

Staff member	Organisation	Academic Group	Size 45/60/90/120 45pt, BiomedHons = 90pt, taught MSc = 60pt, MSc = 120pt	eg. BScHons =	Title/Area	Expiry Date	Relevant Courses
Phylogeny and Evolution							
Alexei Drummond	SBS	EEB	45/90/120		Computational models for single-cell sequencing and tumour evolution		
Alexei Drummond	SBS	EEB	120		Statistical models of protein structure evolution		
Alexei Drummond	SBS	EEB	45/120		Statistical geometry of phylogenetic tree space		COMPSCI 369
Nicholas Matzke	SBS	EEB	45/60/90/120		Phylogenetic biogeography: testing / comparing computational inference methods		
Nicholas Matzke	SBS	EEB	45/60/90/120		Phylogenetic biogeography of a clade of interest (living and/or fossil)		
Nicholas Matzke	SBS	EEB	45/60/90/120		Phylogenetic history of bacterial flagellum proteins and relatives		
Nicholas Matzke	SBS	EEB	45/60/90/120		Phylogenetic history of bacterial flagellum proteins and relatives - evolution of axial proteins		
Nicholas Matzke	SBS	EEB	45/60/90/120		Protein structure phylogenetics: Applied to a deep protein evolution question of interest		
Caroline Puente-Lelièvre	SBS	EEB	45/60/90/120		Plant phylogenetics and evolution		
Simon Greenhill	SBS	EEB	45/60/90/120		A phylogenetic analysis of the languages of New Guinea		
Simon Greenhill	SBS	EEB	45/60/90/120		Using AI and Large Language Models to automatically code cultural data		
Simon Greenhill	SBS	EEB	45/60/90/120		Visualising language phylogenies: adapting NextStrain.org to language data		
Simon Greenhill	SBS	EEB	45/60/90/120		How far back can we trace language history?		
Matthew Fullmer	SBS	EEB	60/120		Agent-absed modeling		
Kim Handley	SBS	EEB	90/120		Phylogeny of cyanobacterial accessory genes such as those associated with nutrient acquisition and storage or toxin production		
Manpreet Dhani	SBS/LCR	EEB	120		What makes a successful competitor? Understanding eco-evolutionary dynamics in nectar yeasts. Data-analysis based project	Student stipend available, experience in statistical modelling required	
Manpreet Dhani	SBS/LCR	EEB	90/120		Shifting landscape of the antibacterial resistome in the kiwi gut microbiome - genomic data analysis based project		
Manpreet Dhani	SBS/LCR	EEB	120		Disentangling global patterns of host-bacteria co-evolution using basal NZ scale insects and their symbionts, collaborative project w OIST		
Austen Ganley	SBS	BHB	90/120		Evolutionary dynamics of tandem repeats in ribosomal RNA genes		
Maj Padamsee	SBS/LCR	EEB	120		Fungal phylogenetics--various groups		
Marine/Freshwater Projects							
Alice Della Penna	IMS/SBS	EEB	60/90/120		Can oceanic eddies trap mesopelagic fish? A modelling study		
Andrew Jeffs	IMS/SBS	EEB	120		Baby food for mussels - what do mussel infants need in order to thrive?		
Emma Carroll	SBS	EEB	120		Southern right whale immune system genetics		
Emma Carroll	SBS	EEB	60/90/120		Beaked whale population genetics		
Maren Wellenreuther	SBS/PFR	EEB	120		Image-based phenomics: using AI to quantify growth in snapper		
Maren Wellenreuther	SBS/PFR	EEB	120		Marine water microbiomes and fish diseases		
Mary Sewell	SBS	EEB	120		Early lipid use in the Antarctic sea urchin, Sterechinus neumayeri		
Mary Sewell	SBS	EEB	120		Spatial patterns in the zooplankton of Rangitahua (Kermadecs)		BIOSCI 208, BIOSCI 334, BIOSCI 333
Xavier Pochon	IMS/Cawthron	JGS			Environmental DNA monitoring in aquatic ecosystems		
Kendall Clements	SBS	CMPB	120		Functional variation in parrotfish pharyngeal anatomy		BIOSCI 322, 335, 725, 729
Kendall Clements	SBS	CMPB	120		Diet of parrotfishes inferred from pharyngeal contents		BIOSCI 335, 725
Libby Liggins	SBS	EEB	45/60/120		Genetic signatures of range extension in marine organisms		
Libby Liggins	SBS	EEB	120		From larvae, through recruitment, into the adult population: phenotypic predictors of success and genotypic shifts within a damselfish population		
Libby Liggins	SBS	EEB	60/120		Spatial predictors of symbiont communities in Giant clams (Tridacna) characterised by metabarcoding		
Zoology/Behaviour/Biodiversity Projects							
Anne Gaskett	SBS	EEB	45/60/90/120		sensory ecology, interactions, animal colour vision (e.g. seabird plastic ingestion or light pollution, or plant-animal interactions such as pollination or fruit dispersal, with native plants, esp. mosses, orchids, other flowering plants)		BIOSCI338, BIOSCI337, BIOSCI325, BIOSCI17
Brendon Dunphy	SBS/IMS	EEB	45/60/120		Heavy metal pollutants in seabird populations		
Darren Ward	SBS	EEB	45/60/120		Do citizen scientists (iNaturalist) and museum collections collect similar data on biodiversity?		
Darren Ward	SBS	EEB	45/60/120		Using AI and deep learning to identify invasive ants (include an AI identification and a small field component)		
Darren Ward	SBS	EEB	60/120		Building an image library for the automatic recognition of flies (Diptera)		
Darren Ward	SBS	EEB	120		The role of fungus gnats (flies) in NZ forests (involves an AI identification and could involve a field component)		
David Pattemore	SBS/PFR	EEB	45/60		Factors correlated with successful occupation of artificial nest sites by bumble bees		
David Pattemore	SBS/PFR	EEB	45/60/90		Effects of new motorways on bird and bat activity		
David Pattemore	SBS/PFR	EEB	45/60		How well are five minute bird counts and automated classification of bird call recordings correlated?		
David Pattemore	SBS/PFR	EEB	45/60/90		Can community gardens provide both desired produce and support pollinator populations? - case study		
David Seldon	SBS	EEB	120		Revision of the Mecodema infimate species group (ground beetles)		
David Seldon	SBS	EEB	90/120		Parasitoid micro-wasp diversity in forest restoration		
David Seldon	SBS	EEB	90/120		Parasitoid micro-wasp diversity of salt marsh/mangroves		
David Seldon	SBS	EEB	120		Why do Megadromus/Zeopocilus have colour reflections (ground beetles vs birds?)		
David Seldon	SBS	EEB	120		Revision of Pterostichini genera (ground beetles)		
Greg Holwell	SBS	EEB	45/60/90/120		Asymmetry as an antipredator adaptation		
Greg Holwell	SBS	EEB	45/60/90/120		Adaptive significance of camouflage in spiders		
Greg Holwell	SBS	EEB	45/60/90/120		The effect of wing transparency on camouflage in insects		
James Russell	SBS/Stats	EEB	60		Attitudes to pest management in China		
Kristal Cain	SBS	EEB	45/60		Avian vocalisation changes in response to captivity		BIOSCI 337 & 338
Kristal Cain	SBS	EEB	120		Weka or pukeko vocalisations and movement		BIOSCI 337 & 338
Margaret Stanley	SBS	EEB	60/90/120		urban ecology (urban forest, birds, etc), invasive species (any terrestrial taxa!), desktop analysis projects, fieldwork		BIOSCI394, BIOSCI 747, BIOSCI 748 (any ec
Jacqueline Beggs	SBS	EEB	45/60/90/120		Ecology of urban industrial zones		
Plant and Other Terrestrial Projects							
Anne Gaskett	SBS	EEB	45/60/90/120		sensory ecology, interactions, animal colour vision (e.g. seabird plastic ingestion or light pollution, or plant-animal interactions such as pollination or fruit dispersal, with native plants, esp. mosses, orchids, other flowering plants)		BIOSCI338, BIOSCI337, BIOSCI325, BIOSCI17
Bruce Burns	SBS	EEB	60/120		Meta-analysis of fern ecology in the Chinese literature & comparison with NZ fern ecology		
Cate Macinnis-Ng	SBS	EEB	60		A range of projects exploring climate change effects on plants and ecosystems		
Cate Macinnis-Ng	SBS	EEB	120		Responses of native plants to drought and heatwaves using glasshouse trials		
Gavin Lear	SBS	EEB	60/90/120		Soil microbiology and ecosystem health		
Gillian Lewis	SBS	EEB	45/60/90/120		Inferred functionality in biofilm bacterial communities in native forest, urban and agricultural catchments.		
Gillian Lewis	SBS	EEB	45/60/90/120		Microbial carbon sequestration in different types of wetland		

James Brock	SBS	EEB	45/60/90/120	Bryophyte use by birds in nests		
James Brock	SBS	EEB	120	Tree fern epiphytism: competition and stress		
ZhiQiang Zhang	SBS/LCR	EEB	120	Unseen forces on plants: effects of mites on plant health		
ZhiQiang Zhang	SBS/LCR	EEB	120	Behaviour and ecology of insect-mite interactions on plants		
ZhiQiang Zhang	SBS/LCR	EEB	120	Native and naturalised nematode fauna of Pinus radiata in New Zealand		
Zhi-Qiang Zhang	SBS/LCR	EEB	120	Mating behaviour in polyandrous mites		
Nari Williams	SBS/PFR	EEB	45/60/90/120	Investigating the persistence of Phytophthora species in forest soils		
Shane Wright	SBS	EEB	45/60/90	Comparative colour in the Genus <i>Myrsine</i>		
Susan Thomson	SBS/PFR	CMPB	120	Refining resistance gene annotations across Actinidia species		
Mike Taylor	SBS	BHB	45/60/90/120	Bird and reptile microbiomes		
Maj Padamsee	SBS/LCR	EEB	120	Mycorrhizae and ecosystems under threat		
Biomedical and Human Biology						
Anthony Phillips	SBS	BHB	120	Lymphatic modulation		
Billy Sheppard	SBS	BHB	120	Gene editing for fragile skin conditions		
Shaun Lott	SBS	CMPB/BHB	60/90/120	RNaseHI as a target for new antibiotics		
Christopher Walker	SBS	BHB	120	Understanding GPCR regulation and signalling		
Garth Cooper	SBS	BHB	120	"Role of altered cerebral proteolysis in the pathogenesis of sporadic Alzheimer's disease"		
John Taylor	SBS	BHB	45/60/90/120	Screening natural and synthetic molecules for antiviral activity		
Juliet Gerrard	SBS	BHB		The interface between science and science policy		
Kerry Loomes	SBS	BHB	45	Malic enzyme and cancer: structure-activity relationships		
Paul Harris	SBS	BHB	120	Novel polymyxins to treat Gram negative pathogens		
Jennifer Miles-Chan	SBS	BHB	90/120	Peak nutrition for metabolic health		BIOSCI358 / MEDSCI315
Emma Scotter	SBS	BHB	No projects available 2025 sem 1	Causes and cures of motor neuron disease		
Nicole Edwards	SBS	BHB	45/60/90	RNA Velocity based approach for modelling cell state changes in neurodegenerative disease		*Sem 2 only please
Nicole Edwards	SBS	BHB	45/60/90	Spatial omics approaches to understanding neurodegenerative disease		*Sem 2 only please
Cellular, Molecular and Physiological Biology						
Andrew Allan	SBS/PFR	CMPB	120	Encouraging sugar over-accumulation in kiwifruit		
Anthony Poole	SBS	CMPB	90/120	Building phylogenies from protein structures		
Augusto Barbosa	SBS	CMPB		Improving gene knockdown using RNA interference		
Chris Carrie	SBS	CMPB	45/60/90/120	Developing a cell type specific CRISPR system in Arabidopsis		
Chris Carrie	SBS	CMPB	45/60/90/120	Characterisation of essential proteins required for chloroplast biogenesis		
Chris Carrie	SBS	CMPB	45/60/90/120	Gene regulatory network prediction in plants.		
Christopher Squire	SBS	CMPB	45/60/90/120	Discovering new molecular superglues OR the ubiquity of the Ig domain		
Christopher Squire	SBS	CMPB	45/60/90	How do polymyxin analogues disrupt membranes?		
Christopher Squire	SBS	CMPB	45/60/90/120	Simulating molecular superglue dynamics - is my glue too floppy?		
Craig Millar	SBS	CMPB	60	A circadian and circannual framework for the coming ethomics era		
Craig Millar	SBS	CMPB	90/120	Developing methods to sequence the complete mtDNA of avian species using nanopore technology		
Craig Millar	SBS	CMPB	60/90	Population genetic analysis of the endangered Chatham Island Taiko		
Esther Bulloch	SBS	CMPB	60/90/120	Developing antivirals to treat flavivirus infection.		
Ghader Bashiri	SBS	CMPB	60/90/120	Molecular technologies for methane mitigation in livestock		
Ghader Bashiri	SBS	CMPB	60/90/120	Novel protein targets against tuberculosis		
Ghader Bashiri	SBS	CMPB	60/90/120	Understanding regulatory mechanisms in proteins		
Ghazanfar Khan	SBS	CMPB	45/60/90/120	Uncovering molecular mechanisms to increase nutrient-use-efficiency in plants		
Gavin Lear	SBS	EEB	60/90/120	Methods for the isolation of novel plastic-degrading bacteria		
Iain Hay	SBS	CMPB	45/60/90/120	Characterising a novel phage derived pore forming antibacterial toxin		
Iain Hay	SBS	CMPB	60/90/120	Bacteria Type II secretion system assembly		
Iain Hay	SBS	CMPB	45/60	Phage discovery		
Iain Hay	SBS	CMPB	60/90/120	Talocin receptor binding protein engineering (customisable bacteriocins)		
Jo Putterill	SBS	CMPB		Gene editing in Medicago and kiwifruit		
Karine David	SBS	CMPB	120	Analysis of candidate genes involved in fruit size in kiwifruit (2 projects)		
Karine David/Robert Schaffe	SBS	CMPB	90/120	Mechanisms regulating russetting in apple		
Kendall Clements	SBS	CMPB		The relationship between pharyngeal structure and diet in parrotfishes		
Matthew Sullivan	SBS	CMPB	120	Understanding the interaction between plectstatin-1 and plectin		
Matthew Templeton	SBS/PFR	CMPB	60/120	Plant pathogen evolution, role of effector proteins, biocontrol		
Shaun Lott	SBS	CMPB/BHB	60/90/120	Rhs repeat proteins in bacterial competition and multicellular evolution.		
Soledad Perez Santangelo	SBS	CMPB	45/60/90/120	Physiological and molecular characterisation of CRISPR mutants for candidate clock genes in their response to temperature cues.		
Soledad Perez Santangelo	SBS	CMPB	45/60/90/120	Analysing how natural variation in circadian clock function impacts plant growth and performance in changing climates		
Paul Harris	SBS	CMPB	120	Synthesis of Daptomycin antibiotics		
Rebecca Deed	Chemical Sciences/SBS	CMPB	45/60/90/120	The role of cytochrome p450 in lactone biogenesis in yeast		
Rebecca Deed	Chemical Sciences/SBS	CMPB	45/60/90/120	Do flocculant yeast bind more anthocyanins?		
Rebecca Deed	Chemical Sciences/SBS	CMPB	45/60/90/120	Isolation of <i>Brettanomyces bruxellensis</i> from dried fruits		
Richard Kingston	SBS	CMPB	60/90/120	Developing new computational imaging methods for structural biology		
Richard Kingston	SBS	CMPB	60/90/120	Exploring the activity of viral polymerases.		
Robert Schaffer	SBS/PFR	CMPB	120	Molecular control of fruit quality traits		
Tony Hickey	SBS	CMPB	60/90/121	Bird red cell mitochondria		
Tony Hickey	SBS	CMPB	60/90/120	Free radical detection in breath		
Xue-Xian Zhang	SBS	CMPB	120	Gene regulation in bacteria: what determines the regulatory mode of a given gene?		
Iman Kavianinia	SBS	CMPB	120	Development of Antibody-Drug Conjugates for targeted cancer therapy		
Iman Kavianinia	SBS	CMPB	120	Smart nanodrugs for precision-based treatment of folate receptor alpha-positive malignancies		
Davide Mercadante	SCS	CMPB	60	Computational peptide design for the pH-dependent inhibition of the Clostridium botulinum toxin		
Davide Mercadante	SCS	CMPB	60	Enhancing protein expression by computational linker design		
Genetics/Genome Biology						
Austen Ganley	SBS	BHB	45/60/90/120	Are there forbidden DNA motifs in biology?		
Austen Ganley	SBS	BHB	90/120	Experimentally measuring the selective effects of different ribosomal RNA gene copy numbers		
Austen Ganley	SBS	BHB	45/60/90/120	Improved enzymatic methods of synthesizing long random DNA		
Nobuto Takeuchi	SBS	CMPB	90/120	Mathematical or computational modelling of microbial evolution		
Nobuto Takeuchi	SBS	CMPB	45/90/120	Comparative genomics of prokaryotes		
Kim Handley	SBS	EEB	90/120	Microbial comparative genomics (e.g. prophage analysis, osmoadaptations)		
Anna Santure	SBS	EEB	45/120	Recombination in hihi (stitchbird): why do males do it more?		

Anna Santure	SBS	EEB	45	Comparing mitochondrial and genomic signals of invasion in the common myna		
Anna Santure	SBS	EEB	45/120	Invasion genomics of garden snails – where and when did they arrive in Aotearoa?		
Anna Santure	SBS	EEB	45/120	Sex chromosomes and synteny of the unique and threatened Hochstetter's frog		