Staff member	Organisation eg. SBS / IMS / PFR / LCR	Academic Group eg. EEB / BHB / CMPB / JGS	Size 60/90/120 eg. BScHons = 60pt, taught MSc = 60pt, BiomedHons = 90pt, MSc = 120pt	Title/Area	Expiry Date	Relevant Courses that students should take or have taken
Evolutionary genetics/genomics, Phylogeny projects						
Anna Santure	SBS	EEB	60/120	A 'digital twin' to predict the impact of translocations and genetic bottlenecks on the threatened hihi		Most recommended: BIOSCI 701 (Practical Approaches in Genomics). At third year any / all of: BIOSCI 322: Evolution of Genes, Species, Populations. BIOSCI 351: Molecular Genetics, BIOSCI 355: Genomics and Genome Biology
Anna Santure	SBS	EEB	60/120	Exploring epigenetic and transcriptional control using paired DNA and RNA long read sequencing in the invasive common myna		Most recommended: BIOSCI 701 (Practical Approaches in Genomics). At third year any / all of: BIOSCI 322: Evolution of Genes, Species, Populations. BIOSCI 351: Molecular Genetics, BIOSCI 355: Genomics and Genome Biology
Austen Ganley	SBS	BHB	90/120	Investigation of a very unusual *de novo* evolved gene, *TAR1* , that is antisense to a highly conserved ribosomal RNA gene. Project involves some synthetic biology work and classical yeast genetics, and potentially some bioinformatic work depending on student interest, to determine the function of this gene and its evolutionary history. Project is an intersection of genetics, evolutionary biology, and mitochondrial biology		BIOSCI736 (Synthetic Biology) and/or BIOSCI355 (Genomics and Genome Biology) are highly recommended. BIOSCI20, BIOSCI350, BIOSCI351, BIOSCI701 and/or BIOSCI757 may also be useful
Austen Ganley	SBS	BHB	90/120	Determining the molecular mechanism of recombination in the ribosomal RNA gene repeats. Project involves some synthetic biology work and classical yeast genetic screening. Project is an intersection of genetics and evolutionary biology.		BIOSCI736 (Synthetic Biology) and/or BIOSCI355 (Genomics and Genome Biology) are highly recommended. BIOSCI20 and/or BIOSCI351 may also be useful
Kim Handley	SBS	EEB	90/120	Predicting the function of novel bacterial light sensitive rhodopsins (see below for further topics)		
Nicholas Matzke	SBS	EEB	60/90/120	(1) Structural phylogenetics of flagellum components and related proteins; (2) Testing methods in structural phylogenetics & structural alignment; (3) other deep phylogeny projects that might benefit from adding structural characters (e.g. archaeal flagellum; ATP synthetase & relatives; CRISPR / VIPR relationships)		Most recommended: BIOSCI700: Phylogenetics. Also good would be any of: BIOSCI 210: Evolution and Origins of Life; BIOSCI 322: Evolution of Genes, Species, Populations. BIOSCI 355 (Genomics and Genome Biology), BIOSCI 701 (Practical Approaches in Genomics)
Nobuto Takeuchi	SBS	CMPB	60/90/120	Mathematical or computational modelling of bacterial genome evolution		Modelling: BIOSCI 220 (Quantitative Biology) and BIOSCI 702 (Modelling Biological Processes). Genetics/evolution: BIOSCI 355 (Genomics and Genome Biology) or BIOSCI 210 (Evolutionary Biology).
Priscila Salloum	SBS	EEB	60/90	Microbial gene function associated with hairwomrs and wētā (bioinformatics only)		BIOSCI355, BIOSCI 749 can be helpful but not required
Priscila Salloum	SBS	EEB	120	Exploring the genetic variation underlying shell colour in chitons	2029	BIOSCI 355 or equivalent
Sarah Knight	SBS	EEB				
Libby Liggins	SBS	EEB	60/120	Using genomics to inform culling/fishing of an over-abundant urchin		
Libby Liggins	SBS	EEB	60/120	Are there genetic consequences of community kelp restoration activities?		
Simon Greenhill	SBS	EEB				
Simon Greenhill	SBS	EEB				
Evolutionary genetics/genomics, Phylogeny projects						
Austen Ganley	SBS	BHB	60(S1 only)/90/120	Building a second nucleolus in yeast. Project primarily involves theoretical synthetic biology design work, with potential for synthetic biology implementation work for longer-form projects. Project is synthetic biology		BIOSCI202 (Genetics) and BIOSCI736 (Synthetic Biology) are highly recommended. BIOSCI353 and/or BIOSCI355 may also be useful
Austen Ganley	SBS	BHB	90/120	Investigation of a very unusual *de novo* evolved gene, *TAR1* , that is antisense to a highly conserved ribosomal RNA gene. Project involves some synthetic biology work and classical yeast genetics, and potentially some bioinformatic work depending on student interest, to determine the function of this gene and its evolutionary history. Project is an intersection of genetics, evolutionary biology, and mitochondrial biology		BIOSCI736 (Synthetic Biology) and/or BIOSCI355 (Genomics and Genome Biology) are highly recommended. BIOSCI20, BIOSCI350, BIOSCI351, BIOSCI701 and/or BIOSCI757 may also be useful
Austen Ganley	SBS	BHB	90/120	Determining the molecular mechanism of recombination in the ribosomal RNA gene repeats. Project involves some synthetic biology work and classical yeast genetic screening. Project is an intersection of genetics and evolutionary biology.		BIOSCI736 (Synthetic Biology) and/or BIOSCI355 (Genomics and Genome Biology) are highly recommended. BIOSCI20 and/or BIOSCI351 may also be useful
Marine/Freshwater Projects						
Brendon Dunphy	SBS	EEB				
Kendall Clements	SBS	CMPB		Diet partitioning in grazing marine herbivorous fishes		
Kim Handley	SBS	EEB				
Priscila Salloum	SBS	EEB	120	Experimental microbiome manipulation in New Zealand chitons	2029	BIOSCI 204, BIOSCI 749 can be helpful but not required
Libby Liggins	SBS	EEB	120	Do feeding and locomotion traits of humbug damselfishes determine their position in the social hierarchy? (Scholarship available)		
Libby Liggins	SBS	EEB	60/120	Using genomics to inform culling/fishing of an over-abundant urchin		
Libby Liggins	SBS	EEB	60/120	Are there genetic consequences of community kelp restoration activities?		
Libby Liggins	SBS	EEB	60/120	Identifying traits associated with potentially range-extending fishes in Aoteaora		
Zoology/Behaviour/Biodiversity Projects						
Manpreet Dhami	SBS	EEB				
Neil Birrell & Rich Leschen	SBS/MWL	EEB				
Priscila Salloum	SBS	EEB	any	Chiton microbiome diversity in relation to macro-biodiversity	2029	BIOSCI 204 may be helpful, but not required
Libby Liggins	SBS	EEB	120	Do feeding and locomotion traits of humbug damselfishes determine their position in the social hierarchy? (Scholarship available)		
Libby Liggins	SBS	EEB	60/120	Identifying traits associated with potentially range-extending fishes in Aoteaora		
Sarah Knight	SBS	EEB				
Plant and Other Terrestial Projects						
Cate Macinnis-Ng	SBS	EEB	60/120	A range of topics related to plant ecophysiological responses to climate-related stressors		
James Brock	SBS	EEB	120	Landscape ecology of bryophytes (driving licence and plant ID skills required)		BIOSCI 206, BIOSCI 325, BIOSCI 734
James Brock	SBS	EEB	120	Fire ecology of ferns (driving licence required; S2 start for winter-timed field experiments)		BIOSCI 325, BIOSCI 734
Margaret Stanley	SBS	EEB				BIOSCI 394, BIOSCI 747, BIOSCI 748
Biomedical and Human Biology						
Alicia Didsbury	SBS	BHB				
Anthony Phillips	SBS	BHB				
Catherine (Kate) Angel	SBS	BHB				
Christopher Walker	SBS	BHB				
Emma Scotter	SBS	BHB	90/120	Rewriting disease-associated microglial states in *C9orf72* motor neuron disease		MEDSCI 206, BIOSCI 351, BIOSCI 353, MEDSCI 320, BIOSCI 704
Emma Scotter	SBS	BHB	90/120	Identifying regulators of disease-associated microglial states in motor neuron disease		MEDSCI 206, BIOSCI 351, BIOSCI 353, MEDSCI 320, BIOSCI 704
Emma Scotter	SBS	BHB	90/120	Characterising ubiquilin 2 neuropathology in a *UBQLN2* p.P506T mouse model of ALS/FTD		MEDSCI 206, BIOSCI 351, BIOSCI 353, MEDSCI 320, BIOSCI 704

Garth Cooper	SBS	BHB				
Hilary Sheppard	SBS	BHB	90/120			
Iman Kavianinia	SBS					
Inken Kelch	SBS	BHB	90/120	Deciphering immune architecture using advanced imaging	2028	
Jennifer Miles-Chan	SBS	BHB				
Jessie Jacobsen	SBS	BHB				
John Taylor	SBS	BHB				
Kerry Loomes	SBS	BHB				
Mike Taylor	SBS	BHB				
Nicole Edwards	SBS	BHB				
Paul Harris	SBS	BHB				
Rachael Zemek	SBS	BHB	any	Developing intra-operative lymph node–targeted immune therapies to eradicate cancer	2030	
Rachael Zemek	SBS	BHB	any	Mechanisms and therapeutic targeting of surgery-immunotherapy synergy in breast cancer	2030	
Rachael Zemek	SBS	BHB	any	Recreating the tumour immune microenvironment for screening immune therapeutics	2028	
Rod Dunbar	SBS	BHB				
Russell Snell	SBS	BHB				
Saem Park	SBS	BHB				
Shaun Lott	SBS	CMP/BHB	90/120	Developing novel antibacterials and antivirals that target the enzyme RNase HI.		BIOSCI 350 is preferential but not essential.
Shaun Lott	SBS	CMP/BHB	90/120	Engineering bacterial toxins as novel cancer therapeutics.		BIOSCI 350 is preferential but not essential.
Cellular, Molecular and Physiological Biology						
Andrew Allan	SBS	CMP				
Anthony Poole	SBS	CMP				
Augusto Simoes-Barbosa	SBS	CMP				
Chris Carrie	SBS	CMP				
Christopher Squire	SBS	CMP	60/90/120	Modelling immune cell receptors and their activation - new ways to degrade autoimmune proteins		
Christopher Squire	SBS	CMP	60/90/120	Protein engineering to block bacterial stickiness in hospital acquired infection - an antivirulence appraoch		
Craig Millar	SBS	CMP	120	Establishing parentage and relatedness in the communal groups of Brown Skua using microsatellite markers	N/a	In the third year: BIOSCI 322: Evolution of Genes, Species, Populations. BIOSCI 351: Molecular Genetics, BIOSCI 355: Genomics and Genome Biology
Craig Millar	SBS	CMP	120		N/a	In the third year: BIOSCI 322: Evolution of Genes, Species, Populations. BIOSCI 351: Molecular Genetics, BIOSCI 355: Genomics and Genome Biology
David Goldstone	SBS	CMP				
Erin Stroud	SBS	CMP	60	Profiling outcomes in response to multi-stressor events	contact : erinannestroud@gmail.com until mid-Feb 27	Ideally BIOSCI324 and/or BIOSCI326 and other courses with molecular biology focus
Erin Stroud	SBS	CMP	90/120	Identification and anlaysis of hub genes involved in defence induction		Ideally BIOSCI324 and/or BIOSCI326 and other courses with molecular biology focus
Ghader Bashiri	SBS	CMP				
Iain Hay	SBS	CMP	120/90	Bacterial antagonism - Mechanisms and applications		
Irina Miller c.f Kerry Loomes	Daisy Lab					
Jane Allison	SBS	CMP	60/90/120	Optimising hotspot selection for designing novel binder proteins		
Jane Allison	SBS	CMP	60/90/120	Does membrane lipid composition affect GPCR activity?		
Jane Allison	SBS	CMP	60/90/120	Does mitochondrial structure affect proton flow?		
Juliet Gerrard	SBS	CMP	60/90/120	Projects at the evidence-policy interface		
Karine David	PFR	CMP		Range of projects around fruit development, gene functional analysis (apple, kiwifruit...)		Any course with Biochemistry, Molecular biology, genetics (i.e, BIOSCI 326 : Plant Biotechnology for Crops and Health, BIOSCI 351: Molecular Genetics etc...)
Kim Snowden	SBS	CMP				
Matthew Sullivan	SBS	CMP				
Matthew Templeton	SBS	CMP				
Richard Kingston	SBS	CMP/PFR				
Robert Schaffer	SBS	CMP/PFR				
Robin MacDiarmid	SBS	CMPB/BHB				
Shaun Lott	SBS	CMP/BHB	90/120	Understanding how bacterial RHS toxins helped enable the evolution of multicellular animals.		BIOSCI 350 is preferential but not essential.
Soledad Perez Santangelo	SBS	CMP	60/90/120	Projects characterising insertional and gene-edited circadian clock mutants in model legumes to investigate their responses to environmental cues under changing climate conditions.		Biochemistry, Molecular biology, Organic chemistry
Tristan de Rond	SCS	CMP	60/90/120	Genome mining / biosynthetic enzyme discovery		Biochemistry, Molecular biology, Organic chemistry. Some computer competency would be good if you want to use the pipetting robot ;)
Tristan de Rond	SCS	CMP	60/90/120	Enzyme biotechnology / synthetic biology / metabolic engineering		Microbial genomics, Bioinformatics, Biochemistry
Tristan de Rond	SCS	CMP		Bioinformatic tool development for genome mining / biosynthetic enzyme discovery		
Ecology and Evolution						
Al Glen	SBS	EEB				
Alexei Drummond	SBS	EEB				
Alice Della Penna	IMS+SBS	EEB				
Anna Santure	SBS	EEB	60/120	A 'digital twin' to predict the impact of translocations and genetic bottlenecks on the threatened hihi		Most recommended: BIOSCI 701 (Practical Approaches in Genomics). At third year any / all of: BIOSCI 322: Evolution of Genes, Species, Populations. BIOSCI 351: Molecular Genetics, BIOSCI 355: Genomics and Genome Biology
Anna Santure	SBS	EEB	60/120	Exploring epigenetic and transcriptional control using paired DNA and RNA long read sequencing in the invasive common myna		Most recommended: BIOSCI 701 (Practical Approaches in Genomics). At third year any / all of: BIOSCI 322: Evolution of Genes, Species, Populations. BIOSCI 351: Molecular Genetics, BIOSCI 355: Genomics and Genome Biology
Anne Gaskett	SBS	EEB	60/120	Plant-animal interactions (or fungi-animal interactions!) including pollination, fruit dispersal or spore dispersal, involving any native plants and animals, or projects investigating animal perception of colour		
Brendon Dunphy	SBS	EEB				
Bruce Burns	SBS	EEB				
Cate Macinnis-Ng	SBS	EEB	60	A desktop study of the impacts of climate change on nature's contribution to people		
Darren Ward	MWL	EEB		Biology and distribution of hoverflies	Contact from student - Hope Ryu	
Darren Ward	MWL	EEB		Deep learning of invasive ants	Contact from student - Florenz Fang	
Dave Seldon	SBS	EEB				
Dave Seldon& Sam Brown	SBS	EEB				
Emma Carroll	SBS	EEB				
Gavin Lear	SBS	EEB				
Greg Holwell	SBS	EEB				
J David Aguirre	SBS	EEB				

Jacqueline Beggs	SBS	EEB				
James Russell	SBS	EEB				
Kristal Cain	SBS	EEB				
Libby Liggins	SBS	EEB	120	Do feeding and locomotion traits of humbug damselfishes determine their position in the social hierarchy? (Scholarship available)		
Libby Liggins	SBS	EEB	60/120	Identifying traits associated with potentially range-extending fishes in Aoteaora		
Maj Padamsee	MWL	EEB				
Maren Wellenreuther	PFR	EEB				
Margaret Stanley	SBS	EEB				
Mary Sewell	SBS	EEB				
Rochelle Constantine	SBS	EEB				
Shane Wright	SBS	EEB				
Tony Hickey	SBS	EEB		How do mitochondria really work, is it by protostatic forces?		
Tony Hickey	SBS+IMS	CMP	120	Be still my hot beating heart: imaging mitochondrial failure in hot hearts		
ZhiQiang Zhang	SBS+IMS	CMP	120			Most recommended: BIOSCI 395: Pacific Biogeography; BIOSCI 731: Biogeography; BIOSCI700: Phylogenetics. Also good would be any of: BIOSCI 210: Evolution and Origins of Life; BIOSCI 322: Evolution of Genes, Species,
Nicholas Matzke	SBS	EEB	60/90/120	(1) Phylogenetic Biogeography projects on interesting clades; (2) Testing methods in phylogenetic biogeography using simulations and/or fossils		
Kim Handley	SBS	EEB	120	(1) Evolution of salt tolerance adaptations in viruses; (2) Testing the function of novel bacterial light sensitive rhodopsins; (3) Determining differences in biofilm formation associated with bloom-like cyanobacterial proliferations.		
William Pearman	SBS	EEB	120	Host-microbe co-evolution - using simulations to understand the evolution of symbioses		
William Pearman	SBS	EEB	120	Impacts of regulations and antibiotic use profiles on the evolution of antibiotic resistance		
William Pearman	SBS	EEB	120	Understanding the impacts of the microbiome on host fitness using microbiome inoculations		