

# Undergraduate Research Opportunities Programme in Science (UROPS)

## Past Projects by Mathematics Students (3-year record)

AY2015/16		
Student	Project Title	Supervisor
CHIA Boon Han	Rational Points on Elliptic Curve	TAN, Victor
Nicholas CHIN Cheng Hoong	Introduction to Morse theory	WILKIN, Graeme
Nicholas CHIN Cheng Hoong	Submaximal Spaces	WONG Yan Loi
GAO Yuan	ADMM-type methods for solving a class of large scale linear programming	TOH Kim Chuan
KHOR Shi-Jie	Lie Theory	CHIN Chee Whye
LEE Si Ying	The modular $j$ -invariant	CHAN Heng Huat
LIU Runfeng	Credit Risk Modeling	ZHOU Chao
LOU Beicheng	Search for Pseudomodular Groups and Surfaces	TAN Ser Peow
MA Zilu	Curve Shortening Flows	XU Xingwang
NG Say-Yao, Mark	The Moment Method in Determining Limiting Densities of Singular Values of Powers of Random Matrices	WANG Dong
Wang Tao	Weak Convergence of Random Walks to Brownian Motion	SUN Rongfeng
YANG Pengcheng	Study on Stochastic Financial Calculous	ZHOU Chao
AY2016/17		
Student	Project Title	Supervisor
BAI Yichen	Monte Carlo Methods and Applications	REN Weiqing
CHU Khoon Hwa	Galois Theory and Origami Constructions	WILKIN, Graeme
JIANG Tianzhi	Diffeomorphism of Some Supermanifolds	HAN Fei
KOH Chin Nam Andrew	Category Theory	LOKE Hung Yean
KUANG Zhihao	Financial Mathematics with Python	ZHOU Chao
LI Er Lu, Lawrence	Lie Algebras	TAN Kai Meng

LIAN Yi Jie Kelvin	Class Numbers	ZHANG Lei
LOU Beicheng	Search for Pseudomodular Groups and Surfaces	TAN Ser Peow
LU Jianlong	Differential Geometry	CHIN Chee Whye
NI Kan	Data assimilation methods	TONG Xin
QUEK Ming Hao	Multilinear Algebra	LEE Soo Teck
QUEK Ming Hao	Representation Theory of the Symmetric Groups	TAN Kai Meng
Arshay Nimish SHETH	Fractal Geometry with Applications	WILKIN, Graeme
TAY Yi Duan Calvin	Sieve methods and applications	GAN Wee Teck
TRAN Hoang Bao Linh	Class Numbers	ZHANG Lei
VO Anh Duc	Arithmetic Properties of Hyperbolic Geometry	TAN Ser Peow
WANG Jingci	Topics on Self-avoiding Walks	SUN Rongfeng
WANG Zexin	Financial Mathematics with Python	ZHOU Chao
WEI Jiaheng	Game theory and applications	ZHAO Gong Yun
YAN Hongwei	Diameter of Bipartite Tournaments	TAN Ban Pin
ZHANG Jingwei	Simulation of rare events	REN Weiqing
KHOONG Wei Hao	Burrows- Wheeler transformation and its applications	ZHANG Louxin
LEE Zhi Qiang Leonard	Fourier series and its history	CHUA Seng Kee
SI Yan Zhu	Efficient algorithms for the largest common subtree problem	ZHANG Louxin

### AY2017/18

Student	Project Title	Supervisor
LEE De Zhang	The Law of Large Numbers	LI Wei
LIM Wen Bin	Machine Learning In Finance	ZHOU Chao
YAP Jit Wu	Algebraic Number Theory and Fermat's Last Theorem	CHIN Chee Whye
ZHANG Jiang	Diffeomorphisms of super points with several fermions	HAN Fei