

## Participants of Research Colloquium for Science Undergraduate Students

2018-19

| Name                    | Curriculum | Year | Project Title  | Supervisor   |
|-------------------------|------------|------|--|--|
| Gu Jiacheng             | BSc (4)    | 4    | The Tumor-Suppressor Effect of the Long Non-Coding RNA RP11 in Hepatocellular Carcinoma  | Dr Jiangwen Zhang, School of Biological Sciences                 |
| Han Wendi               | BSc (4)    | 4    | Spectral Ratio for Positive Matrices   | Dr Guangyue Han, Department of Mathematics                       |
| Ho Sik Yin              | BSc (4)    | 4    | Optimization of guide RNA scaffold design for multiplexed gene editing   | Dr Alan S L Wong, School of Biomedical Sciences                  |
| Kwan Hiu Lam Rachel     | BSc (4)    | 4    | Role of TRPC1-induced Ca <sup>2+</sup> -Signaling in Neuromuscular Synapse Development   | Dr Chi Wai Lee, School of Biomedical Sciences                    |
| Lai Siu Lun Michael     | BSc (4)    | 4    | Visualization of neural pathways in Parkinson's disease by transparent brain and neural tracing  | Dr Raymond C C Chang, School of Biomedical Sciences              |
| Lam Siu Ling            | BSc (4)    | 5    | Modular forms and product formulas   | Dr Benjamin R Kane, Department of Mathematics                    |
| Lee Tak Wang Terence    | BSc (4)    | 4    | Influenza A virus PB1-F2 cytotoxic motif promotes self aggregation to activate NLRP3 inflammasome  | Prof Dong-Yan Jin, School of Biomedical Sciences                 |
| Leung Tsz Kin Calvin    | BSc (4)    | 4    | Oviposition preference and niche partitioning in Hong Kong stag beetles (Coleoptera: Lucanidae)  | Dr Timothy C Bonebrake, School of Biological Sciences            |
| Leung Yee Man           | BSc (4)    | 4    | Evolutionary reduction in the plastome of mycoheterotrophic <i>Thismia hongkongensis</i>   | Prof Richard M K Saunders, School of Biological Sciences         |
| Ng Man Hoi              | BSc (4)    | 4    | Ion-exchange Leaching Solutions on Product Quality in Rare Earth Recovery  | Prof Meifu Zhou, Department of Earth Sciences                    |
| Pei Yining              | BSc (4)    | 4    | Copulas in Risk Management   | Dr Ka Chun Cheung, Department of Statistics & Actuarial Science  |
| Shukla Yash Sanjaykumar | BSc (4)    | 4    | Assessing the activity of an autonomous and continuous production of a function and synthetic push-pull motif  | Dr Julian A Tanner, School of Biomedical Sciences                |
| Su Zehao                | BSc (4)    | 4    | Test for Parent-of-origin Effects on the X-chromosome  | Prof Tony W K Fung, Department of Statistics & Actuarial Science |
| Wan Lok Yee             | BSc (4)    | 4    | Preparation of recombinant protein of adiponectin in <i>E. coli</i> and testing of its bioactivity in cell lines with adiponectin receptor expression and its potential effects on promoter activation of pituitary hormones | Prof Anderson O L Wong, School of Biological Sciences            |
| Wang Chuwen             | BSc (4)    | 4    | Uniruled Projective varieties  | Prof Ngai Ming Mok, Department of Mathematics                    |
| Woo Vanessa Sin Tung    | BSc (4)    | 3    | Synthetic Studies Towards Functionalized Catenanes   | Dr Ho Yu Au-Yeung, Department of Chemistry                       |
| Yeung Chun Hei          | BSc (4)    | 4    | What causes brightness "anomalies" in gravitationally lensed quasars?  | Dr Jeremy J L Lim, Department of Physics                         |
| Zhao Ziwei              | BSc (4)    | 4    | Home Sweet Home ---- Territoriality of Male and Female Oriental Magpie Robin ( <i>Copsychus saularis</i> ) in Breeding and Non-breeding Seasons  | Dr Caroline E Dingle, School of Biological Sciences              |

**2017-18**

| <b>Name</b>          | <b>Curriculum</b> | <b>Year</b> | <b>Project Title</b>  | <b>Supervisor</b>  |
|----------------------|-------------------|-------------|---|--|
| Chan Chun Ngai       | BSc(4)            | 4           | The analysis of the sediments from Huangqihai   | Dr Zhonghui Liu, Department of Earth Sciences  |
| Chan Ka Kit          | BSc(4)            | 4           | Fracture Toughness of Hong Kong Granite - Numerical Simulation based on an improved grain-based model   | Dr Louis N Y Wong, Department of Earth Sciences  |
| Chen Yuming          | BSc(4)            | 4           | Computing effective diffusivity of stochastic flows using the multilevel Monte Carlo method   | Dr Zhiwen Zhang, Department of Mathematics   |
| Cheung Man Him       | BSc(4)            | 4           | Elucidating the Role of Dlc1 $\beta$ in Motor Neuron Development  | Dr Martin C H Cheung, School of Biomedical Sciences  |
| Chu Ka Chi           | BSc(4)            | 4           | Differential Gene Expression in Mouse Notochord to Nucleus Pulposus Transition  | Prof Kathryn S E Cheah, School of Biomedical Sciences  |
| Fan Kwok Lung        | BSc(4)            | 3           | Uncovering the Nature of Fermi LAT Unassociated Gamma-ray Sources   | Dr Stephen C Y Ng, Department of Physics; Prof Pablo Miguel SAZ Parkinson, Department of Physics |
| Fung Lok Hin         | BSc(4)            | 4           | Impact of Climate Change on the Phenology of Migratory Birds in Hong Kong   | Dr Timothy C Bonebrake & Dr Caroline E Dingle, Department of Earth Sciences                      |
| Gu Haotian           | BSc(4)            | 4           | Efficient Numerical methods to Solve G-equations using Proper Orthogonal Decomposition  | Dr Zhiwen Zhang, Department of Mathematics   |
| Lee Lai Yee          | BSc(4)            | 4           | The Study of Brightest Cluster Galaxy Alignment in 14 CLASH Clusters  | Dr Jeremy J L Lim, Department of Physics   |
| Ling Yuet Fung       | BSc(4)            | 4           | Upper-ocean stratification in the polar North Atlantic and its impact on deep-water ventilation during past interglacials   | Dr Benoit Thibodeau, Department of 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 Sciences   |
| Ng John Josen Quimpo | BSc(4)            | 4           | A Metal-based Biomimetic Strategy for the Development of Analyte Responsive Fluorescent Probes  | Dr Ho Yu Au-Yeung, Department of Chemistry   |
| Ng Ka Wai Patrick    | BSc(4)            | 4           | Search for Heavy Higgs Bosons at ATLAS Using Machine Learning Based Methods   | Dr Yanjun Tu, Department of Physics  |
| Ng Un I              | BSc(4)            | 4           | Creating an Artificial Metalloenzyme by Metal Incorporation into a Natural Protein  | Prof Chi Ming Che, Department of Chemistry   |
| Ng Yu Hin Jay        | BSc(4)            | 4           | Microstructural investigation on Hong Kong granite - A quantitative analysis method using petrographic microscope   | Dr Louis N Y Wong, Department of Earth Sciences  |
| Poh Wei Church       | BSc(4)            | 4           | Design, Synthesis, Characterisation and Photophysical Properties of Cyclometalated Platinum(II) Complexes and Their Application Studies as Organic Resistive Memories | Prof Vivian W W Yam, Department of Chemistry   |

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|----------------|--------|---|--|---|
| Wang Jen-chieh | BSc(4) | 4 | Studies on the effects of stereochemistry on (4+3) cycloaddition to synthesize perhydroazulenes                            | Prof Pauline Chiu, Department of Chemistry                      |
| Wang Jianian   | BSc(4) | 4 | Filtered Historical Simulation method on Linear GARCH model  | Dr Guodong Li, Department of Statistics & Actuarial Science     |
| Wang Jingxuan  | BSc(4) | 4 | Computer Age Statistical Inference   | Prof Jeff J F Yao, Department of Statistics & Actuarial Science |
| Yan Junran     | BSc(4) | 4 | The role of centromere and kinetochore proteins in anoxia-induced suspended animation and recovery in <i>S. cerevisiae</i> | Dr Karen W Y Yuen, School of Biological Sciences                |
| Zeng Ji        | BSc(4) | 3 | L2 Estimates of d-bar Operator on Complex Manifolds  | Prof Ngai Ming Mok, Department of Mathematics                   |
| Zhou Ruiyi     | BSc(4) | 4 | Adapting Scalable Correlated Electronic Structure Theory to Born-Oppenheimer Molecular Dynamics Simulations                | Dr Jun Yang, Department of Chemistry                            |

### 2016-17

| Name                | Curriculum       | Year | Project Title   | Supervisor  |
|---------------------|------------------|------|---|---|
| Chu Wing Tung       | BSc(4)           | 4    | Comparison of the carbon metabolism of wild-type and transgenic Arabidopsis with fast-growing phenotype       | Dr Wallace B L Lim, School of Biological Sciences                   |
| Dai Wei             | BSc(4)           | 5    | Laboratory Astrochemistry: Catalytic Conversion of Methanol to Hydrocarbon Compounds over Dust Grains         | Prof Allan S C Cheung, Department of Chemistry                      |
| Ho Julian Xi Wei    | BSc(4)           | 5    | Supplementation of oleic acid increases contractility of human engineered cardiac tissues                     | Dr Kwok Ming Yao & Dr Wendy W Y Wong, School of Biomedical Sciences |
| Ho Ngai Hei Ernest  | BSc(4)           | 4    | Marginal Sea for Plastic Cleanup: (Micro)plastic Characterisation & Patterns                                  | Dr Christelle A Not, Department of Earth Sciences                   |
| Lai Siu Kit Vincent | BSc(4)           | 4    | Correlation of joint spacing and rock texture of granites in Hong Kong  | Dr Louis N Y Wong, Department of Earth Sciences                     |
| Li Shuangning       | BSc(ActuarSc)(4) | 4    | The Sample Size Required in Importance Sampling   | Prof Jeff J F Yao, Department of Statistics and Actuarial Science   |
| Lo In               | BSc(4)           | 4    | Effect of coffee pre-feeding on postprandial glucose and lipid metabolism                                     | Dr Jimmy C Y Louie, School of Biological Sciences                   |
| Lui Jeffrey         | BSc(4)           | 4    | FoxD3 directs gliogenesis of neural crest progenitors through post-translational regulation of Ngn2 stability | Prof Kathryn S E Cheah, School of Biomedical Sciences               |
| Man Jason Yin Hei   | BSc(4)           | 4    | A Biomimetic Approach to the Development of Ascorbate Selective Fluorescent Probe for Biological Imaging      | Dr Ho Yu Au-Yeung, Department of Chemistry                          |
| Ni Haozheng         | BSc(4)           | 4    | Modelling Discrete-Valued Time Series   | Dr Guodong Li, Department of Statistics and Actuarial Science       |
| Rabbani Mashiat     | BSc(4)           | 4    | Evaluation of Nucleoside Analogues as Potential Anti-Cancer Drugs   | Prof Alice S T Wong, School of Biological Sciences                  |

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|----------------------|--------|---|---|---|
| Tse Yuen Cheong      | BSc(4) | 4 | Design, Synthesis and Photophysical Study of Cyclometallated N <sup>4</sup> C <sup>4</sup> N Alkynylplatinum(II) Complexes          | Prof Vivian W W Yam, Department of Chemistry      |
| Wong Thomas Hin Fung | BSc(4) | 4 | Chemical Biology of genipin's Anticancer Activities   | Prof Chi Ming Che, Department of Chemistry        |
| Wong Wing Yan        | BSc(4) | 4 | Interference Study on ttbb Final State by Monte Carlo Event Generation for a Heavy Higgs Search at the ATLAS Experiment at the LHC  | Dr Yanjun Tu, Department of Physics               |
| Yang Ruoxuan         | BSc(4) | 4 | Representations of integers by sums of polygonal numbers  | Dr Benjamin R Kane, Department of Mathematics     |
| Yau Yu Yan           | BSc(4) | 4 | Environmental implication on livestock production   | Dr Christelle A Not, Department of Earth Sciences |
| Zhang Zhiqian        | BSc(4) | 4 | CRISPR/Cas9 mediated cloning of Epstein-Barr virus strain from cell line derived from local Nasopharyngeal Carcinoma patient sample | Prof Dong-Yan Jin, School of Biomedical Sciences  |

### 2015-16

| Name               | Curriculum       | Year | Project Title   | Supervisor  |
|--------------------|------------------|------|---|---|
| Fan Ruolin         | BSc(4)           | 4    | Exploring chondro-osteoblastic lineage differentiation and the role of hypertrophic chondrocyte                             | Prof Kathryn S E Cheah, School of Biomedical Sciences   |
| Guo Fengyi         | BSc(4)           | 4    | Bird Dialects: Geographic Song Divergence of the Common Tailorbird ( <i>Orthotomus sutorius</i> ) in Asia                   | Dr Timothy C Bonebrake, School of Biological Sciences; Dr Caroline E Dingle, Department of Earth Sciences |
| Hassan Ayon Ahmed  | BSc(4)           | 4    | Fucosylation of Sialyl Lewis X is essential for P-selectin mediated tumor-mesothelial adhesion in ovarian cancer metastasis | Prof Alice S T Wong, School of Biological Sciences  |
| Husain Abdullah    | BSc(4)           | 4    | Bio-molecular Fluorescence Complementation of Split GFP as a reporter for G-protein coupled receptor dimerization           | Prof Billy K C Chow, School of Biological Sciences  |
| Koo Ho Tan         | BSc(ActuarSc)(3) | 3    | A Study on Interest Rate Models   | Dr Kam Pui Wat, Department of Statistics and Actuarial Science  |
| Lam Ting Chak      | BSc(4)           | 4    | Effects of chitosan nano-fiber on derivation of mature Schwann cells from bone marrow stromal cells                         | Prof Daisy K Y Shum, School of Biomedical Sciences  |
| Lei Wa Yan         | BSc(4)           | 4    | Analysis of joint spacing distribution in tuff in Hong Kong   | Dr Louis N Y Wong, Department of Earth Sciences   |
| Leung Yi Lok Enoch | BSc(4)           | 4    | On the Predictions of Early Galaxy Formation from Quantum Wave Dark Matter in the Hubble Frontier Fields                    | Dr Jeremy J L Lim, Department of Physics  |
| Liu Yangdongling   | BSc(4)           | 4    | Synthesis, Characterization and Photophysical Study of Face-to-Face Dinuclear Platinum(II) Alkynyl Phosphine Complexes      | Prof Vivian W W Yam, Department of Chemistry  |
| Luo Di             | BSc(4)           | 4    | Improving Density Functional Theory with Artificial Neural Network  | Prof Guanhua Chen, Department of Chemistry; Dr Shizhong Zhang, Department of Physics                      |

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|-------------------|------------------|---|---|--|
| Mak Ka Ho Jason   | BSc(4)           | 4 | Determining the regulation mechanism of centromeric transcription in <i>Saccharomyces cerevisiae</i>                | Dr Karen W Y Yuen, School of Biological Sciences   |
| Sun Chenyue       | BSc(4)           | 4 | Phosphorescent Tungsten(VI) cis-Dioxo complexes   | Prof Chi Ming Che, Department of Chemistry   |
| Wang Qinan        | BSc(4)           | 4 | A multi-bit Quantum Key Distribution Scheme   | Prof Hoi Fung Chau, Department of Physics  |
| Wang Zhongmin     | BSc(4)           | 4 | Treatment of Epstein-Barr Virus Infection in Nasopharyngeal Carcinoma Cells by CRISPR/Cas9 Targeting of viral genes | Prof Dong-Yan Jin, School of Biomedical Sciences   |
| Wen Boya          | BSc(4)           | 4 | Fermat Type Functional Equations  | Prof Tuen Wai Ng, Department of Mathematics  |
| Wu Teng           | BSc(3)           | 4 | Hybrid confidence region based on empirical distribution function   | Prof Stephen M S Lee, Department of Statistics and Actuarial Science                         |
| Xiong Lingyun     | BSc(4)           | 4 | Functional Role of hnRNP A1 on Alternative Splicing in Hepatocellular Carcinomas (HCC)                              | Dr Kin Hang Kok, Department of Microbiology; Dr Kwok Ming Yao, School of Biomedical Sciences |
| Yau Yu Tung       | BSc(ActuarSc)(3) | 3 | Spectral Analysis of Large Random Graphs  | Prof Jeff J F Yao, Department of Statistics and Actuarial Science                            |
| Yiu Sum Yee Joyce | BSc(4)           | 4 | The geochemistry of the Vijayan anatectic melts, eastern Sri Lanka  | Dr Suchin Chang, Department of Earth Sciences  |
| Yuen Suet Wai     | BSc(4)           | 4 | Artificial light environments alter prey attraction outcomes of orb weaver spiders in Hong Kong                     | Dr Timothy C Bonebrake, School of Biological Sciences  |
| Zhang Yongquan    | BSc(4)           | 4 | Complex Manifolds   | Prof Ngaiming Mok, Department of Mathematics   |
| Zhang Zhe         | BSc(4)           | 4 | Crosstalk between Sufu and RBPJ in Mammalian Ventral Hindbrain Neurogenesis   | Prof Mai Har Sham, School of Biomedical Sciences   |

### **2014-15**

| <b>Name</b>          | <b>Curriculum</b> | <b>Year</b> | <b>Project Title</b>   | <b>Supervisor</b>  |
|----------------------|-------------------|-------------|--|--|
| Cai Weixin           | BSc(3)            | 3           | Buffered Autoregressive Model with Exogenous Variables                                 | Dr Philip L H Yu, Department of Statistics and Actuarial Science |
| Chan Hau Sun         | BSc(3)            | 3           | Intramolecular (4+3) cycloadditions of aziridinyl enolsilanes                          | Prof Pauline Chiu, Department of Chemistry                       |
| Chan Ho Wang         | BSc(3)            | 3           | Anammox Bacteria in Animal System  | Dr Jidong Gu, School of Biological Sciences                      |
| Chan Hok Fung        | BSc(3)            | 5           | Physiologically-relevant doses of UVA exposure alters human skin keratinocytes growth  | Dr Jetty C Y Lee, School of Biological Sciences                  |
| Chan Ka Ying Tiffany | BSc(3)            | 3           | Aptamers for Malaria Diagnosis   | Dr Julian A Tanner, Department of Biochemistry                   |
| Chan Ming Yan        | BSc(3)            | 3           | Implement the Light Profile of Galaxies in Construction of Gravitational Lensing Field | Dr Jeremy J L Lim, Department of Physics                         |
| Cheng Tsz Fung       | BSc(3)            | 3           | Roles of BART microRNAs in Epstein-Barr virus-induced epithelial transformation        | Prof Dong-Yan Jin, Department of Biochemistry                    |

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|----------------------|--------|---|---|--|
| Hu Chenchen          | BSc(3) | 3 | Data Visualization and Infographics   | Dr Philip L H Yu, Department of Statistics and Actuarial Science |
| Lee Ka Ming          | BSc(4) | 3 | Hidden Mathematics in Daily Life: Packing Problem and Its Related Topics  | Prof Wai Ki Ching, Department of Mathematics                     |
| Leung Pui Shan       | BSc(3) | 3 | A Less Parametric Mass Distribution Model For MACS0647  | Dr Jeremy J L Lim, Department of Physics                         |
| Qian Zhaozhi         | BSc(3) | 3 | A New Weighted Distance-based Ranking Model with Geometrical Interpretation   | Dr Philip L H Yu, Department of Statistics and Actuarial Science |
| Tsui Wing Sum Regine | BSc(3) | 3 | Zircon U-Pb Age and Geochemistry of the Habahe Batholith in the Chinese Altai, NW China and their tectonic implications | Prof Min Sun, Department of Earth Sciences                       |
| Zhang Hongyuan       | BSc(3) | 3 | Role of Laminin Proteins in Planarian Stem Cell Maintenance and Regeneration  | Prof Danny Chan, Department of Biochemistry                      |

### 2013-14

| Name                         | Curriculum       | Year | Project Title  | Supervisor   |
|------------------------------|------------------|------|--|--|
| Chan Kin Ming & Cheng Ka Hei | BSc(3)           | 3    | Physics of Very Degenerate Atomic Gases  | Dr Shizhong Zhang, Department of Physics                         |
| Chan Pak Chung               | BSc(3)           | 3    | Identifying the Planarian homologs of FOXM1 and FOXO1 transcription factors                                | Dr Kwok Ming Yao, Department of Biochemistry                     |
| Cheung Pak Hin Hinson        | BSc(3)           | 3    | Characterization of liver-targeting recombinant AAV for gene delivery in mice                              | Prof Dong Yan Jin, Department of Biochemistry                    |
| Fung King Cheong             | BSc(3)           | 3    | Generalizations of the factorial function  | Prof Kai Man Tsang, Department of Mathematics                    |
| Ho Chau Ha                   | BSc(3)           | 3    | Transcriptome wide identification of viral miRNA targets using PAR-CLIP                                    | Dr Kin Hang Kok, Department of Biochemistry                      |
| Lam Tsz Fung                 | BSc(3)           | 3    | Investigation of the role of PAX6 in Alzheimer's disease   | Dr You Qiang Song, Department of Biochemistry                    |
| Li Yu                        | BSc(3)           | 3    | Cohomology Groups with Applications in Complex Geometry  | Prof Ngaiming Mok, Department of Mathematics                     |
| Luo Jie                      | BSc(3)           | 3    | Hunting for CCOs   | Dr Stephen C Y Ng, Department of Physics                         |
| Miao Yiqiao                  | BSc(3)           | 3    | Discussions on the Inefficiency of the AIC When Selecting Models from Separate Families, and Modifications | Prof Kai Wang Ng, Department of Statistics and Actuarial Science |
| Pang Wenqi                   | BSc(3)           | 3    | The roles of Suppressor of fused in mammalian craniofacial development                                     | Prof Mai Har Sham Department of Biochemistry                     |
| Rodríguez Caro Helena        | Exchange         | 1    | Differential expression pattern of Cdo and Boc in inner ear development                                    | Dr Elaine Y M Wong, Department of Biochemistry                   |
| Sun Lianyi                   | BSc(ActuarSc)(3) | 3    | Consensus Clustering in Community Detection: Its Enhancement and Application                               | Dr Jeff J F Yao, Department of Statistics and Actuarial Science  |
| Tang Sze Lok Marco           | BSc(3)           | 3    | Development of fluorescence polarization techniques to probe DNA aptamer-mediated molecular recognition    | Dr Julian A Tanner, Department of Biochemistry                   |

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|-----------------|------------------|---|--|--|
| Wang Linsheng   | BSc(3)           | 3 | Characterization of the Circadian Rhythms in Premature Aging Cells               | Dr Zhongjun Zhou , Department of Biochemistry                      |
| Wong Ching Kit  | BSc(3)           | 2 | Is the geomagnetic field reversing now?  | Prof Lung Sang Chan, Department of Earth Sciences                  |
| Wong Mo Dick    | BSc(ActuarSc)(3) | 3 | Large Dimensional Analysis of Perturbed Wishart Process                          | Dr Jeff J F Yao, Department of Statistics and Actuarial Science    |
| Yang Shihao     | BSc(ActuarSc)(3) | 3 | Valuing Guaranteed Minimum Death Benefits  | Prof Hailiang Yang, Department of Statistics and Actuarial Science |
| Yang Yingrui    | BSc(3)           | 3 | Approximation of Ruin Probability in Infinite Time under Classical Risk Process  | Dr Eric C K Cheung, Department of Statistics and Actuarial Science |
| Yeung Fung Chun | BSc(3)           | 3 | Correlation between Earth tides and earthquake occurrence                        | Prof Lung Sang Chan, Department of Earth Sciences                  |
| Zhang Qichen    | BSc(3)           | 3 | UreG Protein from Helicobacter pylori as A Nickel-Binding Chaperone and A GTPase | Prof Hongzhe Sun, Department of Chemistry                          |

### 2012-13

| Name                  | Curriculum | Year | Project Title  | Supervisor   |
|-----------------------|------------|------|--|--|
| Chai Wai Yeeng        | BSc(3)     | 3    | Effect of Bisphenol A (BPA) on both ER $\alpha$ - positive and ER $\alpha$ - negative ovarian cancer cells           | Dr A S T Wong, School of Biological Sciences                               |
| Cheng Ka Hei          | BSc(3)     | 2    | Generalizations of the factorial function  | Prof K M Tsang, Department of Mathematics                                  |
| Chiu Yat Sing Risheng | BSc(3)     | 3    | U-Pb zircon age and geochemical as constrains on the emplacement time of andesites from Kluwih, East Java, Indonesia | Prof J Malpas, Department of Earth Sciences                                |
| Chow Tai Cheong       | BSc(3)     | 3    | Role of PTPN21 in Promoting STAT5 Transcriptional Activity via ErbB4 Receptor  | Dr Y Q Song, Department of Biochemistry                                    |
| Fung Sin Yee          | BSc(3)     | 3    | Construction of a NS1-mutated influenza A virus by reverse genetics  | Prof D Y Jin, Department of Biochemistry                                   |
| Hui Tin Yan           | BSc(3)     | 3    | Central-place foraging of sand bubbler crab Scopimera intermedia   | Prof Gray Williams, School of Biological Sciences                          |
| Hung Oi Ying          | BSc(3)     | 3    | Test of FOXM1 as an enhancer of iPSC reprogramming   | Dr K M Yao, Department of Biochemistry                                     |
| Kung Chung Yee        | BSc(3)     | 3    | Construction of a miR-BART-deficient Epstein Barr virus by recombineering  | Prof D Y Jin, Department of Biochemistry                                   |
| Kwong Hiu Tung        | BSc(3)     | 3    | Geochemical Signature of Pore Water from Core Sample and its Implications on Palaeo-environment in Cangzhou, China   | Prof J J Jiao, Department of Earth Sciences                                |
| Lai Cheuk Hei         | BSc(3)     | 2    | Pathogenesis of Influenza viruses  | Dr W Y Chan, Department of Pathology; Dr C W Chan, School of Public Health |

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|---------------------|--------|---|---|---|
| Lam Chi Chung       | BSc(3) | 3 | The Complex Filamentary Nebula at the center of the Perseus Cluster   | Dr J J L Lim, Department of Physics                         |
| Leung Wing Sze, Amy | BSc(3) | 3 | Taxonomic and phylogenetic status of <i>Desmos dumosus</i> (Annonaceae)   | Prof R M K Saunders, School of Biological Sciences          |
| Leung Ying Chi      | BSc(3) | 3 | Detections of cosmic-rays and neutrinos in underground laboratories   | Dr J K C Leung & Dr J C S Pun, Department of Physics        |
| Li Shengchao        | BSc(3) | 3 | Detections of cosmic-rays and neutrinos in underground laboratories   | Dr J K C Leung & Dr J C S Pun, Department of Physics        |
| Li Yan Hei          | BSc(3) | 3 | Geochronological dating and geochemical analysis of Tuen Mun Formation and tectonic implication   | Prof M F Zhou, Department of Earth Sciences                 |
| Lin Tsen-yuan       | BSc(3) | 3 | Quantum computing   | Prof Z D Wang, Department of Physics                        |
| Lo Hoi Ki Katy      | BSc(3) | 3 | The sedimentary environment and palaeoecology of the Wonosari Formation, East Java as inferred by petrographic thin-sections                  | Prof J Malpas, Department of Earth Sciences                 |
| Lo Wing Fung        | BSc(3) | 3 | Songs in the city: The effects of urban noise on bird song.   | Dr Caroline Dingle, School of Biological Sciences           |
| Ma Yik Ki           | BSc(3) | 3 | The Radio Magnetospheres of Chemically-Peculiar Bp/Ap Stars   | Dr J J L Lim, Department of Physics                         |
| Peng Jun            | BSc(3) | 2 | Calculus of variation   | Prof W S Cheung, Department of Mathematics                  |
| Song Yifan          | BSc(3) | 3 | Physics of Very Degenerate Atomic Gases   | Dr S Z Zhang, Department of Physics                         |
| Tam Cheuk Yan       | BSc(3) | 3 | An assessment on the suitability of organic carbon isotopes for sea-level reconstructions   | Prof Y Q Zong, Department of Earth Sciences                 |
| Tang Yunfan         | BSc(3) | 3 | Backward Stochastic Differential Equations in Option Pricing  | Prof H Yang, Department of Statistics and Actuarial Science |
| Tse Man Nok         | BSc(3) | 3 | Co-regulation of <i>Irx3</i> and <i>Irx5</i> by <i>Lmx1a</i> transcription factor".   | Dr M H Sham, Department of Biochemistry                     |
| Wan Kai Tin Leon    | BSc(3) | 3 | Rotational Modulation in the Radio Emission of Active Late-Type Dwarf Stars: Active Stellar Longitudes or Not?                                | Dr J J L Lim, Department of Physics                         |
| Wong Ka Wai         | BSc(3) | 3 | c.-14C>T mutation in <i>IFITM5</i> alters the onset and rate of in vitro bone mineralization: Implication for osteogenesis imperfect (type V) | Dr D Chan, Department of Biochemistry                       |
| Wong Yin Wai        | BSc(3) | 3 | NMMIIA is a functional component in normal epithelial cell organization in both 2D and 3D environment   | Dr J D Huang, Department of Biochemistry                    |
| Wu Qihang           | BSc(3) | 3 | Chronological constraints on the polyphase deformation of Chinese Altai: Implications for tectonic evolution                                  | Prof M Sun, Department of Earth Sciences                    |
| Yin Grace Wing Ie   | BSc(3) | 3 | Identification of extracellular factors that determine cancer cell survival under hypoxic condition   | Dr N S Wong, Department of Biochemistry                     |
| Yuen Chun Kit       | BSc(3) | 3 | Gene targeting in cultured mammalian cells using TALEN technology   | Dr K H Kok, Department of Biochemistry                      |



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|---------------|------------------|---|---|---|
| Zhang Shixiao | BSc(3)           | 3 | Simulation Study of Finite-sample Performance of Maximum Likelihood Estimator | Prof K W Ng, Department of Statistics and Actuarial Science   |
| Zheng Yao     | BSc(ActuarSc)(3) | 3 | Applications of Nonlinear Time Series Models                                  | Prof W K Li, Department of Statistics and Actuarial Science<br>Department of Statistics and Actuarial Science |

### 2011-12

| Name                  | Curriculum | Year | Project Title  | Supervisor   |
|-----------------------|------------|------|--|--|
| Chau Tsz Kit          | BSc(3)     | 3    | Long-term radio observation of young and rapidly-rotating late-type dwarf star AB doradus  | Dr J J L Lim, Department of Physics                            |
| Cheng Chi Lok Kevin   | BSc(3)     | 3    | Characterization of whole gut bacterial community in oreiental cockroach   | Prof F C C Leung, School of Biological Sciences                |
| Chong Wing Fung       | BSc(3)     | 3    | Copulas and comonotonicity in Statistics and Risk Management   | Dr K C Cheung, Department of Statistics and Actuarial Science  |
| Ho Sze Hang           | BSc(3)     | 3    | Nedd9 expression and its potential role in mediating neural crest delamination induced by Sox9                                       | Dr M Cheung, Department of Biochemistry                        |
| Ji Hao                | BSc(3)     | 3    | Properties of depth functions as measure of representativeness   | Prof S M S Lee, Department of Statistics and Actuarial Science |
| Kong Kar Lun          | BSc(3)     | 3    | Elementary methods in prime number theory  | Prof K M Tsang, Department of Mathematics                      |
| Lai Tsz Pui           | BSc(3)     | 3    | Probing new and specific interactions between medicinally relevant metal complexes and proteins using X-ray crystallography          | Prof H Z Sun, Department of Chemistry                          |
| Lam Hing Ha           | BSc(3)     | 3    | Optical dating of anthropological site in Ding Cun, ShanXi   | Dr S H Li, Department of Earth Sciences                        |
| Lau Matthew Chung Hin | BSc(3)     | 2    | Elementary methods in prime number theory  | Prof K M Tsang, Department of Mathematics                      |
| Leung Man Him         | BSc(3)     | 3    | Development of Fluorophore labeled bacterial machinery for in situ monitoring of oxygen levels and gene expression in mammalian host | Dr A Yan, School of Biological Sciences                        |
| Li Xinyu              | BSc(3)     | 3    | Condensate dark matter star  | Prof K S Cheng, Department of Physics                          |
| Li Zhangyun           | BSc(3)     | 2    | Copulas in risk management   | Dr K C Cheung, Department of Statistics and Actuarial Science  |
| Lin Tsen-yuan         | BSc(3)     | 2    | Detections of cosmic-rays and neutrinos in underground laboratory  | Dr J K C Leung & Dr J C S Pun, Department of Physics           |
| Ma Sophia Ka Yan      | BSc(3)     | 3    | The role of autophagy in planarian regeneration and degrowth   | Dr D Chan, Department of Biochemistry                          |
| Mung Kwan Long        | BSc(3)     | 3    | The effects of hypoxia on unfolded protein response signaling pathways in cancer cells   | Dr N S Wong, Department of Biochemistry                        |

|               |        |   |  |   |
|---------------|--------|---|--|---|
| Pak Chol Min  | BSc(3) | 3 | Transparent Conducting Films: Ga-doped ZnO on Sapphire Substrates by RF Magnetron Sputtering | Dr F C C Ling, Department of Physics                            |
| Song Yifan    | BSc(3) | 2 | Detections of cosmic-rays in underground laboratories  | Dr J K C Leung & Dr J C S Pun, Department of Physics            |
| Tsang Man Yin | BSc(3) | 3 | The early stages of sulphate crystallization   | Dr K Lemke, Department of Earth Sciences                        |
| Tso Tsz Ying  | BSc(3) | 3 | Magnetic properties of sediment of Ha Pak Nai, Yuen Long, Hong Kong                          | Prof L S Chan, Department of Earth Sciences                     |
| Wong Kam Hung | BSc(3) | 3 | Geology and molybdeniteRe-Os geochronology of the Baishizhang porphyry Mo deposit, SE China  | Prof M F Zhou, Department of Earth Sciences                     |
| Wong Kwok Fai | BSc(3) | 3 | Approximations for Ruin Probabilities in Insurance Risk Theory                               | Dr E C K Cheung, Department of Statistics and Actuarial Science |
| Wong Yat Sing | BSc(3) | 3 | Laser induced fluorescence spectroscopy of platinum boride                                   | Prof A S C Cheung, Department of Chemistry                      |
| Wu Xiyuan     | BSc(3) | 2 | Insurance Risk   | Prof H Yang, Department of Statistics and Actuarial Science     |

### 2010-11

| Name                  | Curriculum | Year | Project Title   | Supervisor                                      |
|-----------------------|------------|------|---|---|
| Chao Wai Min Cherie   | BSc(3)     | 3    | Does geldanamycin activate Unfolded Protein Response (UPR) in cancer cells?   | Dr N S Wong, Department of Biochemistry         |
| Chau Wayne C          | BSc(3)     | 2    | Observational and Analytical Studies of the Photometric Light Curves of Variable Stars                                    | Dr J C S Pun, Department of Physics             |
| Cheung Ka Chun Arthur | BSc(3)     | 3    | Geometrical study of jointed columns in Hong Kong   | Prof L S Chan, Department of Earth Sciences     |
| Chiu Ka Yi            | BSc(3)     | 3    | Pos Selim Landslide in Malaysia   | Prof A Malone, Department of Earth Sciences     |
| Chiu Man Hung         | BSc(3)     | 3    | Telomeres, Telomerase and Tumorigenesis   | Dr K M Yao, Department of Biochemistry          |
| Chong Tsz Yat Ian     | BSc(3)     | 3    | Mutational Studies on protein binding sites of UCRNA VINC/NEAT J  | Prof F C C Leung, School of Biological Sciences |
| Chong Tsz Yat Ian     | BSc(3)     | 3    | Conflicting signals: A new approach to understanding neural crest migration   | Dr M H Sham, Department of Biochemistry         |
| Hui Man Ning          | BSc(3)     | 3    | Regulation of Sox9 expression in the developing chick neural tube by the Sonic Hedgehog and Retinoic acid signaling       | Dr M Cheung, Department of Biochemistry         |
| Ko Man Ying           | BSc(3)     | 4    | Synthesis and Photo-physical Properties of Platinum (II) Complexes with Oligo(ortho-phenyleneethynylene) Bridging Ligands | Prof C M Che, Department of Chemistry           |
| Kwok Yan Ho           | BSc(3)     | 3    | Current density distribution in carbon nanotube based electronic devices  | Prof G H Chen, Department of Chemistry          |

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|--------------------|----------|---|---|--|
| Li Wing Yi         | BSc(3)   | 3 | Coronal Magnetic Activity of the Fast-Rotating Solar-type Star AB Doradus   | Dr J J L Lim, Department of Physics                            |
| Li Yuen Tsun       | BSc(3)   | 3 | Climate and environmental changes in Tibet Plateau in the past 2000 years   | Dr Z Liu & Dr C Zhao, Department of Earth Sciences             |
| Ma Jialiu          | Exchange | 1 | Metal and Life  | Dr Ligana Hu, Department of Biochemistry                       |
| Mau Chun Lok       | BSc(3)   | 3 | "Let's do some correct statistics..." - What do we mean by that?  | Prof S M S Lee, Department of Statistics and Actuarial Science |
| Shi Yuan           | BSc(3)   | 2 | Mathematical Problems in Quantum Mechanics  | Dr S Wu, Department of Mathematics                             |
| So Kwok Ming       | BSc(3)   | 3 | Homoleptic Metal Organochalcogenides As A Single-source Precursor of M(E)x: Preparation and Reactivity Study on Nanostructured RuSe <sub>2</sub> for Chemoselective Catalytic Reduction | Prof C M Che, Department of Chemistry                          |
| So Lok Hin         | BSc(3)   | 3 | Amphibians and Reptiles in Hong Kong Catchwaters  | Dr N E Karraker, School of Biological Sciences                 |
| Tang Chan Estela   | BSc(3)   | 3 | Targeted Therapy Design   | Dr G Yin, Department of Statistics and Actuarial Science       |
| Tang Kwok Hei Eric | BSc(3)   | 2 | Comparative analysis of the host's immune responses against 3 different genotypes of PRRSV  | Prof F C C Leung, School of Biological Sciences                |
| Wong Ka Tat        | BSc(3)   | 3 | Coronal Magnetic Activity of the Fast-Rotating Solar-type Star PZ Telescopium   | Dr J J L Lim, Department of Physics                            |
| Wong Wai Chung     | BSc(3)   | 3 | What is in a drop of seawater? A mass spectrometric study of ion clusters in natural electrolyte solutions  | Dr K Lemke, Department of Earth Sciences                       |
| Wu Hung Kit        | BSc(3)   | 2 | Analysing the Dark Accelerator - HESS J1745-303 with Fermi-LAT  | Prof K S Cheng, Department of Physics                          |
| Wu Man Ho          | BSc(3)   | 3 | Gamma-ray Emissions from Galactic Globular Clusters as seen by Fermi LAT  | Prof K S Cheng, Department of Physics                          |
| Yuen Yan Ling      | BSc(3)   | 3 | A Population Study of the Hong Kong Newt  | Dr N E Karraker, School of Biological Sciences                 |

### **2009-10**

| <b>Name</b>    | <b>Curriculum</b> | <b>Year</b> | <b>Project Title</b>  | <b>Supervisor</b>                                |
|----------------|-------------------|-------------|---|--|
| Chan Chi Chung | BSc(3)            | 3           | Coronal magnetic activity at the divide between partially and fully convective star                               | Dr J J L Lim, Department of Physics              |
| Hsu Siu Fai    | BSc(3)            | 3           | Supersymmetric Quantum Mechanics and the Witten Index   | Dr S Wu, Department of Mathematics               |
| Lam Suk Hang   | BSc(3)            | 3           | Spintronics and novel topological states of matter  | Prof S Q Shen, Department of Physics             |
| Ren Yi Cooper  | BSc(3)            | 3           | Climate Change and larval behavior: Substrate Preference by Barnacle Larvae in future acidified ocean             | Dr V Thiyagarajan, School of Biological Sciences |
| Tsang Tsz Ho   | BSc(3)            | 3           | Estimation of surface wind speed over heterogeneous terrain using boundary layer theory and downscaling technique | Dr C C Ling, Department of Physics               |

**2008-09**

| <b>Name</b>      | <b>Curriculum</b> | <b>Year</b> | <b>Project Title</b>   | <b>Supervisor</b>                             |
|------------------|-------------------|-------------|--|---|
| Chan Ka Lok      | BSc(3)            | 3           | Preparation of oil-in-water emulsion by ultrasonication for direct ICP-MS metal-in-oil analysis                                  | Dr W T Chan, Department of Chemistry          |
| Chan Yuk Lun     | BSc(3)            | 3           | Sox9 SUMOylation and Signaling Molecules are involved in controlling Neural Crest Delamination                                   | Dr M C H Cheung, Department of Biochemistry   |
| Ho Chi Wang John | BSc(3)            | 3           | Molecular Cloning and Characterization of Chicken Galanin Receptors  | Prof F C Leung, School of Biological Sciences |
| Lam Yan Ting     | BSc(3)            | 3           | Quantum Information  | Dr H F Chau, Department of Physics            |
| Lam Yuen Man     | BSc(3)            | 3           | Probing the protein environmental factors important for the effector binding in E. coli global transcription factor FNR          | Dr A Yan, School of Biological Sciences       |
| Ng Kam To        | BSc(3)            | 3           | Sox9 function is regulated by SUMOylation in avian neural crest development  | Dr M C H Cheung, Department of Biochemistry   |
| So Ming Lai      | BSc(3)            | 3           | Seismogrammic analysis of earthquakes in Hong Kong Region  | Prof L S Chan, Department of Earth Sciences   |
| Sung Ka Chun     | BSc(3)            | 3           | Higher Rank Numerical Ranges   | Dr N K Tsing, Department of Mathematics       |
| Wang Xuan        | BSc(3)            | 3           | Molecular evolution of porcine reproductive and respiratory syndrome virus Nsp2 variants during serial passage in MARC-145 cells | Prof F C Leung, School of Biological Sciences |
| Yu Hoi Fung      | BSc(3)            | 3           | Pulsar glitches  | Prof K S Cheng, Department of Physics         |

**2007-08**

| <b>Name</b>         | <b>Curriculum</b> | <b>Year</b> | <b>Project Title</b>  | <b>Supervisor</b>   |
|---------------------|-------------------|-------------|---|---|
| Chan Hoi Shan       | BSc(3)            | 3           | Petrology and Geochemistry of mantle xenoliths from Syria   | Prof J G Malpas, Department of Earth Sciences             |
| Chau Ka Hung Bolton | BSc(3)            | 3           | Does Sumoylation affect Sox9 functions in neural crest development  | Dr M C H Cheung, Department of Biochemistry               |
| Chen Hoi Lam        | BSc(3)            | 3           | Cloning and characterization of sprouty proteins in chicken   | Prof F C C Leung, School of Biological Sciences           |
| Cheung Chung Ching  | BSc(3)            | 4           | Finite Geometry   | Dr P P W Wong, Department of Mathematics                  |
| Fu Shing            | BSc(ActuarSc)(3)  | 3           | Extreme Value Theory and Applications   | Prof W K Li, Department of Statistics & Actuarial Science |
| Ho Koon Sing        | BSc(3)            | 3           | ICP MS Measurement of Metals in Single-Cell Algae   | Dr W T Chan, Department of Chemistry                      |
| Kwong Hiu Jing      | BSc(3)            | 3           | Paleomagnetic study of Linzizong volcanic rocks, Linzhou, southern Tibet: implications for positioning Paleogene Eurasia's southern edge before and after India collision | Dr J R Ali, Department of Earth Sciences                  |

|                      |        |   |  |   |
|----------------------|--------|---|--|---|
| Lam Wai Ting         | BSc(3) | 3 | Polymer solar cells  | Dr A B Djurišić, Department of Physics          |
| Lau An Yi Annie      | BSc(3) | 3 | Barchan dunes in the middle reaches of Yarlung Zangbo, Southern Tibet  | Dr A Switzer, Department of Earth Sciences      |
| Leung Hoi Tik Alvin  | BSc(3) | 3 | Differential Equations and Mathematical Biology  | Prof W S Cheung, Department of Mathematics      |
| Leung Kwun Lun       | BSc(3) | 3 | Geochemistry of Ailegedayi ophiolite from the Altai, Xinjiang, China and its tectonic implications               | Prof M Sun, Department of Earth Sciences        |
| Li Hiu Lung          | BSc(3) | 3 | Theory of spintronics  | Dr S Q Shen, Department of Physics              |
| Li Long              | BSc(3) | 3 | Riemann surfaces and / or complex manifolds  | Prof N Mok, Department of Mathematics           |
| Mak Ho Yan Queenie   | BSc(3) | 3 | Cellular response to ER-stress signals in early development  | Dr M C H Cheung, Department of Biochemistry     |
| Ng Wai Pan           | BSc(3) | 3 | Kannaviou Formation of Cyprus and its relationship with the Troodos Complex                                      | Prof J G Malpas, Department of Earth Sciences   |
| Pak Ho               | BSc(3) | 3 | Characterization of the human matrix metalloproteinase 9 by p7056K: role of GATA-4, GATA-5, and GATA-6           | Dr A S T Wong, School of Biological Sciences    |
| Pun Ying Anna        | BSc(3) | 2 | Projective Geometry and Modern Algebra   | Dr P P W Wong, Department of Mathematics        |
| Tam Wan Ting         | BSc(3) | 3 | Cloning and Characterization of the Putative Receptor (Heat shock protein 90) of Infectious Bursal Disease Virus | Prof F C C Leung, School of Biological Sciences |
| Tang Yun Sang        | BSc(3) | 3 | Study of antimicrobial peptides by NMR spectroscopy  | Dr K H Sze, Department of Chemistry             |
| Wong Kingsley Jin-ho | BSc(3) | 3 | Spatio-temporal variations in diversity and abundance of benthic crustaceans in subtropical Hong Kong waters     | Dr K M Y Leung, School of Biological Sciences   |