Nawaaz Khalfan

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My research is in microeconomic theory, with a focus on information acquisition, mechanism design and search. I explore the use of inspection, signalling and indexing to acquire and share information, what their use looks like in strategic environments and how these results map into applied settings.

Academic Positions

Research Fellow (Postdoctoral), Impact Labs
Monash University (2023-)
Supervisor: Simon Wilkie, Advisor: Guillaume Roger

Education

Doctor of Philosophy in Economics
University of Pennsylvania (2019-2023)
Thesis: "Strategic Search and Exploration"
Supervisor: Rakesh Vohra, George Mailath, Committee: Aislinn Bohren

Master of Arts in Economics
University of Pennsylvania (2016-2019)
Thesis: "Search with Evolving Outside Options"
Readers: Rakesh Vohra, Andrew Postlewaite

Bachelor of Economics
Australian National University (2011-2014)
Thesis: "Comparing Patent Regimes: Sequential Innovation under Incomplete Contracts"
Supervisor: Rohan Pitchford, Readers: Martin Richardson, Yijuan Chen

New South Wales Higher School Certificate
Canberra Grammar School (2005-2010)
English, Mathematics, Extension Mathematics, Economics, Geography, Physics

Referees

Rakesh Vohra, Professor of Economics, George A. Weiss and Lydia Bravo Weiss University Professor, at University of Pennsylvania, rvohra@seas.upenn.edu, 215-898-6777

George Mailath, Professor of Economics, Walter H. Annenberg Professor in the Social Sciences, at University of Pennsylvania, gmailath@econ.upenn.edu, 215-898-7908

Simon Wilkie, Dean of the Faculty of Business and Economics and Head of Monash Business School, simon.wilkie@monash.edu, +61 (3) 9903 1021

Research Fields

Microeconomic Theory, Information Economics, Search and Exploration, Mechanism and Market Design, Game Theory

Research Papers

1. "Optimal Allocation with Noisy Inspection" *[working paper]*

A principal receives an unknown reward from allocating to an agent who has private information about the reward. Prior to allocating, the principal may elicit a report from the agent and inspect them at a cost, but must do so without transfers. This paper finds the principal-optimal mechanism when private information is noisy. This relates to several applied settings such as employer hiring strategies, public grant mechanisms and portfolio investment rules.

1.1. "Optimal Allocation with Noisy Verification" *[companion piece]*

This article shows that the results from "Optimal Allocation with Noisy Inspection" analogously apply to a setting where the agents have perfect information but verification is imperfect.

2. "Strategic Private Exploration" *[working paper]*

In a strategic exploration game, multiple players determine the order in which they explore unknown options with the objective of maximizing the sum of discovered rewards. Exploration is private in the sense that players cannot condition the order in which they explore on their competitor's decisions. Equilibrium exploration procedures are determined, and losses characterized as a function of how the rewards are split when simultaneously explored. This informs us about many areas of policy design including patent and copyright regimes, R&D tournaments, and competition regulation.

3. "Sequential Information Acquisition and Optimal Search" with Rakesh Vohra *[working paper]*

A principal receives an unknown reward from allocating to one of many agents, each of whom have private information about the principal's reward from allocating to them. The principal may elicit a report from the agents and inspect them sequentially at a cost, but must do so without transfers. This paper finds the principal-optimal mechanism when private information is noisy and the allocated good is scarce. This essentially generalises the results of Khalfan (2024) to many agents, and Ben-Porath, Dekel, Lipman (2014) to noisy types.

3.1. "Pandora's Linear Program" *[companion piece]*

This article maps Weitzman's canonical search problem into a linear program. This allows us to re-derive existing results concerning optimal search and extend them to problems pertaining to strategic search, information acquisition, index manipulation and robust search.

4. "Forecast Elicitation and Frequency Control" with Guillaume Roger

Appropriately chosen, state-contingent contracts can be used to incentivize forecast reporting in scheduled, stochastic markets, improving outcomes markedly. This is of particular importance for electricity grids, where market operators engage in frequency control by scheduling participants. These contracts are examples of scoring rules, are significantly differ from the causer-pay frameworks in operation, and can also be tailored to incentivise the acquisition of publicly valuable information.

Research Projects

"Auctions and the Hold-Up Problem" with Simon Wilkie *[white paper]*

"Ability, Effort, and the Scope of a Rawlsian State" with Simon Wilkie

"Optimal Merger Approval" with Chengsi Wang

"Manipulation Robust Search Procedures"

"Inspecting and Allocating on Networks"

Teaching Fields

Microeconomics, Economic Theory, Game Theory, Industrial Organization, Mechanism Design, Market Design, Information Economics

Teaching Experience

University of Pennsylvania

As lecturer:

BDS 509: Applied Game Theory - 2022 Summer
ECON 1/LPS 601: Introductory Microeconomics - 2019 Spring, 2020 Fall, 2020 Summer

As teaching assistant:

PPE 3001: Strategic Reasoning - 2022 Fall
ECON 262: Market Design - 2021 Spring
ECON 235: Industrial Organization - 2020 Fall
ECON 1: Introductory Microeconomics - 2018 Spring, 2018 Fall
ECON 10: Introductory Business Economics - 2017 Fall, 2021 Fall

Australian National University

As tutor and teaching assistant:

ECON 8021: Topics in Microeconomic Theory (graduate) - 2015 S2
ECON 3101: Microeconomics III – 2016 S1
ECON 3100: Economics IV Honours – 2015 S2
ECON 2141: Strategic Thinking – 2015 S2, 2016 S1
ECON 2101: Microeconomics II – 2015 S1
ECON 1101: Microeconomics I – 2014 S2, 2015 S1
ECHI 1006: The Australian Economy – 2013 S2, 2014 S1

Professional Activities

Referee for The International Economic Review

Conference presentations at Pennsylvanian Economic Theory Conference (2022), Australasian Economic Theory Workshop (2023, 2024, 2025), Durham Economic Theory Conference (2024), Econometric Society Australasian Meetings (2024), Society for Institutional and Organizational Economics

(2025)

Invited seminars at University of Pennsylvania (2022), NYU Abu Dhabi (2023), Australian National University (2023), Deakin University (2024), University of Melbourne (2024), University of New South Wales (2025)

Research Experience

Research Assistance for Professor Rakesh Vohra, University of Pennsylvania, Department of Economics and Department of Electrical and Systems Engineering, 2022-2023

Research Assistance for Professor Rohan Pitchford, ANU Research School of Economics, 2015-2016

Research Assistance for Professor Peter Drysdale and Dr. Shiro Armstrong, East Asia Bureau of Economic Research, ANU Crawford School of Public Policy, 2015-2016

Research Assistance for Dr. Paul Chen and Dr. Martin Richardson, ANU Research School of Economics, 2016

Research Assistance for Dr. Juergen Meinecke, ANU Research School of Economics, 2015

Economic Analyst for the Australian Energy Regulator (AER), Australian Competition and Consumer Commission (ACCC), 2014

Scholarships and Awards

College of Business and Economics Teaching Award for Excellence in Tutoring, 2015
Economic Society Prize for Economics III, 2014
Commercial Representatives' and Agents' Association of Australia Limited Prize, 2013
Economic Society Prize for Economics II (Honours), 2012
Gold and Silver Duke of Edinburgh Award, 2009 and 2010
Canberra Grammar School Medal for Outstanding Contribution, 2010
Bill De Salis Scholarship, 2009 and 2010
Warren-Williams Award, 2009

Personal

Date of birth: September 22, 1992

Nationality: Australian

Language(s): English

Sporting Affiliations: Melbourne University Athletic Club (2024-), Yarra Bend Golf Club (2023-2024), Philadelphia Runner Track Club (2022-2023), Wharton Rugby Football Club (2016-2020), Uni-Norths Owls Rugby Club (2011-2016), CGS Rugby Union (2005-2010)

Updated: December 4, 2025