## Participants of Undergraduate Research Fellowship (URFP) Programme

2021-22

| <u>2021-22</u><br>Name | Curriculum        | Year | Project Title of Project/ Directed Studies Course   | Supervisor of Project/ Directed Studies<br>Course   | Project Title of Summer Research Internship  | Internship Supervisor   |
|------------------------|-------------------|------|---|---|--|---|
| Chan Chin Tung         | BSc (4)           | 3    | Adaptations of Desmos chinensis (Annonaceae) fruits for<br>independent dispersal of seeds                               | Prof Richard Saunders; School of Biological<br>Sciences   |  |   |
| Chan Ching Si          | BSc (4)           | 3    |   | Dr Juan Diego Gaitán-Espitia; School of<br>Biological Sciences  |  |   |
| Chan Pak Hop           | BSc(ActuarSc) (4) | 3    | Limiting Properties of ERD"O S-RÉNYI Graphs   | Prof Jeff J Yao; Department of Statistics & Actuarial Science   | Limiting properties of Erdős-Rényi graphs  | Prof Jeff J Yao; Head of Department of Statistics & Actuarial Science           |
| Garg Anahita           | BSc (4)           | 3    | Potential roles and interaction of antioxidants and omega fats in plants and humans                                     | Dr Jetty C Y Lee; Dr Olivier Habimana;<br>School of Biological Sciences                               |  |   |
| Karim Kazi Neha        | BSc (4)           | 3    | Molecular cloning, tissue distribution and functional studies of phoenixin in fish model                                | Prof Anderson O L Wong; School of<br>Biological Sciences  |  |   |
| Li Lok Ka              | BSc (4)           | 3    | Relationship between AMPK-dependent BDNF pathway<br>and KLF15 on fatty acid oxidation in skeletal muscle                | Dr Chi Bun Chan; School of Biological<br>Sciences   | Relationship between AMPK-dependent BDNF<br>pathway and KLF15 on fatty acid oxidation in skeletal<br>muscle  | Dr Chi Bun Chan; Director of School of<br>Biological Sciences                   |
| Liu Xinqi              | BSc (4)           | 3    | The role of extracellular adenosine signaling on the immune microenvironment of HCC                                     | Prof Jiandong Huang; Dr Carmen C L<br>Wong; School of Biomedical Sciences;<br>Department of Pathology |  |   |
| Mia Md Bayezid         | BSc (4)           | 3    | GEN1 in processing recombination and replication<br>intermediates   | Dr Gary Y W Chan; School of Biological<br>Sciences  | GEN1 in processing recombination and replication intermediates   | Dr Gary Y W Chan; Director of School of Biological Sciences                     |
| Ouyang Xiangyu         | BSc (4)           | 3    | Localization of the FYVE Domains of Spire1 and Spire2<br>Proteins at Microirradiation-induced DNA Damage Sites          | Prof Michael S Y Huen; School of<br>Biomedical Sciences   | Localization of the FYVE Domains of Spire1 and<br>Spire2 Proteins at Microirradiation-induced DNA<br>Damage Sites  | Prof Michael S Y Huen; Director of<br>School of Biomedical Sciences             |
| Shah Aashana Chetan    | BSc (4)           | 3    | Quantifying the Metastatic Propensity of Cancer Cells that<br>Undergo Peritoneal Metastasis as a process                | Prof Alice S T Wong; School of Biological<br>Sciences   | Understanding the difference in gene expression that<br>underlies cancers that undergo peritoneal metastasis as<br>a process   | Prof Alice S T Wong; Director of School<br>of Biological Sciences               |
| Singhal Kush           | BSc (4)           | 3    | Frieze Patterns arising from Dynkin Diagrams  | Prof Jianghua Lu; Department of<br>Mathematics  |  |   |
| Siu Tsz Ho *#          | BSc (4)           | 3    | Development of Chemiluminescent Probes for Detecting<br>Reactive Oxygen Species   | Prof Dan Yang; Department of Chemistry  | Development of Chemiluminescent Probes for<br>Detecting Reactive Oxygen Species  | Prof Dan Yang; Head of Department of<br>Chemistry                               |
| Tan Tixuan             | BSc (4)           | 2    | Edge states in graphene nanoribbon  | Prof Wang Yao; Department of Physics  | Edge states in graphene nanoribbon   | Prof Wang Yao; Head of Department of Physics                                    |
| Tang Tze Tung          | BSc (4)           | 3    | Characterisation of Mitochondrial Proteome Changes<br>during SARS-CoV-2 ORF9b Expression by Rapid<br>Immunopurification | Prof Dong-Yan Jin; School of Biomedical<br>Sciences   | Characterisation of Mitochondrial Proteome Changes<br>during SARS-CoV-2 ORF9b Expression by Rapid<br>Immunopurification  | Prof Dong-Yan Jin; Director of School of<br>Biomedical Sciences                 |
| Wang Zihan             | BSc (4)           | 3    | Planar Cell Polarity (PCP) is Unlikely Transduced<br>Through Frizzled-Vangl Interaction                                 | Prof Jiandong Huang; School of Biomedical<br>Sciences   | Planar Cell Polarity is Unlikely Transduced<br>Through Frizzled Vangl Trans interaction  | Prof Jiandong Huang; Dr Gao Bo;<br>Director of School of Biomedical<br>Sciences |
| Wong Kwan Yuen *       | BSc (4)           | 3    | Investigation of gold complexes as anti-cancer agent  | Prof Chi Ming Che; Department of<br>Chemistry   |  |   |
| Xiang Jie              | BSc (4)           | 3    | Exploring environmental control of photosynthesis<br>capacity between temperate deciduous and evergreen trees           | Dr Jin Wu; School of Biological Sciences  | Quantitative assessments of differential physiological trait acclimations<br>of deciduous vs. evergreen trees across large environmental gradients in<br>the temperate regions through meta-analysis | Dr Jin Wu; Director of School of<br>Biological Sciences                         |
| Xu Xinshu              | BSc (4)           | 3    | Characterization of sPDZD2-GPR161 interaction in the<br>negative regulation of Hedgehog signaling                       | Dr Kwok Ming Yao; School of Biomedical<br>Sciences  | Characterization of sPDZD2-GPR161 interaction in the negative regulation of Hedgehog signaling   | Dr Kwok Ming Yao; Director of School<br>of Biomedical Sciences                  |
| Ying Yui Wang          | BSc (4)           | 3    | Fire Weather Indices for Hong Kong and Future Change  | Dr Jed Oliver Kaplan; Department of Earth<br>Sciences   |  |   |
| Zhang Jiahao           | BSc (4)           | 3    | Study of physics-informed deep neural networks in solving<br>partial differential equations                             | Dr Zhiwen Zhang; Department of<br>Mathematics   |  |   |
| Zhang Maoqi            | BSc (4)           | 3    | Application of A Machine Learning Framework that<br>accelerates the solution of ODEs and PDEs                           | Dr Guanglian Li; Department of<br>Mathematics   | Comparison of Numerical Methods of Computation of Differential Equations   | Dr Guanglian Li; Head of Department of Mathematics                              |

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|--|-------------------|------|---|--|---|---|
| Chan Alistair Kai Chak                 | BSc (4)           | 3    | Combination therapy in nanoparticles encapsulating<br>curcumin against Alzheimer's Disease  | Dr Aviva S F Chow; Dr Dong-Yan Jin,<br>Department Of Pharmacology And<br>Pharmacy; School of Biomedical Sciences |   |   |
| Chan Timothy                           | BSc (4)           | 3    | Detecting alternative promoter usage in hepatocellular<br>carcinoma and nasopharyngeal carcinoma using 5'-biased<br>sequencing data   | Dr Joshua W K Ho, School of Biomedical<br>Sciences   |   |   |
| Cheung Chin Shek                       | BSc (4)           | 3    | Methods in the study of intestinal microbiota: in vitro<br>colon model and in vivo samples  | Dr Hani El-Nezami, School of Biological<br>Sciences  | Optimization and validation of cholesterol and<br>oxysterols measurement in HepG2 cells using LC-<br>MS/MS  | Dr Carlos Gomez Gallego, School of<br>Medicine, University of Eastern Finland                               |
| Du Zhixu                               | BSc (4)           | 3    | Sign Language Recognition   | Prof Michael K P Ng, Department of<br>Mathematics  | Learning Invariant Information in Machine Learning  | Prof Kangwook Lee, Department of<br>Electrical and Computer Engineering,<br>University of Wisconsin-Madison |
| Gupta Saumya                           | BSc (4)           | 3    | Testing the effect of ocean acidification on the<br>camouflaging behavior of sea urchin Salmacis sphaeroides  | Dr Bayden Russell, School of Biological<br>Sciences  |   |   |
| Inoceno Denise Nicolete<br>Ilustrisimo | BSc (4)           | 3    | Testing Galaxea fascicularis' resilience against cliamte<br>change scenarios in Hong Kong   | Dr David Baker, School of Biological<br>Sciences   |   |   |
| Kim Sehong                             | BSc (4)           | 3    | Unravelling the Effect of Maph-1.3 on ALM Touch<br>Receptor Neurons of Caenorhabditis elegans   | Dr Chaogu Zheng, School of Biological<br>Sciences  | Homology-based search for microtubule associated<br>proteins in Caenorhabditis elegans  | Dr Chaogu Zheng, School of Biological<br>Sciences   |
| Lai Wenjing                            | BSc (4)           | 3    | Understanding the molecular mechanism of congenital<br>scoliosis  | Dr Bo Gao, School of Biomedical Sciences   |   |   |
| Li Kam Yun                             | BSc (4)           | 3    | Mesoporous chiral metal organic framework (CMOF) for<br>heterogenous asymmetric photocatalyst   | Dr Jian He, Department of Chemistry  | Mesoporous chiral metal organic framework (CMOF)<br>for heterogenous asymmetric photocatalyst   | Dr Jian He, Department of Chemistry   |
| Li Pak Yi                              | BSc (4)           | 3    | Exploring the methods of increasing the provably secure<br>key rate in quantum cryptography   | Prof Hoi Fung Chau, Department of Physics  |   |   |
| Lim Hui Yuan                           | BSc (4)           | 3    | Modelling Alzheimer's and Parkinson's Disease in C.<br>Elegans  | Dr Chaogu Zheng, School of Biological<br>Sciences  |   |   |
| Lou Yuchen*                            | BSc (4)           | 3    | First order algorithms for optimization problems in data science  | Prof Xiaoming Yuan, Department of<br>Mathematics   | First Order Algorithms for Optimization and Zeroth-<br>order Optimization   | Prof Wotao Yin, Department of<br>Mathematics, The University of<br>California, Los Angeles                  |
| Szeto Dei Men*                         | BSc (4)           | 3    | Investigating the role of DLC1-i1 and the molecular<br>regulation of its expression in embryonic chick spinal<br>motor neurons using CRISPR/Cas9 genome-editing<br>approach | Dr Martin C H Cheung, School of<br>Biomedical Sciences   | Investigating the role of DLC1-i1 and the molecular<br>regulation of its expression in embryonic chick spinal<br>motor neurons using CRISPR/Cas9 genome-editing<br>approach | Dr Martin C H Cheung, School of<br>Biomedical Sciences  |
| Tsang Hiu Yu                           | BSc (4)           | 3    | Ectoparasites of bats in Hong Kong and specificity of host-<br>parasite interaction   | Dr Simon Y W Sin, School of Biological<br>Sciences   |   |   |
| Yip Ka Hei Anson                       | BSc (4)           | 4    | Assessing Functional Connectivity of Urban Green Spaces<br>for Butterflies in Highly Urbanized Landscape  | Dr Timothy C Bonebrake, School of<br>Biological Sciences   |   |   |
| Zhang Xiaotian                         | BSc (4)           | 3    | Identification and Characterization of Vangl2 Interactome<br>Using Proximity-dependent Biotinylation  | Dr Bo Gao, School of Biomedical Sciences   | Identification and Characterization of Vangl2<br>Interactome Using Proximity-dependent Biotinylation  | Dr Bo Gao, School of Biomedical<br>Sciences   |
| Zhang Zheng                            | BSc (4)           | 3    | The impact of COVID-19 epidemic on the conservation status of pangolins   | Dr Timothy C Bonebrake, School of<br>Biological Sciences   | A theoretical framework for wildlife consumption motivation studies   | Dr Timothy C Bonebrake, School of<br>Biological Sciences  |
| Zheng Yahuan*#                         | BSc(ActuarSc) (4) | 3    | Parameter Estimation for Reflected Fractional Ornstein-<br>Uhlenbeck Process  | Prof Jeff Jianfeng Yao, Department of<br>Statistics & Actuarial Science  | On the Critical Behavior of Erdős–Rényi Random<br>Graphs  | Prof Jeff Jianfeng Yao, Department of<br>Statistics & Actuarial Science                                     |

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| Name                   | Curriculum   | rear | Project The of Project/ Directed Studies Course                       |   | Project The of Summer Research Internship                | Internship Supervisor                 |
| CUULD 1 W              | DG (4)   |      |   | Studies Course                                |  |                                       |
| CHIU Pak Wing          | BSc (4)  | 4    | The transcriptional regulation of Irx3 and Irx5 in mouse              | Prof Mai Har Sham, School of Biomedical       |  |                                       |
| V W                    | BSc (4)  | 4    | inner ear $A$   | Sciences                                      |  | Deef Deeline Chie Demontry of         |
| Kong Wang Yeuk         | BSC (4)  | 4    | Asymmetric (4+3) cycloaddition of epoxy enol silane with              | Prof Pauline Chiu, Department of Chemistry    | Asymmetric (4+3) cycloaddition of epoxy enol silane      | Prof Pauline Chiu, Department of      |
|                        |  |      | dienes catalyzed by Chiral Binaphthyl Disulfonic Acid                 |   | with dienes catalyzed by Chiral Binaphthyl Disulfonic    | Chemistry                             |
| LAM Si Yu              | BSc (4)  | 4    | Determination of Develop County of the Citation                       | De Time des C. De sedendes & De Constinu      | Acid and Derivatives                                     |                                       |
| LAM SI YU              | BSC (4)  | 4    | Determination of Breeding Gounds of the Siberian                      | Dr Timothy C Bonebrake & Dr Caroline          |  |                                       |
|                        |  |      | Rubythroat and Yellow-Breasted Buntings with Stable                   | Dingle, School of Biological Sciences         |  |                                       |
|                        | DG (4)   | 4    | Isotopes and Geolocator Tracking                                      | D CN INC MID / / C                            |  |                                       |
| LIANG Shuang           | BSc (4)  | 4    | Algebraic and analytic methods on complex algebraic                   | Prof Ngai Ming Mok, Department of             |  |                                       |
| CUN Visulia            | $\mathbf{D}\mathbf{C}_{\mathbf{r}}(\mathbf{A}_{\mathbf{r}}, \mathbf{r}_{\mathbf{r}}, \mathbf{C}_{\mathbf{r}})(\mathbf{A})$ | 4    | geometry  | Mathematics                                   |  |                                       |
| SUN Xianlin            | BSc(ActuarSc) (4)  | 4    | Bootstrap post-model selection inference under a general              | Prof Stephen M S Lee, Department of           |  |                                       |
| Tono Vun               | $\mathbf{DS}_{n}(4)$   | 2    | framework<br>Adaptive numerical methods for long-time integration and | Statistics & Actuarial Science                | Demonstration of conceris Overstym controllebility under | Definition Development of             |
| Tang Xun               | BSc (4)  | 3    |   | Dr Zhiwen Zhang, Department of<br>Mathematics | Demonstration of generic Quantum controllability under   | _                                     |
|                        |  |      | model reduction with applications in computing effecitve              | Mathematics                                   | QAOA setting   | Mathematics, University of California |
|                        |  |      | diffusivity and Anderson localization                                 |   |  | Berkeley                              |
| TSANG Kin Ming         | BSc (4)  | 4    | Representations of integers by mixed sums of weighted m-              | Dr Benjamin R Kane, Department of             |  |                                       |
|                        |  |      | gonal numbers and squares   | Mathematics                                   |  |                                       |
| Wong Yin Pok           | BSc (4)  | 4    | Synthesis of Luminescent Metal Complexes and their                    | Prof Vivian W W Yam, Department of            | Coordination chemistry and photophysical                 | Dr Rebecca Abergel, Department of     |
| -                      |  |      | Functional Studies for Sensing  | Chemistry                                     | characterization of lanthanide complexes                 | Nuclear Engineering, University of    |
|                        |  |      | -   |   | -  | California Berkeley                   |
|                        |  |      |   |   |  | Camorina Derkeley                     |
| XU Hongting            | BSc (4)  | 4    | The Role of ISM1 in hematopoiesis                                     | Prof Zhongjun Zhou, School of Biomedical      |  |                                       |
| 0 0                    | , , ,  |      | T   | Sciences                                      |  |                                       |
| XU Wan                 | BSc (4)  | 4    | Elucidating the Role of SOX10 in Neuroblastoma                        | Dr Martin C H Cheung, School of               |  |                                       |
|                        |  |      |   | Biomedical Sciences                           |  |                                       |

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|                            |            |      |  | Studies Course   |  | F ~ -F  |
| Gu Jiacheng                | BSc(4)     | 4    | Role of Long Non-coding RNAs in Cancer Stem Cells  | Sciences   | Role of Phosphorylation of Ybx1 in the Translation<br>Control of Maternal sqt RNA and Nodal Signaling<br>Pathway in Zebrafish Embryogenesis  | Prof Karuna Sampath, Warwick<br>Medical School, The University of<br>Warwick    |
| Ho Sik Yin                 | BSc(4)     | 4    | Use of CombiGEM-CRISPR in screening potential novel<br>drug combinations for liver cancer  | Dr Alan S L Wong, School of Biomedical<br>Sciences       |  |   |
| Kwan Hiu Lam Rachel*#      | BSc(4)     | 4    | Role of TRPC1-induced Ca <sup>2+</sup> -signaling in neuromuscular synapse development   |  | Role of TRPC1-induced Ca <sup>2+</sup> -signaling in<br>neuromuscular synapse development  | Dr Chi Wai Lee, School of<br>Biomedical Sciences                                |
| Lai Siu Lun Michael        | BSc(4)     | 4    | Using transparent brain to investigate spreading of<br>neurodegeneration in Parkinson's disease  | Dr Raymond C C Chang, School of<br>Biomedical Sciences   | Using neuronal tracing and passive transparent brain to visualize neuronal pathway   | Dr Raymond C C Chang, School of<br>Biomedical Sciences                          |
| Lee Tak Wang Terence       | BSc(4)     | 4    | IAV PB1-F2 cytotoxic sequence mediates NLRP3<br>inflammasome activation via oxidative stress induction   | Prof Dong-Yan Jin, School of Biomedical<br>Sciences      | Influenza A virus PB1-F2 cytotoxic motif promotes self<br>aggregation to elicit NLRP3 dependent IL-1ß release  | Prof Dong-Yan Jin, School of<br>Biomedical Sciences                             |
| Leung Tsz Kin Calvin       | BSc(4)     | 4    | Oviposition preference and thermal tolerance of stag<br>beetles (Family: Lucanidae)  | Dr Timothy C Bonebrake, School of<br>Biological Sciences |  |   |
| Leung Yee Man              | BSc(4)     | 4    | Chloroplast genomes comparison of mycoheterotrophic<br>Exacum paucisquamum and autotrophic Exacum<br>tetragonum  | Prof Richard Saunders, School of Biological<br>Sciences  |  |   |
| Shukla Yash<br>Sanjaykumar | BSc(4)     | 4    | Autonomously-produced synthetic push-pull motif  | Dr Julian A Tanner, School of Biomedical<br>Sciences     | Autonomously-produced synthetic push-pull motif  | Dr Thomas Ouldridge, Department o<br>Bioengineering, Imperial College<br>London |
| Wan Lok Yee                | BSc(4)     | 4    | Preparation of recombinant protein of adiponectin in E.<br>coli and testing of its bioactivity in cell lines with<br>adiponectin receptor expression and its potential effects on<br>promoter activation of pituitary hormones | Biological Sciences                                      | Preparation of recombinant protein of adiponectin in E.<br>coli and testing of its bioactivity in cell lines with<br>adiponectin receptor expression and its potential effects<br>on promoter activation of pituitary hormones | Prof Anderson O L Wong, School of<br>Biological Sciences                        |
| Wang Chuwen                | BSc(4)     | 4    | Uniruled Projective varieties  | Prof Ngai Ming Mok, Department of<br>Mathematics         |  |   |

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|----------------------|------------|------|---|--|--|--|
| Chan Chun Ngai       | BSc(4)     | 4    | Holocene climate changes in marginal Asian monsoon regions  | Dr Zhonghui Liu, Department of Earth<br>Sciences               | Field investigation of lake status in Inner Mongolia   | Dr Zhonghui Liu, Department of<br>Earth Sciences   |
| Cheung Man Him       | BSc(4)     | 4    | Elicidating the role of Dlc1ß in motor neuron development   | Dr Martin Cheung, School of Biomedical<br>Sciences             |  |  |
| Chu Ka Chi           | BSc(4)     | 4    | Investigation and Validation on Gene Expression During<br>Development of nucleus Pulposus   | Prof Kathryn S E Cheah, School of<br>Biomedical Sciences       | Investigation and Validation on Gene Expression<br>During Development of Nucleus Pulposus - Hox Genes<br>and Cell Surface Markers                                | Prof Kathryn S E Cheah, School of<br>Biomedical Sciences   |
| Ding Anyang          | BSc(4)     | 4    | Palaeobiogeographic Analysis of Coelurosaurian<br>Evolution   | Dr Michael D Pittman, Department of Earth Sciences             |  |  |
| Ling Yuet Fung       | BSc(4)     | 4    | Upper-ocean stratification in the polar North Atlantic and<br>its impact on deep-water ventilation during past<br>interglacials                       | Dr Benoit Thibodeau, Department of Earth<br>Sciences           | Upper-ocean stratification in the polar North Atlantic<br>and its impact on deep-water ventilation during past<br>interglacials                                  | Dr Benoit Thibodeau, Department of<br>Earth Sciences   |
| Man Pui Hei Marcus*# | BSc(4)     | 4    | Modulation of the cGAS-STING pathway by MERS-CoV  | Prof Dong-Yan Jin, School of Biomedical<br>Sciences            | Modulation of the cGAS-STING pathway by MERS-<br>CoV   | Prof Dong-Yan Jin, School of<br>Biomedical Sciences  |
| Ng John Joson Quimpo | BSc(4)     | 4    | Syntthesis of fluorescent chemical probes for detection of<br>superxide ions  | Dr Ho Yu Au-Yeung, Department of<br>Chemistry                  |  |  |
| Poh Wei Church       | BSc(4)     | 4    | Design (modification), Synthesis, Characterization and<br>Photophysical Study of Phosphorescent Organometallic<br>Complexes                           | Prof Vivian W W Yam, Department of<br>Chemistry                | Probing the Influence of the R-Zn-R Bond Angle in<br>Dialkylzinc Complexes on the Lewis Acidity of the<br>Zinc Metal Centre and Implications for Zinc Activities | Prof Ulrich Fekl, Department of<br>Chemical and Physical Sciences,<br>University of Toronto Mississauga          |
| Wang Jen-chieh       | BSc(4)     | 4    | Studies on the effects of stereochemistry on (4+3)<br>cycloaddition to synthesize perhydroazulenes<br>diastereoselectively                            | Prof Pauline Chiu, Department of Chemistry                     | Studies on the effect of stereochemistry on (4+3)<br>cycloaddition to synthesize perhydroazulenes  | Prof Pauline Chiu, Department of<br>Chemistry  |
| Wang Jianian         | BSc(4)     | 4    | Discrete-time series analysis on nomadic migration of<br>historical china   | Dr Guodong Li, Department of Statistics &<br>Actuarial Science |  |  |
| Yan Junran           | BSc(4)     | 4    | Role of centromere and kinetochore proteins in anoxia-<br>induced suspended animation and recovery in S. cerevisiae                                   | Dr Karen W Y Yuen, School of Biological<br>Sciences            | The role of centromere, kinetochore and cell cycle<br>checkpoint proteins in anoxia-induced suspended<br>animation and recovery in S. cerevisiae                 | Dr Karen W Y Yuen, School of<br>Biological Sciences  |
| Zeng Ji              | BSc(4)     | 3    | L2 Estimates of d-bar Operator on Complex Manifolds   | Prof Ngaiming Mok, Department of<br>Mathematics                |  |  |
| Zhou Ruiyi           | BSc(4)     | 4    | Adapting Scalable Correlated Electronic Structure Theory<br>to Born-Oppenheimer Molecular Dynamics Simulatios of<br>Molecular Exited Electronic State | Dr Jun Yang, Department of Chemistry                           | Adapting Scalable Correlated Electronic Structure<br>Theory to Born-Oppenheimer Molecular Dynamics<br>Simulations  | Prof Roberto Car, Department of<br>Chemistry, Princeton Institute for the<br>Science and Technology of Materials |

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|----------------------|------------|------|---|--|---|---|
| Ho Julian Xi Wei     | BSc(4)     | 5    | Role of miRNA-1 and -499 in maturation of human<br>embryonic stem cell-derived cardiomyocytes in 3D tissue<br>culture | Dr Wendy W Y Wong & Dr Kwok Ming<br>Yao, School of Biomedical Sciences |   |   |
| Ni Haozheng          | BSc(4)     | 4    | Bootstrap approximation in time series modeling   | Dr Guodong Li, Department of Statistics &<br>Actuarial Science         |   |   |
| Rabbani Mashiat*#    | BSc(4)     | 4    | Evaluating Nucleoside Analogs as Potential Anti-Cancer<br>Drugs   | Prof Alice S T Wong, School of Biological<br>Sciences                  |   | Prof Peng Ling, Department of<br>Chemical Biology, Centre National de<br>la Recherche Scientifique (CNRS) |
| Tse Yuen Cheong      | BSc(4)     | 4    | Design and Synthesis of Luminescent Metal Complexes   | Prof Vivian W W Yam, Department of<br>Chemistry                        |   | Prof Vivian W W Yam, Department<br>of Chemistry   |
| Wong Thomas Hin Fung | BSc(4)     | 4    | The Anticancer components from Hedyotis diffusa   | Prof Chi Ming Che, Department of<br>Chemistry                          |   |   |
| Zhang Zhiqian        | BSc(4)     | 4    | CRISPR/Cas9 mediated isolation and genomic cloning of EBV strains from clinical EBV-infected cell samples             | Prof Dong-Yan Jin, School of Biomedical<br>Sciences                    |   |   |

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| Fan Ruolin*          | BSc(4)     | 4    | Systemic exploration in the regulating network of            | Prof Kathryn S E Cheah, School of                 |   |                                   |
|                      |            |      | hypertrophic-chondrocyte-to-osteoblast differentiation       | Biomedical Sciences                               |   |                                   |
| Guo Fengyi           | BSc(4)     | 4    | Impacts of Urbanization on Spotted Dove Communication        | ,   |   |                                   |
|                      |            |      |  | Biological Sciences & Dr Caroline E               |   |                                   |
|                      |            |      |  | Dingle, Department of Earth Sciences              |   |                                   |
| Hassan Ayon Ahmed    | BSc(4)     | 4    | Determining the effect of shear stress on the adhesion of    | Prof Alice S T Wong, School of Biological         |   |                                   |
|                      |            |      | tumor cells in cancer metastasis                             | Sciences  |   |                                   |
| Husain Abdullah      | BSc(4)     | 4    | Screening of G-protein-coupled receptors cDNA library        | Prof Billy K C Chow, School of Biological         |   |                                   |
|                      |            |      | for dimerization with Human Secretin Hormone Receptor        | Sciences  |   |                                   |
| Leung Yi Lok Enoch*# | BSc(4)     | 4    | Reconstruction of mass dirtribution of galaxy cluster(s) via | Dr Jeremy J L Lim, Department of Physics          | Studying the UV luminosity functions of galaxies  | Dr Jeremy J L Lim, Department of  |
| U U                  |            |      | gravitational lensing  |   | at high redshifts                                 | Physics                           |
| Liu Yangdongling     | BSc(4)     | 4    | Design, Synthesis and Photophysical Study of                 | Prof Vivian W W Yam, Department of                |   |                                   |
| 0 0 0                |            |      | Luminescent Metal Complexes                                  | Chemistry   |   |                                   |
| Luo Di               | BSc(4)     | 4    | New Time Evolution Methods for Matrix Product States         | Prof Guanhua Chen, Department of                  | Investigation on Tensor Network Renormalization   | Prof Garnet Kin-Lic Chan,         |
|                      |            |      | of Tensor Network in Quantum Calculation                     | Chemistry & Dr Shizhong Zhang,                    | Group   | Department of Chemistry, the Chan |
|                      |            |      |  | Department of Physics                             |   | Group, Princeton University       |
| Sun Chenyue*         | BSc(4)     | 4    | Visible-light mediated synthesis of dihydrofuran             | Prof Chi Ming Che, Department of                  | Red-light induced carbon disulfide release from a | Prof Peter C Ford, Department of  |
|                      |            |      | derivatives with ruthenium photoredox catalysts              | Chemistry   | cobalt complex                                    | Chemistry and Biochemistry,       |
|                      |            |      |  | -   |   | University of California, Santa   |
|                      |            |      |  |   |   | Barbara, USA                      |
| Wen Boya*            | BSc(4)     | 4    | Fermat-type functional equations and binary form             | Prof Tuen Wai Ng, Department of                   |   |                                   |
| ii en Boya           | 2550(1)    |      | r onnar type randomin equations and onnary form              | Mathematics                                       |   |                                   |
| Wu Teng              | BSc(3)     | 4    | Exploring properties of Bayesian & Frequentist hybrid        | Prof Stephen M S Lee, Department                  |   |                                   |
|                      |            |      | confidence interval  | of Statistics & Actuarial Science                 |   |                                   |
| Xiong Lingyun*       | BSc(4)     | 4    | Funtional Role of hnRNP A1 on FOXM1 alternative              | Dr Kin Hang Kok, School of Biomedical             |   |                                   |
|                      |            |      | splicing   | Sciences  |   |                                   |
| Zhang Yongquan       | BSc(4)     | 4    | Complex Manifolds  | Prof Ngaiming Mok, Department of                  | From Holomorphic Functions to Complex             | Prof Ngaiming Mok, Department of  |
|                      |            |      |  | Mathematics                                       | Manifolds   | Mathematics                       |

## 2014-15

| 2014-15        |            |      |   |  |  |                                    |
|----------------|------------|------|---|--|--|------------------------------------|
| Name           | Curriculum | Year | Project Title of Project/ Directed Studies Course       | Supervisor of Project/ Directed            | Project Title of Summer Research Internship    | Internship Supervisor              |
|                |            |      |   | Studies Course                             |  |                                    |
| Cai Weixin*    | BSc(3)     | 3    | Buffered Autoregressive Model with Exogenous Variables  | Dr Philip L H Yu, Department of Statistics | Semiparametric Heteroscedastic Modeling for    | Dr Prabir Burman, University of    |
|                |            |      |   | & Actuarial Science                        | Seasonal Time Series                           | California, Davis                  |
| Chan Ho Wang*  | BSc(3)     | 3    | Anammox Bacteria in Animal System                       | Dr Jidong Gu, School of Biological         | Molecular Diagnosis of Anammox Bacteria        | Dr Jidong Gu, School of Biological |
|                |            |      |   | Sciences                                   |  | Sciences                           |
| Chan Hok Fung  | BSc(3)     | 5    | Physiologically - relevant doses of UVA exposure alters | Dr Jetty C Y Lee, School of Biological     |  |                                    |
|                |            |      | human skin keratinocytes growth                         | Sciences                                   |  |                                    |
| Cheng Tsz Fung | BSc(3)     | 3    | Roles of BART microRNAs in Epstein-Barr virus-induced   | Prof Dong-Yan Jin, Department of           | Roles of BART microRNAs in Epstein-Barr virus- | Prof Dong-Yan Jin, Department of   |
|                |            |      | epithelial transformation                               | Biochemistry                               | induced epithelial transformation              | Biochemistry                       |

2013-14

| Name         | Curriculum       | Year | Project Title of Project/ Directed Studies Course                   | Supervisor of Project/ Directed                              | Project Title of Summer Research Internship  | Internship Supervisor  |
|--------------|------------------|------|---|--|--|--|
|              |                  |      |   | Studies Course   |  |  |
| Li Yu        | BSc(3)           | 2    | Complex Differential Geometry                                       | Prof N Mok, Department of Mathematics                        |  |  |
| Pan Wenqi    | BSc(3)           | 2    | The role of Suppressor of fused in mouse hindbrain development      |  | The role of Suppressor of fused in the formation of<br>mouse cranial facial skeleton and outflow tract of<br>embryonic heart | Prof C C Hui, University of Toronto                          |
| Sun Lianyi   | BSc(ActuarSc)(3) | 3    | Analysis of large data sets: new tools from random matrix<br>theory | Dr J F Yao, Department of Statistics &<br>Actuarial Science  |  |  |
| Wong Mo Dick | BSc(ActuarSc)(3) | 2    | Markov chains on a continuous state space                           | Dr J F Yao, Department of Statistics &<br>Actuarial Science  | 11   | Dr P Del Moral, INRIA-Bordeaux-<br>Sud-Ouest Research Centre |
| Yang Shihao* | BSc(ActuarSc)(3) | 2    | Valuing contingent options: A discounted density approach           | Dr H L Yang, Department of Statistics &<br>Actuarial Science |  |  |

| Name               | Curriculum       | Year | Project Title of Project/ Directed Studies Course   | Supervisor of Project/ Directed   | Project Title of Summer Research Internship   | Internship Supervisor  |
|--------------------|------------------|------|---|---|---|--|
|                    |                  |      |   | Studies Course  |   |  |
| Chai Wai Yeeng     | BSc(3)           | 2    | Do endocrine discrupting chemicals affect cancer?   | Dr A S T Wong, School of Biological<br>Sciences                                     |   |  |
| Choi Chek Hin      | BSc(ActuarSc)(3) | 3    | Introduction to the gerber-shiu function in ruin theory   | Dr E K C Cheung, Department of Statistics<br>& Actuarial Science                    | Optimal portfolio with correlation constraints  | Dr C Bernard, University of Waterloo                           |
| Chow Tai Cheong*   | BSc(3)           | 2    | Pax6 and neurodegeneration of Parkinson's disease   | Dr Y Q Song, Department of Biochemistry   | Neurodegeneration of parkinson's disease: the role<br>of Pax6 in MPP+-induced apoptosis Parkinson's<br>disease in vitro model                     | Dr Y Q Song, Department of<br>Biochemistry                     |
| Lai Cheuk Hei      | BSc(3)           | 1    | Pathogenesis of influenza viruses   | Dr Chan Wan Yi, Department of Pathology<br>Dr Chan Chi Wai, School of Public Health |   |  |
| Lam Chun Ming      | BSc(3)           | 2    | Light controllable kinesin  | Dr J D Huang, Department of Biochemistry  | Meiotic spol1 recombination initiation complex in<br>zea mays analysis using yeast two-hybrid system –<br>cloning of spol1-1A, spol1-1B, and prd2 | Dr Arnard Ronceret, University of<br>California, Berkeley      |
| Lau Wing Yan       | BSc(3)           | 2    | Molecular characterization of puerarin-protein interactions<br>by proteomics and domain mapping   | Dr J Rong, School of Chinese Medicine   | Isolation of puerain binding protein by biotin-<br>streptavidin system  | Dr J Rong, School of Chinese<br>Medicine                       |
| Li Yu Ting Stephen | BSc(3)           | 2    | The role of cell-cell junction proteins and actin regulatory<br>proteins on germ cell migration and development during<br>spermatogenesis | Prof W W M Lee, School of Biological<br>Sciences                                    | Unraveling the role of actin regulatory proteins on cytoskeleton during spermatogenesis   | Dr C Y Cheng, Rockefeller Universit                            |
| Lin Tsen-yuan      | BSc(3)           | 2    | Analysing Fermi's data  | Prof K S Cheng, Department of Physics   |   |  |
| Ng Ngai Fung*      | BSc(3)           | 2    | Riemann surfaces and complex manifolds  | Prof N Mok, Department of Mathematics   | Studies on kahler manifolds   | Prof N Mok, Department of<br>Mathematics                       |
| Peng Jun           | BSc(3)           | 1    | Calculus of variation   | Prof W S Cheung, Department of<br>Mathematics                                       |   |  |
| Shen Keren         | BSc(3)           | 2    | The generalization of Gibbard-Satterthwaite theorem   | Dr T W Ng, Department of Mathematics  | One candidate voting with a quorum  | Dr T W Ng, Department of<br>Mathematics                        |
| Song Yifan         | BSc(3)           | 2    | Data analysis for Fermi Satellite   | Prof K S Cheng, Department of Physics   |   |  |
| Tang Yunfan        | BSc(ActuarSc)(3) | 2    | Option pricing under regime switching models  | Prof H L Yang, Department of Statistics & Actuarial Science                         |   |  |
| Tse Man Nok        | BSc(3)           | 2    | The roles of Lmxla gene in regulating Irx3/5 genes during inner ear development   | Dr M H Sham, Department of Biochemistry   | The roles of Lmx1a in regulating Irx3 and Irx5 genes in inner ear development   | Dr M H Sham, Department of<br>Biochemistry                     |
| Wan Ho Chi         | BSc(ActuarSc)(3) | 2    | Dependance structures in multiple life insurances and annuities   | Dr K C Cheung, Department of Statistics & Actuarial Science                         | A study in optimal reinsurance  | Dr K C Cheung, Department of<br>Statistics & Actuarial Science |
| Wong Kin Lam       | BSc(3)           | 2    | Modulation of secretin and secretin receptor gene<br>regulations by NFAT5 in mouse hypothalamic cells                                     | Prof K C Chow, School of Biological<br>Sciences                                     | The modulation of secretin receptor expression by hyperosmotic stress in mouse hypothalamic cells   | Prof K C Chow, School of Biological<br>Sciences                |
| Wu Qihang*         | BSc(3)           | 2    | Tectonic evolution of the Chinese Altai   | Prof M Sun, Department of Earth Sciences  | A detailed structral study of Qiongkuer Region,<br>China Altai: multiphase deformation and<br>modification for terrane subdivision proposed       | Prof M Sun, Department of Earth<br>Sciences                    |
| Zheng Yao*         | BSc(ActuarSc)(3) | 3    | Applications of nonlinear time series models  | Prof W K Li, Department of Statistics &<br>Actuarial Science                        | Applications of nonlinear time series models:<br>fitting threshold models to veilleux's predator<br>series  | Prof W K Li, Department of Statistics<br>& Actuarial Science   |

\*Excellence in Poster Presentation

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