Georgia State University

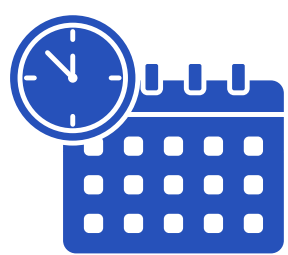**ExCEN**
Experimental Economics Center

Presents the

2022

EIGHTH BIENNIAL MEETING OF THE SOCIAL DILEMMAS WORKING GROUP

THURSDAY, JUNE 16 – SATURDAY, JUNE 18

MIT SLOAN SCHOOL OF MANAGEMENT

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All sessions will be held in Building E52, Room 164

06/16 SCHEDULE

2:30 PM – 2:45 PM ● OPENING REMARKS

2:45 PM – 4:30 PM ● SESSION T1: SOCIAL DILEMMAS

ARNO RIEDL — Brain Stimulation Reveals Distinct Motives Underlying Recepirocal Punihsment and Reward

ANDREA ROBBETT — Measuring Socially Appropriate Social Preferences

CATHERINE ECKEL — Using Social Norms to Explain Giving Behavior

JAMES C. COX* — Morally Monotonic Choice in Public Good Games

4:30 PM – 4:45 PM ● COFFEE BREAK

4:45 PM – 6:00 PM ● SESSION T2: ENHANCEMENT

ALA AVOYAN — A Road to Efficiency Through Communications and Commitment

ESTHER BLANCO — Including Donors in the Provision of Public Goods

JUNYA ZHOU* — Complexity, Misrepresentation and Communication

6:30 PM – 8:30 PM ● WELCOME RECEPTION 📍

Common Wealth Cambridge, 11 Broad Canal Way, Cambridge, MA 02142

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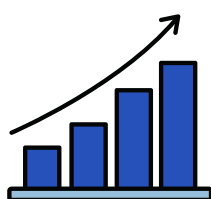
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* The last presenter in each session is the Session Chair responsible for allocating the available time equally among speakers in the session.

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9:00 AM - 10:15 AM KEYNOTE ADDRESS
SARAH F. BROSNAN — Understanding the evolution of primate decision-making using experimental games

10:15 AM - 10:30 AM COFFEE BREAK

10:30 AM - 11:45 AM SESSION F1: COOPERATION
JAMIE TUCKER-FOLTZ & Divide and Choose with Strategic Bayesian Agents
RICHARD ZECHHAUSER
ALISTAIR WILSON — Lab to Algorithm: Prediting AIs with Humans , and Vice Versa
DANIELA PUZZELLO* — Quanitifying Framing Effect in Public Goods versus Prisoner's Dilemma Games

12:00 PM - 1:00 PM LUNCH

1:00 PM - 2:45 PM SESSION F2: YOUNG RESEARCHERS
ANDY CAO — Who self-select into committees?
MACKENZIE WEBSTER — Dyadic Decision-Making Within the Context of the Broader Social Group in Capuchin Monkeys (Sapajus [Cebus] apella)
MARCOS CARDOZA — Improving public goods provision using reward-based crowdfunding
TOM J. FRYE* — Domination and mutualism: Conservation and consumption of resourcesin the lab

2:45 PM - 3:00 PM COFFEE BREAK

3:00 PM - 4:15 PM SESSION F3: COGNITION
MOULI MODAK — Team Innovation Contests with Cognitive Diversity
NANYIN YANG — Altruistic Lies
TODD GUILFOOS* — Mental Scarcity and Collective Action

4:15 PM - 4:30 PM BREAK

4:30 PM - 5:45 PM SESSION F4: BELIEFS
ANUJIT CHAKRABORTY — Higher-order beliefs in a Sequential Social Dilemma
DANILA SERRA — Information, beliefs, and anti-corruption activism: Experimental evidence from India
GUILLAUME FRECHETTE* — Beliefs in Repeated Games

5:45 PM - 6:30 PM DISCUSSION OF FUTURE CONFERENCES AND JOURNAL SPECIAL ISSUE

7:00 PM - 9:00 PM CONFERENCE DINNER
Catalyst Restaurant, 300 Technology Square, Cambridge, MA 02139
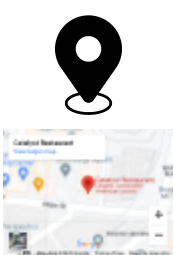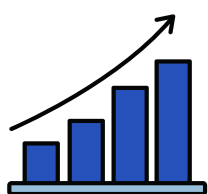
* The last presenter in each session is the Session Chair responsible for allocating the available time equally among speakers in the session.

06/18 SCHEDULE

8:15 AM - 10:00 AM — **SESSION S1: POLITICAL INSTITUTIONS**

ENRIQUE FATAS — A Simple Twist of Fate: An Experiment on Uncertain Referendums and Minimal Voting Rules

JUAN-CAMILO CARDENS — Mice Guarding the Cheese: Week accountability in the governance of local public goods

PEDRO DAL BO — The Democracy Effect: a weight-based estimation strategy

THOMAS MARKUSSEN* — Effects of democracy in the adoption of climate change agreements in a laboratory experiment

10:00 AM - 10:15 AM — **COFFEE BREAK**

10:15 AM - 12:00 PM — **SESSION S2: REPEATED GAMES**

ABHIJIT RAMALINGAM — Status and trust in Representative Leaders: A Lab-in-the-Field Experiment in Rural Sarawak

BROCK STODDARD — The Effect of Short-Term Users in a Common-Pool Resource Enviornment

EMANUEL VESPA — Testing Models of Strategic Uncertainty: Equilibrium Selection in Repeated Games

SAMUEL KAPON* — Hard and Soft Information in Repeated Interaction: An Experiment

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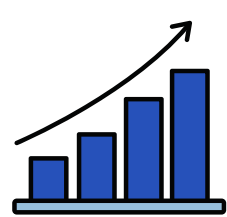
ORGANIZERS

JAMES C. COX

UNIVERSITY:

GEORGIA STATE UNIVERSITY

PRINCIPAL INVESTIGATOR OF 8TH BIENNIAL SOCIAL DILEMMA MEETING

NOAH LANGDALE JR. CHAIR IN ECONOMICS
GEORGIA RESEARCH ALLIANCE EMINENT SCHOLAR
DIRECTOR, EXPERIMENTAL ECONOMICS CENTER

VJOLLCA SADIRAJ

UNIVERSITY:
GEORGIA STATE UNIVERSITY

CO-PRINCIPAL INVESTIGATOR OF 8TH BIENNIAL SOCIAL DILEMMA MEETING

ASSOCIATE PROFESSOR OF ECONOMICS

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ASSOCIATE PROFESSOR OF ECONOMICS AT TUFTS UNIVERSITY.

OLGA SHUCHKOV

UNIVERSITY:
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ASSOCIATE PROFESSOR OF ECONOMICS; DIRECTOR, KNAPP SOCIAL SCIENCE CENTER

JAMES M. WALKER

UNIVERSITY:
INDIANA UNIVERSITY BLOOMINGTON

ASSOCIATE CHAIR AND PROFESSOR, DEPARTMENT OF ECONOMICS

KEYNOTE SPEAKER

SARAH K. BROSNAN

UNIVERSITY: Georgia State University
Distinguished Professor of Psychology, Philosophy, and Neuroscience
Co-Director, Language Research Center

PAPER TITLE:
Understanding the evolution of primate decision-making using experimental games

ABSTRACT:
Humans routinely confront situations that require coordination between individuals, from mundane activities such as planning where to go for dinner to incredibly complicated activities, such as international pandemic responses. How did this ability arise, and what prevents success in those situations in which it breaks down? One important approach to these questions is understanding how this ability evolved, which provides insight into the pressures that were selected for these behaviors and phylogenetic constraints on their expression. To this end, I use experimental games to address these questions comparatively, across a wide variety of species. Experimental economics is an ideal mechanism for this approach, as it is a well-developed methodology for distilling complex decision-making into a series of simple decision choices, allowing these decisions to be compared across species and contexts. My lab has used this approach to investigate decisions related to coordination, anti-coordination, and cooperation, as well as how inequality influences decisions, in monkeys, apes, and humans using near-identical methodologies. We find that there are remarkable continuities of outcome across the primates, including humans, incoordination, however there are important differences in how each species reaches these outcomes. These differences in the mechanism may limit similarities in decision-making in other situations. Indeed, despite similar outcomes in coordination decisions, species' outcomes diverge sharply in the context of anti-coordination, possibly due to the differences in their decision-making mechanisms. I consider what these similarities and differences in decision-making across different contexts tell us about the evolution of decision-making across the primates, including humans

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AWARD 1851720

Noah Langdale Jr Chair

UNIVERSITY: Indiana University
Assistant Professor of Economics

PAPER TITLE:
A Road to Efficiency Through Communication and Commitment

CO-AUTHOR (S):
Joao Ramos

ABSTRACT:
We experimentally examine the efficacy of a novel pre-play institution introduced by Calcagno et al. (2014) in a well-known coordination game—the minimum-effort game—in which coordination failures are robust and persistent. This new institution allows agents to communicate while incrementally committing to their words, leading to a distinct theoretical prediction: the efficient outcome is uniquely selected in the extended coordination game. Commitment-enhanced communication significantly increases subjects' payoffs and achieves efficiency levels higher than non-binding communication considered in the paper. We document which aspects of the mechanism are critical for its success and the features of the environment to which the outcomes are invariant.

ALA AYOYAN

UNIVERSITY: University of Innsbruck
Assistant Professor - Department of Public Finance
Affiliated Faculty - The Ostrom Workshop | Indiana University

ESTHER BLANCO

PAPER TITLE:
Including donors in the provision of public goods

CO-AUTHOR (S):
James M. Walker

ABSTRACT:
This talk presents experimental evidence for a new game capturing the strategic interaction between donors and providers of public goods. I organize the results around complementary studies, analyzing different institutional arrangements: equal distribution of payments and conditionality; proportional payments, individual payments, and additionality; competition among public good providers; and changes in the returns from public suitable investments. The results show that equal payments to all good public providers do not increase general good provision compared to settings with no payments. Moreover, all transfer payments that link relatively high effort to relatively high payments are similarly capable of enhancing good public conditions.

Lastly, conditionality and additionality do not increase good public provision but achieve it at a lower cost to donors.

UNIVERSITY: Texas A&M University
Graudate Student Mentee

ANDY CAO

PAPER TITLE:
Who self-selects into committees?

CO-AUTHOR (S):
Danila Serra, Dmitry Ryvkin

ABSTRACT:
Committees for the management and redistribution of public resources are common in a variety of settings, ranging from Home Owners' Associations (HOAs), to Parent-Teacher Organizations to government councils. Why do (some) individuals self-select into these committees, and what predicts their behaviors once they become committee members? We employ a laboratory experiment to test whether and to what extent individuals' decision to join a committee in charge of public funds depends on their type (honest vs. dishonest, and pro-social vs. self-interested), and their subjective beliefs of how dishonest the existing committee members are, and of their chances to either personally benefit from the position through corruption (dishonest type) or to induce other members to act in the best interest of the public (pro-social type). We also test whether mechanisms that resemble town hall meetings and require committee members to communicate their decisions to the public affect both corruption decision-making and self-selection into committees.

JUAN-CAMILO CARDENAS
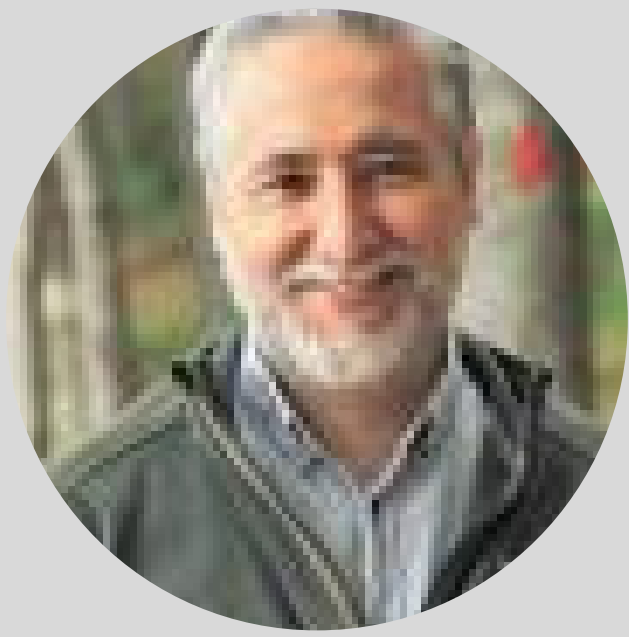
UNIVERSITY: University of Massachusetts Amherst
Professor

PAPER TITLE:
Mice Guarding the Cheese: Weak accountability in the governance of local public goods

CO-AUTHOR (S):
Ruth Guillen

ABSTRACT:
We use a modified game, inspired by Banuri (2017), in which players earn income from an effort task and then decide to allocate part of the earnings to a public fund that will double aggregate contributions. One of the four players is assigned the role of the allocator and will then distribute the proceeds of the public fund. The allocator receives information on the individual effort and contributions of each of the group members and decides how much to allocate to each and themselves. More than 600 people, including 184 public officers, participated in this game over 14 rounds each. We tested different treatments to compare to a baseline: cheap talk among players, binding talk with a commitment device, and an ex-post voice to express their reaction after the decision was made. Contributors sustained a rate of investments in the public fund of around 40% of their initial effort task earnings, while allocators contributed more (between 70-80%). Allocators responded reciprocally to higher contributions while also profiting at higher rates from the mechanism. Our binding talk treatment reduced the percentage kept by allocators while contributor transfers increased with the ex-post voice mechanism. The results aim at contributing to the question of citizens' contributions to the sustaining of public goods when public officers under weak accountability can derive personal rents in the management of such funds.

UNIVERSITY: Indiana University
Graduate Student Mentee

MARCOS CARDOZO

PAPER TITLE:
Improving public goods provision using reward-based crowdfunding

CO-AUTHOR (S):
None

ABSTRACT:
This study examines a reward-based crowdfunding mechanism as a way of improving the provision of a threshold public good. I present a model and test the theoretical implications in an online experiment focusing on equilibrium coordination. A fundraiser offers individually rational and incentive-compatible contracts to potential contributors, specifying for each contract a contribution level and the value of an individual reward. As is customary in reward-based crowdfunding, the public good is provisioned and the rewards are distributed only if the sum of individual contributions meets or exceeds the funding threshold, otherwise contributions are refunded and rewards are not distributed. The main empirical result is that an exogenous reward budget increases expected funds raised and the funding probability of the public good, compared to a treatment without a reward budget.

ANUJIT CHAKRABORTY

UNIVERSITY: **University of California, Davis**
Assistant Professor of Economics

PAPER TITLE:
Higher-order beliefs in a Sequential Social Dilemma

CO-AUTHOR (S):
Evan Calford

ABSTRACT:
Do experimental subjects have consistent first and higher-order beliefs about others' preferences? How does any inconsistency affect strategic decisions? We introduce a simple four-player sequential social dilemma where actions reveal first and higher-order beliefs. The unique sub-game perfect Nash equilibrium (SPNE) is observed less than 5% of the time, even though our diagnostic treatments show that a majority of our subjects are self-interested, higher-order rational and have accurate first-order beliefs. In our data, strategic play vastly deviates from Nash predictions because first-order and higher-order beliefs are inconsistent for most subjects.

JAMES C. COX

UNIVERSITY: **Georgia State Univerrsity**
Principal Investigator of 8th biennial social dilemma meeting
Noah Langdale Jr. Chair in Economics
Georgia Research Alliance Eminent Scholar
Director, Experimental Economics Center

PAPER TITLE:
Morally Monotonic Choice in Public Good Games

CO-AUTHOR (S):
Vjollca Sadiraj
Susan Xu Tang

ABSTRACT:
Provision games are public good contribution games with positive externalities. Appropriation games are public good extraction games with negative externalities. Data from a large literature on payoff-equivalent provision and appropriation games are inconsistent with existing theory. We offer an extension of choice theory that incorporates observable moral reference points. This morally monotonic choice theory is consistent with data in the literature and has idiosyncratic features that motivate our new experimental design. We report an experiment on choices in public good games with positive, negative, and mixed-sign externalities, with and without non-binding quotas on extractions or minimum contributions. The data from this experiment support the new theory.

PEDRO DAL BO

UNIVERSITY: Brown University
Professor

PAPER TITLE:
The Democracy Effect: a weights-based identification strategy

CO-AUTHOR (S):
Andrew Foster
Keniu Kamel

ABSTRACT:
Dal Bó, Foster, and Putterman (2010) show experimentally that the effect of a policy may be greater when it is democratically selected than when it is exogenously imposed. In this paper, we propose a new and simpler identification strategy to measure this democracy effect and apply the new strategy to the data from Dal Bó, Foster, and Putterman (2010) and data from a new real-effort experiment in which subjects' payoffs do not depend on the effort of others. The new identification strategy is based on calculating the average behavior under a democracy by weighing the behavior of each type of voter by is prevalence in the whole population (and not conditional on the vote outcome). We show that the use of these weights eliminates selection effects under certain conditions. The application of this method to the data in Dal Bó, Foster, and Putterman (2010) confirms the presence of the democracy effect in that experiment, but no such effect is found for the real-effort experiment.

CATHERINE ECKEL

UNIVERSITY: Texas A&M University
Distinguished Professor in the Department of Economics

PAPER TITLE:
Using Social Norms to Explain Giving Behavior

CO-AUTHOR (S):
Hanna Hoover
Erin Krupka
Nishita Sinha
Rick Wilson

ABSTRACT:
Transfers of resources in dictator games vary significantly by the characteristics of recipients. We focus on social norms as a source of differences in giving. We elicit generosity using dictator games, and social norms using incentivized coordination games, with two different recipient types: an anonymous student and a charitable organization. A within-subjects design ensures that other factors are held constant.

Our results show that differences in giving behavior are closely related to differences in social norms of giving across contexts. Norm compliance is stronger in the charitable giving context than in the anonymous dictator setting. These results suggest that the impact of context on giving occurs in part via its impact on social norms.

UNIVERSITY: University of Pennsylvania
Distinguished Fellow | Center for Social Norms and Behavioral Dynamics

ENRIQUE FATAS

PAPER TITLE:
A Simple Twist of Fate. An Experiment on Uncertain Referendums and Minimal Voting Rules

CO-AUTHOR (S):
Sheheryar Banuri
Lina Restrepo-Plaza

ABSTRACT:
n this paper we experimentally manipulate the information voters have about policymakers in a simple election game. In two baseline conditions, a policymaker is either selected at random in round 1 and then retains her role for the full 20 rounds (Baseline) or only for 4 rounds (Random) after which a new policymaker is randomly selected for another four rounds (with replacement). In our two voting treatments (Referendum and Voting) citizens decide whether to keep the policymaker or to replace him/her for another (randomly selected) policymaker (mimicking the political uncertainty of referendums) every four rounds (Referendum), or engaging in a competitive electoral system (Voting). While policymakers retain the power to split the group account in all treatments, the replacement rules dramatically differ. Our results show that both electoral mechanisms are largely effective in improving citizens' welfare by generating more equitable sharing rules. However, results strongly vary by type of voting institution. Referendums are effective in improving citizen welfare over the main Baseline, and citizen surplus increases by 28% of the endowment, while policymaker rents decrease by 62%. Interestingly, in the Voting treatment citizens' welfare is improved over the Baseline, but not over the Random condition: elections improve citizens' surplus by 21% and reduce policymaker rents by 43% over the Baseline, but it generates non-significant changes relative to the Random baseline. In summary, additional information on policymaker altruism and ability (available only in the Voting condition) does not help voters to choose better (relative to the simpler binary choice and the reduced information load of the Referendum condition). Our experiment is consistent with Christensen's (2021)' survey experiment in that our participants exhibit tolerance toward political uncertainty.

UNIVERSITY: New York University
Professor

PAPER TITLE:
Beliefs in Repeated Games

CO-AUTHOR (S):
Masaki Aoyagi
Sevgi Yuksel

ABSTRACT:
This paper uses a laboratory experiment to study beliefs and their relationship to action and strategy choices in finitely and indefinitely repeated prisoners' dilemma games. We find subjects' beliefs about the other player's action are generally accurate despite some small systematic deviations corresponding to early pessimism in the indefinitely repeated game and late optimism in the finitely repeated game.
The data reveals a close link between beliefs and actions that differs between the two games. In particular, the same history of play leads to different beliefs, and the same belief leads to different action choices in each game. Moreover, we find beliefs anticipate the evolution of behavior within a supergame, changing in response to the history of play (in both games) and the number of rounds played (in the finitely repeated game). We then use the subjects' beliefs over actions in each round to identify their beliefs over supergame strategies played by the other player.
We find these beliefs correctly capture the different classes of strategies used in each game. Importantly, subjects using different strategies have different beliefs, and for the most part, strategies are subjectively rational given beliefs. The results also suggest subjects tend to underestimate the likelihood that others use less cooperative strategies. In the finitely repeated game, this helps explain the slow unravelling of cooperation. In the indefinitely repeated game, persistence of heterogeneity in beliefs underpins the difficulty of resolving equilibrium selection.

GUILLAUME FRECHETTE

TOM J. FRYE

UNIVERSITY: Florida State University
Graduate Student Mentee

PAPER TITLE:
Domination and mutualism: Conservation and consumption of resources in the lab

CO-AUTHOR (S):
None

ABSTRACT:
This study produces a game-theoretic model and laboratory experiment in which a resource or environment has both common pool and public good aspects in its usage, such as hunting and conservation of wildlife. This environment is examined in order to evaluate how spillovers between the two related resource accounts effects consumption and conservation behaviors, and how policies frequently used in wildlife management may address possible inefficiency by altering the incentives driving these behaviors. In the presence of spillovers between resource accounts, where over-consumption of the commons negatively spills over to the public good, and conservation of the public good benefits common pool efficiency, the prediction suggests balanced consumption and conservation between both resource accounts. The model still predicts an equilibrium in which resource stakeholders over-consume the common pool aspect of the resource, despite balanced consumption. To address potential concerns resource managers may have with this outcome, I additionally employ a treatment design based around local Florida fish and hunting licensing, where common pool consumption allowances are allocated by random lottery. The model indeed predicts the policy treatment to improve common pool productivity, however at the cost of reducing overall welfare among decision-makers.
Laboratory experiments are currently being conducted and early results will be available in May of 2022.

TODD GUILFOOS

UNIVERSITY: University of Rhode Island
Associate Professor, Director of the SimLab

PAPER TITLE:
Mental Scarcity and Collective Action

CO-AUTHOR (S):
Jordan Suter
Karina Schoengold

ABSTRACT:
Cognitive capacity is an important aspect that affects the quality of decision-making. Beyond creating errors in the quality of decision making we hypothesize that there are predictable deviations in decision making based on the source of cognitive depletion. We test this hypothesis with two studies about collective action and cooperative behavior. In the first study, we examine the effect of cognitive processes on collective action in a social dilemma using a time pressure experiment. Our experiment uses a two-stage game: In the first stage, participants vote on implementing formal sanctions to be applied in a second-stage public goods game. We find that time pressure has no impact on formal sanctions. In the second study, we survey farmers in the Western U.S. and find that sources of mental stress correlate with support for groundwater management. Sources of cognitive depletion, finances, and weather, are overweighted in collective action decisions biasing the support for collective action.

SAMUEL KAPON

UNIVERSITY: Princeton University
Visiting Research Scholar in Economics

PAPER TITLE:
Hard and Soft Information in Repeated Interaction: An Experiment

CO-AUTHOR (S):
Guillaume Frechette

ABSTRACT:
Many settings of economic interest involve repeated interaction and imperfect monitoring. In such situations, the information available to agents to monitor their partners takes varying forms. In some cases, players observe infrequent but perfectly revealing evidence of defection (hard evidence). In other cases, they observe frequent but imperfectly revealing evidence of defection (soft evidence). We design an experiment to explore the role of hard and soft evidence in supporting, or undermining cooperative/collusive relations. Our main comparison is between an environment with only soft evidence (called Soft) and an environment with both hard and soft evidence (called Mixed), designed so that the information content of the evidence is, in a way made precise in the paper, the same across environments. We find that while initial cooperation across environments is similar, subjects with experience cooperate significantly more, and earn higher profits, in the Soft evidence treatment than in the Mixed evidence treatment. We explore the determinants of this difference and find evidence that those in the Mixed evidence treatment initially behave more opportunistically, defecting more often after a period in which neither player defected nor produced a signal of defection than in the Soft evidence treatment. Although tentative, results indicate that players who are on the receiving end of opportunistic behavior choose less cooperative, and safer, behavior in later super games. Consequently, the higher rate of opportunistic behavior in the mixed evidence treatment drives subjects to choose the safe action to avoid opportunistic behavior.

UNIVERSITY: University of Copenhagen
Professor

THOMAS MARKUSSEN

PAPER TITLE:
Effects of democracy in the adoption of climate change agreements – a laboratory experiment

CO-AUTHOR (S):
Alexander Sebald
Hans Jergen Whitta-Jacobsen

ABSTRACT:
This paper presents the results of a laboratory public goods experiment, which imitates global climate change negotiations and mitigation efforts. Initial endowments are unequally distributed and the public good is gradually built up over several rounds of interaction. Participants in six-person groups vote about implementing "agreements" on how to promote public goods production. In the "Kyoto" agreements, each participant has a specific, non-binding contribution target. In "Paris" agreements, participants announce non-binding targets themselves and get the chance to revise targets upwards at certain intervals. Agreements must be adopted by consensus. If no consensus has been reached after 10 rounds of voting, the public goods game is played without any agreement in place. In control treatments, Kyoto- or Paris agreements, or the no-agreement condition, are exogenously imposed. Results show that most groups (about 82 percent) reach a consensus on either a Kyoto- or a Paris agreement, the two being about equally popular. Very few reach consensus on no-agreement (2-3 percent), but no agreement arises endogenously in some groups (around 15 percent) as the no-consensus default outcome. A key finding is that agreements (Kyoto and Paris) are significantly more effective, in terms of public goods contributions, when adopted by voting than when imposed from above. In contrast, the no-agreement outcome is much worse when arising endogenously than when imposed. These results are robust to controlling for selection effects. They underline the importance of the process by which an arrangement to further collective action is made.

MOULI MODAL

UNIVERSITY: Purdue University
Graduate Student Mentee

PAPER TITLE:
Team Innovation Contests with Cognitive Diversity

CO-AUTHOR (S):
Brian Roberson

ABSTRACT:
In this paper, we examine the role of team composition in a large contest between teams of diverse individuals facing an innovation problem. In the contest, prizes are awarded based on the values of the teams' innovations, where the value of an innovation depends on both the techniques or approaches (tools) that a team applies to the innovation problem and the amount of work used to develop the innovation. Within a team, the team members possess different skills or perspectives (tools) which may be applied to innovation problems. For a given innovation problem and a given level of team effort, different combinations of tools within a team may generate different values for the team innovation. In this context, we examine the issues of individual team performance as a function of a team's own composition and the overall performance of the contest as a function of the compositions of the teams. We find that the question of whether increasing diversity leads to an increase (decrease) in expected performance, for both an individual team and the overall contest, depends on the efficiency with which teams are able to effectively apply diverse sets of tools to innovation problems. Thus, our paper provides a channel -- other than a direct cost of diversity -- through which diversity can be beneficial or detrimental depending on how efficient teams are at utilizing diverse sets of team member tools.

DANIELA PUZZELLO

UNIVERSITY: Indiana University
Professor

PAPER TITLE:
Quantifying Framing Effects in Public Goods versus Prisoner's Dilemma Games

CO-AUTHOR (S):
Volodymyr Lugovskyy
James Walker

ABSTRACT:
Given the centrality of PD and VCM games to the study of social dilemmas, it is somewhat surprising that experimental research has not focused on a direct comparison of decision making in these two types of decision situations. In particular, the question we pose is to what extent differences in the standard framing of the two decision settings impacts behavior in repeated game settings. Building on the recent literature devoted to repeated PD games, we examine the evolution of cooperation in indefinitely repeated (Probabilistic) and finitely repeated (Finite) 2-person PD and 2-person linear VCM games. Subjects participate in multiple sequences of decisions, where they are paired with the same person for all periods within a sequence, and then are randomly re-matched for the next sequence. Using parameters based on a 2-person linear VCM game with MPCR=.6, we examine decision making in three frames: 1) PD, 2) VCM with binary decisions, 3) VCM with binary decisions and the inclusion of the PD table. In summary, we find average cooperation rates begin at a similar level across frames. However, the path of cooperation across game sequences diverges, leading to higher cooperation in the VCM setting than the PD setting. Including the PD table in the VCM frame results in lower cooperation in the Finite setting, but not in the Probabilistic setting. In addition, in an effort to quantify the framing effect in the Probabilistic setting, we find that enhancing the gains from cooperation via a 17% increase in the MPCR leads to cooperation rates comparable to VCM with the lower MPCR.

ABHIJIT RAMALINGAM

UNIVERSITY: Appalachian State University
Associate Professor

PAPER TITLE:
Status and Trust in Representative Leaders: A Lab-in-the-Field Experiment in Rural Sarawak

CO-AUTHOR (S):
Nor Izzatina Abdul Aziz
Robert Sugden

ABSTRACT:
We study the role of representative leadership wherein one agent acts as the representative of a group of team producers in their joint interaction with outsiders. While such representative leadership is ubiquitous – for example, elected representatives negotiating benefits for their constituents, heads securing funding for their departments, union leaders agreeing with wages on behalf of their members, etc. – the literature has paid little attention to this role of leaders. This form of leadership has three distinguishing features: (i) followers and leaders perform different tasks – respectively, collective action and external negotiation, (ii) leaders have an opportunity to extract rent from the group, and (iii) the relationship requires trust – followers need to trust leaders to try to secure the best outcomes for the group. We are interested in whether, in such interactions, mutual trust can and does emerge, and whether groups are able to use trust relationships to improve group outcomes. We introduce a novel sequential public goods game that captures this interaction within groups, where individuals perform different roles. In particular, the effort of one player (the 'representative') is complementary to the total contributions of the others (the 'followers'). We implement the game in a field setting – villages of the Kayan in rural Sarawak in Borneo, Malaysia. Small-scale societies such as these have traditionally relied on leaders to coordinate interactions (for example, warfare, raiding, and alliance formation) with neighboring societies. Of late, the role of leaders in these societies has evolved to include negotiations with private firms, non-governmental organizations (NGOs), and government agencies, for instance, to secure funding for public amenities, or to be a party in the state's sustainable forest management policy. Leaders are often able to use their influence on villagers' voting behavior as a bargaining chip in negotiations with government agencies. These societies have clearly delineated traditional hierarchies that tend to be linked to leadership roles. We explore the relationship between the (self-reported) relative status of individuals and the emergence of trust between followers and the leaders who represent them outside. We thus explore one of the ways in which communities solve their own collective action problems, and how they might use pre-existing solutions (status indicators) to solve new problems (external negotiations) they might face. We find that representatives in general behaved prosocially, often at personal cost, to improve their group's outcome. This was regardless of their relative status within the group. Further, there was little correlation between the effort of followers and that of leaders. However, villagers who were judged to have high status were more likely to provide greater effort in their roles as followers. This is the path through which status increased efficiency in groups.

ANRO RIEDL

UNIVERSITY: Maastricht University
Professor

PAPER TITLE:
Brain stimulation reveals distinct motives underlying reciprocal punishment and reward

CO-AUTHOR (S):
Leticia Micheli
Marcello Negrini
Theresa Schuhmann

ABSTRACT:
Reciprocal fairness, in the form of punishment and reward, is at the core of human societal order. Its underlying neural mechanisms are, however, not fully understood. We systemize suggestive evidence regarding the involvement of the right dorsolateral and medial prefrontal cortex (rDLPFC, mPFC) in reciprocal fairness in three cognitive mechanisms (cognitive control, integration-and-selection, and self-reference). We test them and provide novel insights in a comprehensive behavioral experiment with non-invasive brain stimulation where participants can punish greedy actions and reward generous actions. Inhibition of either brain area decreases reward and punishment when reciprocation is costly but unexpectedly increases reward when it is non-costly. None of the hypothesized mechanisms fully accounts for the observed behavior and the asymmetric involvement of the investigated brain areas in punishment and reward suggests that different psychological mechanisms are underlying punishing selfishness and rewarding generosity. We propose that, for reciprocal punishment, the rDLPFC, and the mPFC process self-relevant information, in terms of both personal cost and personal involvement; for reciprocal reward, these brain regions are involved in controlling selfish and pure reciprocity motives, while simultaneously promoting the enforcement of fairness norms. These insights bear importance for endeavors to build biologically plausible models of human behavior.

ANDREA ROBBETT

UNIVERSITY: Middlebury University
Professor

PAPER TITLE:
Measuring Socially Appropriate Social Preferences

CO-AUTHOR (S):
Jeff Carpenter

ABSTRACT:
We structurally measure heterogeneity in social preferences in a large-scale online experiment. Our estimates account for both outcome-based preferences and the social appropriateness of each element in the choice set. We apply a finite mixture model that allows us to endogenously identify preference types who vary not only in aheadness and behindness aversion, but also in their desire to adhere to social norms. Compared to estimates that only account for outcome-based social preferences, this approach allows us to develop type classifications that are more robust to changes in context and moral wiggling.

DANILA SERRA

UNIVERSITY: Texas A&M University
Associate Professor

PAPER TITLE:
Information, beliefs and anti-corruption activism: Experimental evidence from India

CO-AUTHOR (S):
Farzana Afridi
Ahana Basistha
Amrita Dhillon

ABSTRACT:
Citizens' effective participation in the fight against corruption faces informational constraints and collective action problems. We conduct an online survey experiment in India to test how increasing information about corrupt practices in the health sector and correcting beliefs about others' willingness to fight corruption affect individuals' anti-corruption activism. In one treatment, we expose subjects to a short informational video, aimed at generating awareness on how corruption and fraud took place in hospitals in India during the pandemic. In another treatment, we correct individuals' misaligned beliefs about others' willingness to stand up against health sector corruption. In a third treatment, we combine the video and the belief correction interventions. We assess individuals' willingness to engage in anti-corruption actions that differ in their expected costs and benefits, and the extent to which they are subject to collective action problems. In particular, we experimentally manipulate whether subjects are given the chance to: 1) sign a petition to the Ministry of Health, 2) make a monetary donation to a local non-profit organization, 3) watch a 5-minute informational video on how to concretely fight corruption in health, or 4) choose among the three anti-corruption actions.

BROCK STODDARD

UNIVERSITY: **Appalachian State University**
Associate Professor

PAPER TITLE:
The Effect of Short-Term Users in a Common-Pool Resource Environment

CO-AUTHOR (S):
Caleb Cox
garret Ridinger

ABSTRACT:
This experiment examines the effects of over-extraction on a common pool resource (CPR). Short-term users may over-extract, destroying cooperative norms between long-term users. We examine three treatments that vary group size and duration of a group membership. In two of the treatments, there were three or four long-term users only. The third treatment had groups of three long-term users and one short-term user. We modify the standard CPR payoff function to incorporate damages across time when the CPR is over-extracted. With only long-term users, a subgame-perfect equilibrium exists without damage. With a short-term user, damages cannot be avoided in equilibrium. In the experiment, we find that damage occurred more often with groups of four long-run players than in groups of three long-run players and one short-run player, contrary to predictions. The short-run players also extracted less aggressively than predicted

UNIVERSITY: **Harvard University**
Frank Plumpton Ramsey Professor of
Political Economy

UNIVERSITY: **Harvard University**
Graduate Student Mentee

RICHARD ZECKHAUSER $
JAMIE TUCKER-FOLTZ

PAPER TITLE:
Divide and Choose with Strategic Bayesian Agents

CO-AUTHOR (S):
None

ABSTRACT:
We study the classic divide-and-choose method for fairly allocating divisible goods between two players whose valuations are private information. The players are rational Bayesian agents with additive private values for the goods. The prior distributions on those values are common knowledge. The divide-and-choose method is widely used in everyday situations, such as dividing estates or marital assets. Indeed, any take-it-leave-it offer represents a situation where the offeror has created a division; the recipient can choose whether to accept or stick with the status quo.

We show how to efficiently compute equilibria in the basic divide-and-choose game with information asymmetries, and characterize the structure of optimal divisions. The divider has a compelling ``diversification" incentive in creating the chooser's two options. This incentive leads to multiple goods being divided at equilibrium, quite contrary to the divider's optimal strategy with known valuations.

In many contexts, such as buy-and-sell provisions between partners, or in judging fairness, it is important to assess the relative expected utilities of the divider and chooser. Those utilities, we show, depend on the players' uncertainties about each other's values, the number of goods being divided, and the availability of post-choice re-contracting.

EMANUEL VESPA

UNIVERSITY: University of California, San Diego
Associate Professor

PAPER TITLE:
Testing Models of Strategic Uncertainty: Equilibrium Selection in Repeated Games

CO-AUTHOR(S):
Alistair Wilson
Marta Boczon
Taylor Weidman

ABSTRACT:
In repeated-game applications where both the collusive and non-collusive outcomes can be supported as equilibria, researchers must resolve underlying selection questions if theory will be used to understand counterfactual policies. One guide to selection, based on clear theoretical underpinnings, has shown promise in predicting when collusive outcomes will emerge in controlled repeated-game experiments. In this paper we both expand upon and experimentally test this model of selection, and its underlying mechanism: strategic uncertainty. Adding an additional source of strategic uncertainty (the number of players) to the more-standard payoff sources, we stress test the model. Our results affirm the model as a tool for predicting when tacit collusion is likely/unlikely to be successful. Extending the analysis, we corroborate the mechanism of the model. When we remove strategic uncertainty through an explicit coordination device, the model no longer predicts the selected equilibrium.

UNIVERSITY: Georgia State University
Graduate Student Mentee

MACKENZIE F. WEBSTER

PAPER TITLE:
Dyadic Decision-Making Within the Context of the Broader Social Group in Capuchin Monkeys (Sapajus [Cebus] apella)

CO-AUTHOR(S):
Sarah F. Brosnan

ABSTRACT:
Economic games have been increasingly utilized to investigate decision-making in non-human primates as a way to better understand the evolution of decision-making. Economic games are a particularly good mechanism as the tightly controlled design extrapolates well across multiple species. However, while these studies have primarily looked at behavior within controlled dyadic pairs, in real life, decisions are made within larger and more complex social groups, and the ability to choose between different partners may play an important role in decision-making. We presented four socially housed groups of capuchin monkeys (n=4 to 9) with 15 1-hour sessions each of up to three different games to assess a range of decision-making scenarios, including coordination (the Assurance Game), anti-coordination (the Hawk-Dove Game), and cooperation with the risk of defection (the Prisoner's Dilemma Game). Using a token-exchange paradigm, subjects could choose to approach the experimenter and exchange one of two tokens, representing their choice; subjects were rewarded if two subjects traded at the same time, and the amount of reward was based on their joint decision. Despite subjects' ability to find stable Nash equilibrium (NE) outcomes in predetermined dyadic pairs, there were less consistent patterns of play within the groups in this social setting in the coordination and anti-coordination games. Interestingly, however, while in previous iterations the Prisoner's Dilemma proved the most difficult for monkeys to settle on a stable strategy, with pairs drifting towards mutual defection (a stable but low-rewarding outcome), in this social setting capuchins primarily cooperated, with very little mutual defection, as predicted for repeated games with known individuals within stable groups (which is the case for our capuchin groups). We also found that while subjects did not appear to use different decision-making strategies with different partners, partner identity itself played a large role in overall participation. Subjects had stable partner preferences across the games, and relationship quality correlated with the frequency of exchanging within pairs. As expected, dominant individuals monopolized play, with pairs including the alpha male or female accounting for a significant majority of exchanges. Furthermore, in one group, pairs that involved the alpha male were much more likely to find the NE across games than those that did not include him (even though his partners had experienced the NE when playing with him), suggesting that he altered his behavior around his partners' choices. These results suggest that while finding NEs may be more challenging in group conditions, decisions differ across games when presented in the social setting (such as in the Prisoner's Dilemma) and outcomes may be disproportionately influenced by a single key individual. Understanding how the social context influences decision-making is important for understanding the contexts in which cooperation succeeds and fails and what factors favor the evolution of successful cooperation.

ALISTAIR WILSON

UNIVERSITY: University of Pittsburgh
Associate Professor, with tenure

PAPER TITLE:
Lab to Algorithm: Predicting AIs with Humans, and Vice Versa

CO-AUTHOR(S):
Marta Boczon
Emanuel Vespa

ABSTRACT:
A now mature literature on repeated prisoner's dilemma games has outlined a number of regularities in how human subjects behave. In this literature, a core task is to predict when the participants will collude on the jointly cooperative action, and when they will coordinate on the myopic solution: joint defection. Orthogonal to this, a new literature in the industrial organization has begun to look at when artificial intelligence (AI) pricing agents collude in repeated settings. In this paper, we begin to explore the extent to which the regularities that show up in human subject behavior also manifest in the behavior of AI pricing agents. While there are similarities, that we document, there are also points of divergence. Moving forwards, the aim is to connect both kinds of literature: Theoretical rules developed for human subjects can be predictive for AI agents, and thereby a useful tool for theoretic exercises in predicting AI in counterfactual settings. Conversely, AI agents can be used to develop insightful experiments to further refine and test our understanding of human behavior through experiments. As such, the tasks of predicting and understanding both human and AI behavior can be symbiotic.

UNIVERSITY: Texas A&M University
Graduate Student Mentee

NANYIN YANG

PAPER TITLE:
Altruistic Lies

CO-AUTHOR(S):
Connor Magnuson
Marco Palma

ABSTRACT:
Previous studies have shown the prevalence of both lying aversion and altruism, two different aspects of moral behaviors. We explore the interaction of these two elements by pairing the opportunity to lie with a dictator-game-like outcome. This allows us to test how moral concerns respond to the distribution of payoffs between the sender and the receiver. We implement a cheating game where the sender receives a secret number from a random draw, but can report any number: this reported number then directly determines the division of a fixed amount between their own and the receiver's payoff. The game is repeated for 20 rounds, with stable partners. Our treatments vary whether the receiver observes the true secret number, as well as the payment rule, either paying subjects for one randomly-selected decision or for cumulated earnings. Consistent with many previous studies, when a large number is drawn, which indicates a large share of resources going to the receiver, we find more "selfish lies." Strikingly, we also find a sizable amount of "costly altruistic lies:" when a small number is drawn, indicating a small share of resources going to the receiver, many senders report a larger number, thereby increasing the receiver's payoff and decreasing their own payment. Meanwhile, we find high heterogeneity of behavior among senders, which reflects the heterogeneity of their inner tradeoffs not only between monetary benefits and moral concerns but also between the two moral concerns of honesty and fairness. In order to understand the heterogeneity among senders, we implement a finite mixture model which classifies our sample into six types with distinct behaviors, revealing different preferences over monetary benefits, truth-telling, and altruism. Our study sheds light on the heterogeneity of individuals in their inner tradeoff between different moral concerns.

ALISTAIR WILSON

UNIVERSITY: Purdue University
Graduate Student Mentee

PAPER TITLE:
Complexity, Misrepresentation and Communication

CO-AUTHOR (S):
None

ABSTRACT:
We investigate how increasing the complexity of the message space can reduce misrepresentation in strategic communication. We develop a theoretical model that extends the standard cheap talk approach by i) allowing for communication about both a payoff relevant state and non-payoff relevant attributes which are correlated with the state, and ii) supposing that agents are boundedly rational in understanding the relationship between the states and their attributes. We show that although babbling is the only equilibrium for perfectly rational agents, boundedly rational agents induce an equilibrium that features informative messages. We adopt a novel experimental design to test our predictions and explore mechanisms that drive changes in the informativeness of communication. We also elicit subjects' preferences over simple and complex communication. We find that increasing the number of messages that could be sent, while keeping the number of messages sent fixed, can significantly reduce misrepresentation, particularly when the receiver can anticipate what questions the messages are in response to. We find that the informativeness of communication is dependent both on the complexity level and cognitive ability of agents. Our results shed light on why principals in mechanisms may not use a direct mechanism, but instead use an indirect mechanism which elicits multi-dimensional information even when the additional information seems redundant, as in tax reporting or insurance claims. We also find complexity aversion on the sender side while the receiver's preference for complexity depends on how much assistance they get in lie detection.

THANK YOU!