

Experimental Social Science Laboratory
(ESSL)

Annual Report

2011-2012

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I. Opening Statement

The Experimental Social Science Laboratory (ESSL) is a School Center of the School of Social Sciences that promotes and facilitates social scientific research using the methods of experimental economics.

The Center manages the ESSL computer laboratory in SBSG 1240-1244, the ESSL subject pool, the ESSL web sites, and the ESSL IRB documentation. Unlike other research laboratories in the social and physical sciences, ESSL is a community facility that exploits natural economies of scale in experimental economics. Once the laboratory resources are in place, the cost for an additional experimenter to conduct an experiment is very low. By sharing this facility and scheduling around each other, the laboratory resources are leveraged to maximize research output.

ESSL also funds small grants with the intent to generate more external funding awards and promotes experimental work and training in experimental methods among faculty and students.

This annual report details the major developments, usage, research projects, and educational endeavors undertaken during this, its inaugural year. A few facts deserve special mention.

1. ESSL is both multidisciplinary and interdisciplinary. Deserving of its status as a School Center and true to the tradition of UC Irvine, ESSL faculty and graduate students reside in many departments within the Social Sciences, and their experimental research intersects various disciplines. UCI faculty and graduate students on the approved IRB protocol come from the Departments of Cognitive Sciences, Economics, Logic and Philosophy of Science, Political Science, and Sociology. The projects straddle different disciplines, from conflict studies that intersect economics and political science, to public goods contribution studies that intersect sociology and psychology.
2. ESSL faculty have been successful in obtaining external funds to support their experimental projects. Total grant amounts are not available for all projects, but ESSL does track the dollar amounts paid out to human subjects in all ESSL experiments. Of the approximately \$23,000 used to pay human subjects in UCI faculty-led projects during 2011-2012, 82% came from external sources. Overall, external sources accounted for 57% of the funds made to human subjects for all projects.
3. The UCI School of Social Sciences and its departments and centers play the primary role in providing graduate students the funds needed to start experimental projects, and this trend is likely to continue. 87% of the approximately \$20,000 used for human subjects payments in UCI graduate student-led projects in 2011-2012 came from internal sources related directly or

indirectly to the School of Social Science. Because external funding agencies prefer to fund projects for which there are completed pilot studies or for which the researcher has an established research record, it is difficult for graduate students to obtain external funds for new projects. The School thus plays a key role in helping students make initial progress on projects which they can leverage into external grants.

4. ESSL is locating itself at the cutting edge of experimental economics by expanding the scope of its operations beyond traditional computer laboratory. The traditional economics experiment is conducted in a computer laboratory with simple visual displays, yet instrumentation purchased with the Army Research Office DURIP Grant enables ESSL to support a wider array of experiments. Special software has been purchased to conduct experiments in virtual worlds, and portable tablet computers have been purchased to allow for mobile experiments. Both of these technologies allow for a richer set of experimental studies to be conducted at ESSL.

II. Organization and Administration as of June 2012

A. Administrators

Director	Michael McBride (Associate Professor of Economics)
Advisory Board	Bernie Grofman (Jack W. Peltason Endowed Chair Professor of Political Science and Adjunct Professor of Economics) Donald Saari (UCI Distinguished Professor of Economics and Mathematics, Professor of Logic and Philosophy of Science) Stergios Skaperdas (Professor of Economics) Brian Skyrms (UCI Distinguished Professor of Logic and Philosophy of Science and Economics)
Laboratory Managers	Albert Jun Choi (ECON 199 student) Michael Caldara (Economics graduate student) David Hewitt (Economics graduate student) Ryan Kendall (Economics graduate student) Si-Yuan Kong (Non-student volunteer) Alex Meissner (ECON 199 student) Meryl Motika (Economics graduate student) Andrew Scauzillo (ECON 199 student)

B. Researchers on Approved IRB Protocol HS# 2011-8378

Lead Researcher	Michael McBride (Associate Professor of Economics)
UC Irvine Faculty	Alyssa Brewer (Assistant Professor of Cognitive Sciences) Yen-Sheng Chiang (Assistant Professor of Sociology) Simon Huttegger (Associate Professor of Logic and Philosophy of Science) Michelle Garfinkel (Professor of Economics) Jeffrey Krichmar (Associate Professor of Cognitive Sciences) Igor Kopylov (Associate Professor of Economics) Anthony McGann (Associate Professor of Political Science) Stergios Skaperdas (Professor of Economics) Gary Richardson (Associate Professor of Economics)
UC Irvine Graduate Students	Derrick Asher (Cognitive Sciences) Justin Bruner (Logic & Philosophy of Science) Michael Caldara (Economics) Alexis Craig (Cognitive Sciences) Jennifer Herrera (Logic & Philosophy of Science) David Hewitt (Economics)

	<p>Ryan Kendall (Economics) Alejandro Komai (Economics) Kristoffer Jackson (Economics) Meryl Motika (Economics) Cailin O'Connor (Logic & Philosophy of Science) Erick Peterson (Economics) Andrew Porter (Economics) Emily Rounds (Cognitive Sciences) Pi-Han Tsai (Economics) Andrew Zaldivar (Cognitive Sciences) Cathy Zhang (Economics)</p>
<p>Other Individuals</p>	<p>Albert Jun Choi (UC Irvine undergraduate student) Jennifer Cunningham (Economic Science Institute Lab Manager, Chapman University) Si-Yuan Kong (Non-student Volunteer) Alex Meissner (Undergraduate student, UC Irvine) David Porter (Donna and David Jones Endowed Chair in Experimental Economics, Chapman University) Andrew Scauzillo (Undergraduate student, UC Irvine) Roman Sheremeta (Assistant Professor of Economics, Chapman University) Alice Yang (Undergraduate student, UC Irvine) Lisa Yee (Undergraduate student, UC Irvine)</p>

III. Timeline of Major Developments

December 2010	Instrumentation and equipment funds received from the School of Social Sciences.
13 June 2011	ESSL receives Army Research Office (ARO) Defense University Research Instrumentation Program (DURIP) Grant (\$148,888.09) to fund new instrumentation.
August 2011	ESSL IRB protocol approved (HS# 2011-8378).
September 2011	Construction of ESSL computer laboratory completed.
23 September 2011	Recruiting into ESSL Subject Pool begins.
13 October 2011	First ESSL facilitated experiment session conducted. Conducted in the ESSL computer laboratory with subjects from the ESSL Subject Pool.
8 February 2012	ESSL Subject Pool reaches 1000 subjects.
5 April 2012	The Office of Research approves the name <i>Experimental Social Science Laboratory</i> for an official research center of the School of Social Sciences.
8 June 2012	The first ESSL Experimental Workshop is held, with support from the Institute for Mathematical Behavioral Sciences. Nine graduate students present experimental projects

IV. Usage Indicators

A. Experiment Projects

Number of projects with at least one session conducted at ESSL during 2011-2012	15
Projects completed during 2011-2012 (no more sessions planned)	10
Ongoing projects (at least one session conducted with more planned)	5
UCI Faculty Leader	7
UCI Graduate Student Leader	7
Other Leader	1

Note: UCI Faculty for UCI Faculty led projects come from the Departments of Cognitive Sciences (1), Economics (5), and Sociology (2).

B. Researchers

UCI Faculty - Total on IRB	10
UCI Faculty - Participated in at least one project	5
UCI Graduate Students - Total on IRB	17
UCI Graduate Students - Participated in at least one project	12
Other - Total on IRB	9
Other - Participated in at least one project	8
Other - UCI Undergraduates on IRB	5
Other - UCI Undergraduates participated in at least one project	5

C. Experiment Sessions

Total	87
Average number of sessions/project	5.8

D. Human Subjects

Total individuals in ESSL Subject Pool (as of 15 June 2012)	1366
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E. Participation

Participated in at least one session	681
Total participants	2273
Average participants per session	26
Total non-participant show-ups	245
Average non participant show-ups per session	3

F. Human Subject Payments

Overall Total	\$49,368.75
Spent on participants	\$47,667.75
Spent on non-participating show-ups	\$1701.00
Average total payoff per session	\$567
Average total payoff for participants per session	\$548
Average payoff per participant	\$21

V. Research

A. Projects

Bargaining, Conflict, and Cooperation

- An Experimental Study of Cross-industry Licensing
- Criminals Lead to the Emergence of Cooperation in an Adversarial Setting
- Participative Decision Making
- Rawlsian Distribution: An Experimental Study
- Signaling and Nature
- The Stag Hunt and Computational Neuroscience
- Why Go To Court? Bargaining Failure under the Shadow of Trial in Legal Contests

Behavioral Economics and Psychology

- Bidding Behavior in Pay-to-bid Auctions
- Earned Prizes: Team vs. Individual Valuations
- Liquidity and Information: An Experimental Study
- Participative Decision Making
- Strategic Behavior in an Open and Sequential Vote
- The Efficacy of Tables versus Graphs in Disrupting Dark Networks: An Experimental Study
- The Stag Hunt and Computational Neuroscience
- Training and Planning in Saving Decisions

Money and Markets

- Bidding Behavior in Pay-to-bid Auctions
- Liquidity and Information: An Experimental Study
- Rawlsian Distribution: An Experimental Study

Social Networks

- Redistribution of Income in Networks
- Terrorist Network Formation with Random Detection
- The Efficacy of Tables versus Graphs in Disrupting Dark Networks: An Experimental Study

Note: Some projects are listed under multiple categories where appropriate.

B. Funding Sources for Human Subjects Payments

Project Lead	External Funding	Internal Funding	Total
UCI Faculty	\$18,897.75	\$4,079.75	\$22,977.50
UCI Graduate Student	\$2,588.00	\$16,979.25	\$19,567.25
Other	\$6,824.00	\$0	\$6,824.00
Total	\$28,309.75	\$21,059.00	\$49,368.75

Note: Internal funding includes support from the School of Social Sciences, Departments within the School of Social Sciences, the Institute for Mathematical Behavioral Sciences, the Center for the Study of Democracy, the Center for Global Peace and Conflict Studies, and faculty start-up accounts.

C. ESSL Enhancement Awards

In Winter 2011, the School of Social Sciences sponsored an open call for proposals for small enhancement awards to fund experimental research conducted through ESSL. Four projects received funding. Each is listed below with resulting output.

Justin Bruner (Logic and Philosophy of Science), "The Varieties of Impartiality: An Experimental Approach."

Presentations

- ESSL Experimental Workshop (UC-Irvine, June 2012).

Michael Caldara (Economics), "Bidding Behavior in Pay-to-bid Auctions."

Presentations

- IFREE Graduate Student Workshop in Experimental Economics (Chapman University, January 2012).
- Economic Science Institute Brown Bag (Chapman University, April 2012).
- Theory History & Development Seminar (UC-Irvine, April 2012).
- Bay Area Behavioral and Experimental Economics Workshop (Santa Clara University, May 2012).
- IMBS Graduate Student Conference (UC-Irvine, May 2012).
- ESSL Graduate Student Conference (UC-Irvine, June 2012).
- International Economic Science Association Conference (New York University, June 2012).

Working Papers

- "Bidding Behavior in Pay-to-Bid Auctions: An Experimental Study" (soon to be submitted to journal)

Grants

- IFREE Small Grant June 2012, request: \$8,441.00 (declined).
- Economic Science Institute Small Grant, request: \$1,500.00 (won, \$1,500.00)

Jennifer Herrera (Logic and Philosophy of Science, "An Experimental Study of the Preference for Freedom."

Presentations

- ESSL Experimental Workshop (UC-Irvine, June 2012).

Working Papers

- "Applying Freedom to Rational Choice Theory"

Ryan Kendall (Economics), "Insincere Voting in a Dynamic Setting: An Experimental Test of a Bounded Rationality Model."

Presentations

- IMBS Graduate Student Conference, UCI (May 23rd, 2012).
- ESSL Experimental Workshop, UCI (June 8th, 2012).
- International ESA Conference, New York University (June 21, 2012)

Working Papers

- "How Middle-movers Come out on Top: Behavior in an Open and Sequential Vote" (Working paper close to submission)

Grants

- Russell Sage Small Grants in Behavioral Economics (declined).

VI. Education and Training

A. Courses

McBride taught two experimental economics courses in the ESSL facility during the 2011-2102 school year. He also taught a directed research class.

ECON 149 Experimental Economics. Students learned the basic methods of experimental economics, the importance of experimental design and randomized treatment, the rules and regulations associated with the use of human subjects, and a number of seminal experimental findings. Students learned all of the above while participating in class experiment exercises. Enrollment: 27.

ECON 199 Directed Research. Undergraduate students worked as lab managers at ESSL. They assisted with recruiting human subject into the ESSL subject pool, testing experiment software, scheduling experiment sessions, preparing the laboratory before scheduled sessions, paying human subjects, and maintaining ESSL records. Enrollment: 3.

ECON 249 Experimental Economics. Students learned all that the ECON 149 students learned but also had to develop an original experimental economics project. Students received specific training in how to program experimental software. They also implemented their projects in class and wrote grant proposals to be submitted for external funds. Enrollment: 9 (8 from Economics, 1 from Logic and Philosophy of Science).

B. Workshop

On 8 June 2012, with support from the Institute for Mathematical Behavioral Science, ESSL sponsored a workshop for researchers doing experimental projects in the lab. The workshop provided an opportunity for researchers with completed sessions to present results and for researchers planning experimental projects to receive feedback. Nine graduate students presented projects, six of which have conducted sessions and three of which have sessions planned but not yet conducted. The program is listed here.

ESSL Experimental Workshop

8 June 2012, SBSG 1511 and SBSG 1240

Sponsored by the *Experimental Social Science Laboratory*
and the *Institute for Mathematical Behavioral Sciences*

Lunch provided by RSVP to Janet Phelps (jjphelps@uci.edu)

Morning Sessions: SBSG 1511

- 9:00-9:30am **Ryan Kendall**, Economics
"Strategic Behavior in an Open and Sequential Vote: An Experimental Test"
- 9:30-10:00am **Justin Bruner**, Logic and Philosophy of Science
"Rawlsian Distribution: An Experimental Approach"
- 10:00-10:30am **Andy Porter**, Economics
"Earned Prizes: Group vs. Individual Valuations Experiment"
- 10:30-10:45am BREAK
- 10:45-11:15am **Michael Caldara**, Economics
"Bidding Behavior in Pay-to-bid Auctions"
- 11:15am-11:45pm **Meryl Motika**, Economics
"Training and Planning in Saving Decisions"

Lunch: SBSG 1511

Afternoon Session: SBSG 1240

- 12:45-1:15pm **Cailin O'Connor**, Logic and Philosophy of Science (with Justin Bruner)
"Signals when Nature is Biased"
- 1:15-1:45pm **Jennifer Herrera**, Logic and Philosophy of Science
"Applying Freedom to Rational Choice Theory"
- 1:45-2:00pm BREAK
- 2:00-2:30pm **Dan Jessie**, Mathematical Behavioral Sciences (with Ryan Kendall)
"Sensitivity of the Quantal Response Equilibrium"
- 2:30-3:00pm **David Hewitt**, Economics (with Yen-Sheng Chiang)
"Can Sociality Trigger Cooperation?"

VII. Future Plans and Prospects

A. Plans for Next 3-5 Years

- Further standardize practices and procedures to ensure IRB compliance.
- Strengthen existing ties within the School of Social Sciences among researchers who conduct experiments.
- Build new ties with experimenters outside the School of Social Sciences.
- Distribute resources to fund small grants and pilot studies.
- Maintain records of experiments conducted by members of the Center.
- Enhance the web site, such as publishing a database of experimental work done by Center members.
- Demonstrate a strong record of publications resulting from use of Center resources such as the ESSL facility and the seed grants.
- Demonstrate a record of leveraging seed grants into external funding.
- Establish procedures with school and campus administrators to streamline paperwork processing.

B. Prospects for Impact

There are strong indicators that the above plans will be satisfied.

There is interest for conducting experiments across the Social Sciences. Since opening at the start of October 2011, faculty and graduate students from four departments within the School of Social sciences (Cognitive Sciences, Economics, Logic and Philosophy of Science, and Sociology) have conducted experiment sessions. Experiments sessions are also already planned for Summer and Fall 2012.

When first approved in August 2011, the ESSL IRB protocol narrative listed seven faculty members and eight graduate students. Since then, ESSL has added to the protocol narrative three faculty members, nine graduate students, and ten others. As information about ESSL grows on campus, this number should increase.

There is also interest in participating in experiments. After explicit advertising in the first few weeks of the Fall 2011 quarter, the subject pool continued to grow by word of mouth.

Finally, researchers have already demonstrated the ability to receive external awards. McBride has received two large research grants from the Department of Defense for running experiments. Garfinkel, McBride, Richardson, and Skaperdas received a grant

to fund instrumentation for the laboratory. A number of researchers and affiliates are in the process of writing grants to apply for external funding for experiments this funding cycle (including Caldara, Kendall, McBride, Porter, Richardson, Rocheteau, and Skaperdas). With additional funding disbursed from the Center, there would be even more applications to external funding agencies.