Dr. Ivan Vinogradov

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Core Skills Summary

Research: As a PhD researcher at ANU, I secured AUD165,000 in funding, built cross-university collaborations, designed 6 empirical animal behaviour studies, ran statistical analyses in R, and published in journals including *Nature EE*, *Proc R B*, and *Behav Ecol*. As an ecologist with ACT Gov, I reviewed and revised the dingo management program using 20 years of data and revealed new insights into the effects of bushfires on local ecosystems.

Teaching: As a course convenor at ANU, I designed and delivered material for the "Research Presentation Skills" course (28 students). I assisted in teaching 8 other courses including an "Evolution" course taught in China. I received multiple awards for my conference talks and acted as a conference judge and panellist.

Project & Team Management: I coordinated a team of 5 demonstrators and 8 guest speakers for the course I currently convene, and supervised undergrad and grad student research projects as part of the course teaching. I led cross-university research projects and ACT Gov conservation projects, cooperating with stakeholders.

Education

Doctor of Philosophy – Australian National University 2020 – 2024
Thesis: "Cognitive abilities in fish: biological predictors and impact on reproductive success"

Master of Science Advanced – Australian National University 2018 – 2020
Thesis: "Repeatability of behavioural lateralization in mosquitofish"

Bachelor of Science – University of Massachusetts 2013 – 2017
Major: General Biology | Minor: Climate Change and Sustainability

Teaching Experience

Course Convenor and Lecturer – Australian National University Jul 2024 – ongoing

· Convened the "Research Presentation Skills" course (BIOL8291), designed the curriculum with focus on interactive and engaging learning

· Supervised 28 students and their individual research projects that involved scientific report writing, conference presentations, and poster presentations

· Coordinated a team of 5 teaching assistants and 8 guest lecturers to ensure lecture material aligned with the course learning objectives

Casual Seasonal Academic – Australian National University intermittently 2019 – 2024

I assisted in teaching the following courses, facilitated class discussions, guided students on their projects, provided marking and feedback.

Diversity of Life (BIOL1009) 2 semesters
· Assisted in leading 3-hour laboratory practicals, helping first-year students conduct experiments and grasp key concepts in ecology and evolution
· Received an informal offer to convene this course in the first semester of 2025

Evolution (BIOL2114) 1 semester
· Helped students grasp key ideas in evolutionary patterns and processes

Experimental Design and Analysis (BIOL2202) 1 semester
· Assisted students in learning R, understanding statistical concepts. I supervised group projects where students collected, analysed, and interpreted data

Behavioural Ecology (BIOL3131) 1 semester
· Helped lead interactive workshops focused on key concepts in behavioural ecology, actively facilitated student engagement and discussions

Big Questions in Biology (BIOL3201) 2 semesters
· Guided students in critically evaluating and communicating contemporary biological issues in the context of science and society.

Parasitology Field Course (BIOL3142) 1 semester
· Facilitated a 2-week field course, guiding students in collecting, analysing, and interpreting field data on live parasites

Research Proposal (BIOL8700) 4 semesters
· Supported master's students in conceptualizing and planning publication-level research, coordinating their projects with perspective supervisors

Research Presentation Skills (BIOL8291) 4 semesters
· Facilitated workshops to enhance students' written scientific reports, news articles, conference presentations, and scientific posters

Casual Seasonal Academic – Shandong University, China / Australian National University Apr 2024
· Assisted in teaching an in-person evolution course to over 70 students in China. I delivered creative interactive workshops and improved student' research skills

Writing Initiative Tutor – Australian National University Aug 2023 – Nov 2023
· Assisted undergraduate students with scientific writing, helping them produce articles and reports of the highest quality

Science, Maths, and English Tutor – Various Positions 2019 – 2023
· Worked with In-Tuition, Big Improvements Tutoring, James an College, and privately
· Provided 1-on-1 and small group tutoring for students (Year 1 to Year 11), helping them catch up on school material and develop skills beyond the curriculum
· Tutored a home-schooled student on the autism spectrum in all school subjects
· Prepared and supervised two high school students online for a Biology Olympiad

Other Professional Experience

Ecologist and Data Analyst (PO2) – ACT Government Oct 2023 – ongoing
· Analysed 20 years of dingo management data using R and Arc GIS, proposed specific program revision by collaborating with different stakeholder
· Analysed complex data on the ecological impact of bushfires and prescribed burns, integrating findings with global ecological research

Ambassador and Science Communicator – Arludo Jan 2023 – Dec 2023
· Led interactive demonstrations of educational digital apps for schools in Australia

Scholarship of Teaching and Learning

Educational Fellowship Scheme expected: 2025
· Registered for enrolment with expected completion in March 2025
· Formal internationally accredited recognition in university education

Science Outreach Project "Time to Mate" [link] 2022
· Designed an educational board game "Time to Mate" about biology of sexual selection
· Received AUD 5000 in funding and was featured on the news and social media
· Manufactured prototypes and ran a campaign on Kickstarter

Professional Development Events
· Designing Teaching Activities that Support Peer-Based Problem-Solving and Data Analysis in Large Subjects 2024
· Learning & Teaching Innovation Showcase, Canberra, ACT 2024
· ACT Professional Learning "Embedding ICT and Experiments in Science Lessons" 2023
· ANU Student Conference "Engagement and Success" 2022
· Our Profession, Our Practice, Our Partnerships, University of Canberra (online) 2020
· Philosophy of Teaching and Learning (5 workshops), ANU 2019

Awards

· Australian Society for the Study of Animal Behaviour: "Runner-up Talk Award" (AUD 200) 2023
· ANU Hirota Naora Award "Best Talk" (AUD 500) 2023
· Australian Evolution Society Conference, Canberra: "Best Talk" (AUD 1000) 2022
· ANU 3-Minute Thesis Finals: "People's Choice" (AUD 1500) 2022
· ANU 3-Minute Thesis College of Science: "Best Talk" (AUD 1000) 2022
· ANU 3-Minute Thesis Research School of Biology: "Runner-up Award" (AUD 100) 2022

Grants and Scholarships

· ANU Research School of Biology Science Outreach Grant (AUD 5,000) 2022
· ANU Vice-Chancellor's HDR Travel Grant (AUD 3,000) 2020
· ANU HDR Fee Remission Merit Scholarship (AUD 43,300) 2019
· ANU Research School of Biology International PhD Scholarship (AUD 119,000) 2019
· University of Massachusetts Dean's Scholarship (USD ~2500) 2013

Selected Talks

Invited speaker at Shandong University, China, "Animal Intelligence and Reproduction" 2024
Presenter at the annual ACT Dingo Management Commission 2024
Judge at the ANU Student Research Conference 2023
Presenter at the Aus Evolution Society, "How inbreeding and developmental stress impact cognition?" 2023
Facilitator at the ACT Professional Learning," Embedding ICT and experiments in science lessons" 2023
Presenter at the Australasian Society for the Study of Animal Behaviour, "Are smart fish better at sex?" 2023
Presenter at ANU 3-Minute Thesis: "Are you smarter than a fish?" 2022
Presenter at the Australian Evolution Society, "General intelligence and its effect on paternity" 2022
Plenary speaker at the ANU Student Research Conference "Engagement and success" 2022
Conference host at the ANU Research School of Biology Conference 2022
Exhibitor at the Australian Games Society, 'Time to Mate, a game on biology of sex and competition" 2022
Presenter at the Aus Evolution Society, "Self-control: how do sex, age and boldness affect it?" 2020
Presenter at the Aus Evolution Society, "Replicability of lateralization behaviour in fish" 2019

In Media

Articles

· Canberra Times, "ANU PhD candidate Ivan Vinogradov dives into the world of fish IQ tests" 2022
· Canberra Weekly, "ANU Three Minute Thesis finals make a live comeback" 2022
· RiotACT, "New board game co-created at ANU plays on age-old animal instincts" 2022
· ANU Media, "New game shows how animals choose their mate" 2022

TV and Radio

· 9News, Science outreach project "Time to Mate" 2022
· ABC Radio, Science outreach project "Time to Mate" 2022
· Umwelt Podcast – Fish Intelligence 2022

Technical Skills

IT and Research

· Advanced data analysis skills and visualization in R, including Rmarkdown and Shiny
· Confident in efficient and ethical AI practices for research and teaching (e.g., ChatGPT, Claude)
· Skilled in spatial analysis tools using ArcGIS Pro
· Experienced with large data analysis in Python
· Experienced with literature review tools: ConnectedPapers, ResearchRabbit, Consensus
· Experienced with open science repositories: Dryad, Open Science Framework, EcoEvoRxiv

Teaching

· Advanced user of Moodle for course material management, grading, quizzes, and surveys
· Experienced with digital teaching tools such as Slido, Microsoft Whiteboard, Miro
· Skilled in creating and recording online material using OBS Studio and Zoom
· Hold WWVP registration, trained in implementing Education Access Plans

Lab and Field

· Animal collection and monitoring, plant identification, and biodiversity assessment
· Animal behaviour and cognition assessment (e.g. exploration, reproduction, boldness, learning)
· Microscopy, dissections, cell culturing, general lab skills
· Trained in: first aid, 4WD, remote field work, animal ethics

Peer-reviewed Publications

· **Vinogradov** IM, Fox RJ, Fitchel C, Kappeler PM, Jennions MD (2024) Paternity analysis reveals sexual selection on cognitive performance. *Nature Ecology and Evolution* (conditionally accepted)
· **Vinogradov** IM, Zang U, Mahmud-Al-Hasan M, Jennions MD (2024) Sex-specific effects of inbreeding depression and early environment condition on inhibitory control in mosquitofish. *Proceeding of the Royal Society: Biol Sci*
· Zang U, Chung M, Neeman T, Harrison L, **Vinogradov** IM, Jennions MD (2024) Does losing reduce the tendency to engage with rivals to reach mates? An experimental test. *Behavioural Ecology*
· **Vinogradov** IM, Jennions MD, van Veen E, Fitchel C, Kappeler PM, Fox RJ (2022) The effect of sex, age and boldness on inhibitory control. *Animal Behaviour*
· **Vinogradov** IM, Jennions MD, Neeman T, Fox RJ (2021) Repeatability of lateralisation in mosquitofish *Gambusia holbrooki* despite evidence for turn alternation in detour tests. *Animal Cognition*
· **Vinogradov** IM, Aich U, Manera J, O'Connel K, Jennions MD, Wong B (2024) Multigenerational exposure to pharmaceutical pollutant fluoxetine alters cognition in wild fish (in review, *Behavioural Ecology and Sociobiology*)
· **Vinogradov** IM, Fox RJ, Fitchel C, Kappeler PM, Jennions MD (2024) Cognitive senescence across four distinct cognitive domains in mosquitofish (in preparation, currently published in a thesis)
· **Vinogradov** IM, Pulsford S, Brawata R (202X) Population size and distribution of dingos in Namadgi National Park (in preparation)

Journal peer-reviews: *Animal Behaviour, Philosophical Transactions B, Animal Cognition, Behavioural Ecology*