant's perspective, each of the processes involved across the translational research spectrum can influence individual **choices** to engage, initiate, and complete a weight loss program. Thus, we can observe whether or not those who indicated they would participate in a program actually do. We can also observe decisions made across the weight-loss program related to sustained participation or attrition. From these multiple observations we can observe four types of people, as denoted in Figure 2, and test/retest procedures with survey questions and fMRIs can help to understand differences in the biological and behavioral responses of people in each of these four groupings.

We can observe if basic genetic, biological and social information has changed, e.g., gene expression, DNA methylation pattern, fMRI and social network. For the genetic or biological components, we might measure serum levels for leptin, an adipocyte hormone. We could also use DNA to measure whether exposure to the program altered the methylation pattern of genes, which could lead to differences in gene expression. For the fMRI we might conduct food choice experiments at T2, concurrent with the stated choice-experiment and again after completion of the program. We could also ask questions at program completion, replicated from T1 and T2, to see if other characteristics, such as eating, exercise and social network choices have changed. These dynamic and broader observations of individuals have not been available to traditional economic analyses and can provide richer information for understanding people's choices in many contexts beyond the design of weight-loss programs.

Research Program Components

Here we outline key parts of the research moving from basic genetic research to insights for human applications and observations on economic choices. Some of these components provide insights to other components, while other components are more directly related. For example, obesity research, using a mouse model, provides indirect insights to human behaviors. On the other end of the continuum social-network research allows insights on how group dynamics influence individual behavior. In between, fMRIs and stated-choice experiments can be conducted concurrently to better understand the key elements that influence choices.

Genetics. Genetic research provides an opportunity to investigate how a person's biological composition might affect choices and how these affects may change over time. Genetic factors, namely gene alleles that act to conserve energy in an individual, contribute to the incidence of people who are overweight. In addition, specific alleles or forms of genes can also be postulated to either motivate or inhibit choices related to healthy behaviors. Geneticists have identified 11 genes whose mutated forms predisposed individuals to obesity and under certain environments (more than 120 other genes are genetically linked to body weight) (Rankinen, 2006b). In addition, 165 possible genes are linked to physical activity with15 likely playing a role in energy generation and expenditure and 16 genes that have been directly linked to exercise intolerance (Rankinen, 2006a). Some of these genes appear on more than one list, e.g., both body weight and physical activity (Good, Coyle and Cox, 2008).

The question of whether genetics can affect choices made by individuals can be examined by observing choices made, but might be better-assessed in controlled experiments using rodent models. The majority of the genes listed on the Human Obesity Gene map have been verified as predisposing to rodents to obesity (Rankinen, 2006). Initial translation to human behavior is being investigated using two different mouse models, one with a single point mutation and the other with a gene deletion to assess the effect of genetics on food choice with different fat contents and pricing constraints (Davis, Jacob and Good, 2011). In these experiments mice understand price, and invariably choose lower priced food. The genetic effects in these studies are seen, not in the food choice *per se*, but in the biological result of the food choice. Mice with a mutation in the Tubby (*Tub*) gene, which predisposes to adult-onset obesity with low physical activity levels (Coyle, Strand and Good, 2008), choose to consume more high fat food, more food in general than normal (wildtype) mice and show significant weight and body fat gain (Davis, Jacob and Good, 2011).

How do these types of rodent studies translate into possible human behaviors in real world situations? For the TUB gene, we may have some information on this. In a study published by van Vliet-Ostaptchouk and colleagues (2008), people of three different variations in the TUB gene, all of which were previously associated with increased body mass index (Shiri-Sverdlov, 2006), were given food intake questionnaires to assess total food and macronutrient choices. Of 1680 women genotyped in the study, they found that those with mutations within the TUB gene, a gene associated with human obesity, choose a higher carbohydrate diet than those women with the normal gene. Variants in other genes also appear to predispose people to higher carbohydrate diets (Elbers et al., 2009). Several gene variants also predispose people to lower overall physical activity levels, or response to physical activity (Kilpeläinen et al., 2008 & 2010; Rankinen et al., 2010). These preliminary investigations in the context of human weight gain and loss suggest that genetic factors do influence choices in these contexts.

Genetic observations are part of the biology at T1 in Figure two and gene expression and other personal biological traits can be expected to have changed at T4 after completion of a weight-loss program.

Functional MRI. Although economists traditionally rely on stated and observed choices to infer values, the emergence of non-invasive neuroimaging methods now enables economists to eavesdrop on the neural activity of the decision-process itself (Glimcher et al., 2008). This can occur at T1 in Figure 2 and at T4, after program completion.

Functional magnetic resonance imaging is used to non-invasively monitor blood flow changes in the brain that correlate with local field potential measures of neural activity (Huettel et al., 2008). These measures can be taken every few seconds in just a few square millimeters of neural tissue, enabling economists to dissect the possible influence of different components of the choice process. These tools provide a meso-level understanding that links cellular and molecular determinants of choice to economic incentives (positive and negative) and institutional changes that influence behavior.

For example, recent fMRI work suggests obese individuals have a blunted neural response in the striatum to the consumption of food, and suggests this effect is moderated genetically. The striatum is a subcortical region of the brain that receives rich projections from midbrain dopamine neurons, and fMRI measures of neural activity in this region have repeatedly shown to encode expected and experienced reward responses, along with differences between expected and experienced responses (Montague et al., 2006). This work suggests that obese individuals may require greater consumption of food to achieve the same level of reward as normal weight individuals, and further research suggests a developmental trajectory of this abnormality that begins with hyper-responsivity to food intake during adolescence, leading to overeating, and resulting in diminished dopamine signaling and reward sensitivity in adulthood (Stice et al., 2011).

While fMRI-measured signals are useful in providing a covert measure of expected (food cue) and actual (food consumption) responses that has been related to genetic variation, these metrics can also be used to understand how the neurobiology of food intake changes as a function of an intervention program (the program progression shown in Figure 2). This approach is commonly used in psychiatric illnesses to inform etiology of a disease process and target specific interventions (Kumari et al., 2010; Reske & Paulus, 2008). This is particularly relevant for Translational Economic Research as policy and treatment interventions can be designed and evaluated based, in part, on the impact that these interventions have on the neural responses that result from the choice contexts posed and clinical implementation trials. It would be expected that different stimuli in a program would stimulate the brain differently and that brain scans before and after a weight-loss program with a food-choice experiment, for example, might be expected to differ in the imaging results.

Stated Economic Behavior. Stated economic behavior is part of the family of stated-preference methods known as contingent valuation and choice modeling (Champ Boyle and Brown, 2003) and occurs at translation T2 in Figure 2. In the context of weight-loss applications, rather than asking willingness-to-pay or willingness-to-accept questions, willingness to participate questions are the logical extension. Using choice modeling to frame these questions it is possible to included the multiple attributes of the programs such as the amount of the monetary incentive, form of payment (e.g., cash vs. debit card), timing of the incentive payment (e.g., weekly vs. monthly), etc. (e.g., You et al., 2011).

Using a stated behavior questions to gauge potential participation in a weight-loss program is simply a new application of a well-established preference elicitation methods and occurs at T2 in Figure 2. What is new is the application of this type of question in the Translational Economic Research program. Two key issues have continually assailed stated-preference applications: 1) many of the design choices are made based on insights from focus groups are therefore subjective (Chilton and Hutchinson, 1999), and 2) stated-preference questions tend to overestimate values (participation here) (List and Gallet, 2003). The Translational Economic research Program can help address these questions. The concurrent application of a stated-preference question, psychology-choice experiment and fMRI can help to better understand how subjects react to difference components of the economic questions as elements of this question are systematically modified, e.g., magnitudes of dollar amounts, time frames of payment, etc. Second, carrying the experiment from genetic mapping through actual behavior resulting from an economic choice can provide key insights about why some people might say they would participate (pay) and then do not follow through or only partially follow through.

Actual Economic Behavior. Health and weight in particular, is a stock variable and a stock variable implies an investment decision and therefore all the complications of inter-temporal decision making. Behavioral change occurs at T3 and T4 in the translation conceptualization presented in Figure 2.

The two main ingredients of an inter-temporal optimization problem, uncertainty and time consistency, are especially relevant in any type of weight loss intervention program. The uncertainty in a weight loss application is the uncertainty of the actual affect the investment of one more bite of a MacDonald’s hamburger or one more lap around the track will have on your weight status. One of the main findings from the investment under uncertainty literature is that in an uncertain environment, there will be underinvestment in a potential beneficial activity (Carruth, Dickerson, and Henley 2000). Consequently, given the uncertainty of the actual future weigh status associated with a weight loss intervention, it is not too surprising that individuals under-invest in such activities, especially if they provide disutility in the current period.

One of the main challenges for economists is the time inconsistency problem (Strotz 1956), whereby the optimal path (choice) of investment (consumption) at one point in time will change over time, which of course could be related to uncertainty, but could also be related to other factors, such as addiction or, perhaps, the extent of change accomplished. This is an important area of research in economics and behavioral economics (e.g., Frederick, Loewenstein, and O'Donoghue 2002; Halvey 2008) The implication tentacles of time inconsistency are rather far reaching and challenging, especially for designing effective weight loss interventions. For example, an individual who signs a participation contract at time T3 is basing their decision on the expectations of future states; expectations about money costs or time costs or physical effort costs versus the promised payoff at time T4. The time inconsistency problem indicates individuals may drop out (not follow through) because what seemed optimal at time T3 no longer seems optimal at time T4. In a weight loss program, drop-out behavior could be due to an underestimation at of the amount of time required to successfully complete the program.

The time inconsistency problem implies that incentive structures may have to be rather sophisticated to ensure completion. Some literature related to this issue show that more rigid and regularly spaced goals/deadlines are more effective at dealing with time-inconsistency and achieving better outcomes (Ariely and Wertenbroch, 2002; Burger and Lynham, 2010). The current literature on the effect of financial incentives on weight loss displays only a little evidence on the short-term weight loss effectiveness (e.g., Finkelstein et al., 2007; Volpp et al., 2008). However the long-term effect and the role of incentives on minimizing attrition are not well-understood. Part of the reason is that the incentive and program structures are not calibrated to combat time-inconsistency and uncertainty directly. Basic research utilizing brain imaging in conjunction with measurements of biological markers will help us better understand the inter-temporal decision making process in an uncertain environment leading hopefully to the development of more effective incentive structures for policy intervention.

Social Relationships. In recent literature, several researchers have shown that obesity spreads through social networks. Social networks connect the triadic triangles in Figure 1 (or translation circles, Figure 2) of different people in a population.

For example, work by Christakis and Fowler (2007) shows that a person's chances of becoming obese increased by 57% if a friend became obese in a given interval. Similarly, an obese adult sibling increased the chances of the other adult sibling becoming obese by 40%; a spouse increased this likelihood for the other spouse by 37%. These results provide evidence to the notion that social networks play an important role in modifying the behavioral traits of obesity through close social ties that are not solely based on common familial genetics.

Social networks also indirectly influence choices through behavioral, social and environmental factors that correlate with obesity in complex ways. For example, previous studies have shown that overweight and obese people often feel stigmatized and socially discriminated, and this kind of social discrimination is particularly prevalent among children and adolescents who are often not favored in their social networks and feel social marginalized (Strauss et al. 2003). Social marginalization and peer rejection in turn, tend to increase sedentary behavior, reduce active leisure activities and encourage eating out of boredom. Adolescents and young adults often form peer groups around shared behaviors such as watching TV, eating out, playing sports or video games etc., which can have direct or indirect effects on weight status (Valente et al. 2009). This clearly implies that the relationship between obesity, the behavior that leads to obesity and social marginalization is quite complex and intertwined.

Apolloni et al. (2011) attempted to disentangle the relationship between obesity and social marginalization using the National Longitudinal Study of Adolescents Health (Add Health) data for causality between obesity and social marginalization among teenagers and young adults. Obesity was measured by individual's BMI and the social marginalization was measured by the number of friends an individual had. Two individuals are ``friends'' when there is a bi-directional nomination of friendship. These researchers found that overweight and obese individuals are at the periphery of the friendship network whereas the normal weight individuals occupy more central positions in the network. Granger causality test results showed that obesity precedes social marginalization, which lends credence to the notion that obesity causes social marginalization and not vice versa. This suggests that obesity not only has health consequences, but also impacts behavioral and social processes.

Implications for Research in Environmental and Resource Economics

While we have used a biomedical example of weight loss, there is every reason to expect that this type of Translation Economic Research program can improve the understanding and use of environmental and resource choices for policy analyses. The research cited indicates that genetics influence a predisposition to gain weight, and predispositions to or against changing eating and physical activity behaviors. There is reason to believe that genetics may also play a role in how people think about and respond to natural resources and the environment. As a person proceeds through the Translational Economic Research circle (Figure 2) in the weight-loss context gene expression and fMRI observations can change. The intuition for resource and environmental economics is that preferences and response to an environmental policy can change from initial consideration through implementation to completion of any project or policy. For example, these biological considerations suggest that preferences might be different between protecting the environment from an oil spill and responding to clean-up an oil spill. What may appear to be inconsistencies in a logical view of preferences may in fact be quite reasonable when taken from this broader perspective of how people make choices.

In the context of stated-preference research the Translational Economic Research framework can help address validity questions such as:

- Why do some people never support any policy alternative and why do others always ten to express support?
- Why do some people say they will pay for a policy and then do not?

Much of the initial design stated-preference research is dependent on focus-groups, one-on-one interviews and other qualitative research. fMRI can help to isolate how survey respondents react to different elements of the valuation process and to identify different groups of respondent based on this information. One insight that is developing from the weight-loss research is that a one-size-fits-all policy is not the best approach to securing participation and retention. In the valuation context this means that applying one, stylized survey instrument to all potential respondents can be challenging to effectively design.

Social networks also suggest that people associate with like-minded individuals. Moving to environmental policy development, Translation Economic Research can help to enhance environmental negotiation and decision making. If genetics are proved to influence how people consider environmental policies and through social networks they tend to associate with like-minded people, this can help to explain polarization in debates over environmental policies. Thus, the tools described here can help to understand decision-making regarding environmental policies and potentially be used to facilitate negotiation and help resolve policy differences.

The holistic approach to Translational Economic Research described here provides insights that are not possible when research is conducted by each of these disciplines singly. The insights from collective investigations will yield a richer understanding of how people make choices, how they value policies and can result in more effective policy-design processes.

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Fax: 805-893-7612

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Georgia State University
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Department of Agricultural and Resource Economics
Oregon State University
Corvallis, OR 97331
Email: plantinga@oregonstate.edu
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Fax: 541-737-1441

Dr. Scott Taylor
(1/1/09-12/31/11)
Department of Economics
University of Calgary
Social Science 454,
2500 University Drive, N.W.,
Calgary, Alberta Canada. T2N 1N
E-mail: mstaylor@ucalgary.ca
Telephone: (403) 220-8912
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University of California, Santa Barbara
2127 North Hall
Santa Barbara, CA 93106
E-mail: kolstad@bren.ucsb.edu
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AERE Executive Director
Marilyn M. Voigt
AERE Business Office
1616 P Street NW, Suite 600
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