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|---------------|--------------------------------------|------------------------------------------------------------------------------------|---------------|--------------|--------------|--------------|
|               | The Third HKSIAM Biennial Conference |                                                                                    |               |              |              |              |
|               | Monday, 7th July 2025                |                                                                                    |               |              |              |              |
| 8:30-8:50     | Registration                         |                                                                                    |               |              |              |              |
| 8:50-9:00     | Opening Speech                       |                                                                                    |               |              |              |              |
| 9:00 - 9:50   | Plenary Session LT1                  | Zhiming CHEN                                                                       |               |              |              |              |
|               | Chair:<br>Jun ZOU                    | Recent progress of high order finite element methods on arbitrarily shaped domains |               |              |              |              |
| 9:50-10:20    | Coffee Break                         |                                                                                    |               |              |              |              |
| 10:20-12:20   | MS01, LT1                            | MS02, 209A                                                                         | MS10, 209B    | MS07, 203    | MS14, 202    | MS16, 201    |
|               | Yuming Ba                            | Bo Han                                                                             | Gang Chen     | Shuo Zhang   | Ruchi Guo    | Zheng Ma     |
|               | Jian Huang                           | Shuren Qi                                                                          | Rongfang Gong | Shuonan Wu   | Jiho Hong    | Jianbo Cui   |
|               | Lijie Ji                             | Tianwei Zhang                                                                      | Wei Gong      | Xuehai Huang | Woojoo Lee   | Liu Liu      |
|               | Lingling Ma                          | Xiaochun Cao                                                                       | Yifeng Xu     | Shihua Gong  | Jiahua Jiang | Roy He       |
| 12:30 - 14:00 | Lunch Break                          |                                                                                    |               |              |              |              |
| 14:00 - 14:50 | Plenary Session LT1                  | Simon SEE                                                                          |               |              |              |              |
|               | Chair:<br>Eric CHUNG                 | From Classical Scientific Discovery to the Era of AI: A Transformational Path      |               |              |              |              |
| 15:00 - 16:30 | MS09, LT1                            | MS04, 209A                                                                         | MS17, 209B    | MS15, 203    |              | MS19, 201    |
|               | Chenglong Bao                        | Jianguo Huang                                                                      | Yiqi Gu       | Luchan Zhang |              | Zuoqiang Shi |
|               | Jian Huang                           | Chunmei Su                                                                         | Zhengyu Huang | Tiantian Xu  |              | Xiaobo Yin   |
|               | Zihao Hu                             | Seungchan Ko                                                                       | Hao Liu       | Xiaoxue Qin  |              | Shuonan Wu   |
| 16:30 - 18:00 | Reception                            |                                                                                    |               |              |              |              |

|               | The Third HKSIAM Biennial Conference |                                                                                                                                                  |                     |               |              |              |
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|               | Tuesday, 8th July 2025               |                                                                                                                                                  |                     |               |              |              |
| 9:00 - 9:50   | Plenary Session LT1                  | Xin GUO<br>Title and abstract pending                                                                                                            |                     |               |              |              |
|               | Chair:<br>Yang XIANG                 |                                                                                                                                                  |                     |               |              |              |
| 9:50 - 10:20  | Group Photo + Coffee Break           |                                                                                                                                                  |                     |               |              |              |
| 10:20 - 12:20 | MS06, LT1                            | MS02, 209A                                                                                                                                       | MS20, 209B          | MS15, 203     | MS03, 202    | MS17, 201    |
|               | Huaian Diao                          | Xiaoge Zhang                                                                                                                                     | Lijun Bo            | Lina Zhao     | Junqing Chen | Junchi Yan   |
|               | Yueguang Hu                          | Youzhi Zhang                                                                                                                                     | Ibrahim Ekren       | Yaguang Gu    | Wenjia Jing  | Linlin Zhong |
|               | Long Li                              | Zhiyong Yang                                                                                                                                     | Said Hamadène       | Wanli Yu      | Sanghyeon Yu | Bin Gao      |
|               | Arpan Mukherjee                      | Zitong Yu                                                                                                                                        | Hanxiao Wang        | Xiaomin Pan   | Yu Gao       | Yuwen Li     |
| 12:30 - 14:00 | Lunch Break                          |                                                                                                                                                  |                     |               |              |              |
| 14:30 - 15:40 | Plenary Session LT1                  | Anders HANSEN<br>Necessary mechanisms for super AI and stopping hallucinations: The consistent reasoning paradox and the 'I don't know' function |                     |               |              |              |
|               | Chair:<br>Leevan LING                | Michael HINTERMUELLER<br>A PINN-based multi-complexity solver as a PDE-constrained optimization problem                                          |                     |               |              |              |
| 15:40 - 16:10 | Coffee Break                         |                                                                                                                                                  |                     |               |              |              |
| 16:10 - 18:10 | MS06, LT1                            | MS07, 209A                                                                                                                                       | MS10, 209B          | MS18, 203     | MS14, 202    | MS16, 201    |
|               | Youjun Deng                          | Michael Neilan                                                                                                                                   | Weiwei Hu           | Xingding Chen | Yunho Kim    | Chao Wang    |
|               | Shutong Hou                          | Limin Ma                                                                                                                                         | Yongcun Song        | Qingsong Zou  | Ye Zhang     | Tao Luo      |
|               | Ahcene Ghandriche                    | Min Zhang                                                                                                                                        | Zhiyu Tan           | Ruchi Guo     | Soomin Jeon  | Haixia Liu   |
|               | Xinlin Cao                           | Shudan Tian                                                                                                                                      | Julius Fergy Rabago | Shihua Gong   | Zhiyuan Li   | Cheng Tang   |

|               | The Third HKSIAM Biennial Conference      |                                                                                                          |              |               |             |             |
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|               | Wednesday, 9th July, 2025                 |                                                                                                          |              |               |             |             |
| 9:00 - 10:40  | Plenary Session<br>LT1                    | Weizhu BAO<br>Structure-preserving parametric finite element methods for geometric PDEs and applications |              |               |             |             |
|               | Chair:<br>Hongyu LIU                      | Kui REN<br>Phase Retrieval in Fresnel Regime and Nonlinear Optical Encryption                            |              |               |             |             |
| 10:40 - 11:10 | Coffee Break                              |                                                                                                          |              |               |             |             |
| 11:10 - 12:40 | MS09, LT1                                 | MS05, 209A                                                                                               | MS04, 209B   | MS11, 203     | MS12, 202   | MS19, 201   |
|               | Daniel Zhengyu Huang                      | Xin Liang                                                                                                | Xiaoli Li    | Tao Xiong     | Fenglei Fan | Zhiping Mao |
|               | Shu Liu                                   | Haoran Guan                                                                                              | Rui Ma       | Xinghui Zhong | Juncai He   | Yiqun Li    |
|               | Fei Wang                                  | Nian Shao                                                                                                | Xiaofeng Cai | Min Tang      | Wei Huang   | Xuehong Cui |
| 12:40 - 14:00 | Lunch Break                               |                                                                                                          |              |               |             |             |
| 14:00 - 19:00 | Free Afternoon                            |                                                                                                          |              |               |             |             |
|               | HKSIAM General Meeting (17:00-18:00 LT1A) |                                                                                                          |              |               |             |             |
| 19:00 - 21:00 | Banquet                                   |                                                                                                          |              |               |             |             |

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|               | The Third HKSIAM Biennial Conference |                                                                                                                                                    |               |                |                 |                        |
|               | Thursday, 10th July 2025             |                                                                                                                                                    |               |                |                 |                        |
| 9:00 - 10:40  | Plenary Session LT1                  | Patrick CIARLET                                                                                                                                    |               |                |                 |                        |
|               | Chair:<br>Zhi ZHOU                   | Solving problems with sign-changing coefficients: T-coercivity and beyond                                                                          |               |                |                 |                        |
|               |                                      | Hongkai ZHAO<br>Mathematical and Computational Understanding of Neural Networks: From Representation to Learning Dynamics and From Shallow to Deep |               |                |                 |                        |
| 10:40 - 11:10 | Coffee Break                         |                                                                                                                                                    |               |                |                 |                        |
| 11:10 - 12:40 | MS08, LT1                            | MS05, 209A                                                                                                                                         | MS04, 209B    | MS11, 203      | MS12, 202       | SC01, 201              |
|               | Zhiwen Zhang                         | Wen Ting Wu                                                                                                                                        | Qinglin Tang  | Yanli Wang     | Enming Liang    | Yueqi WANG (HKU)       |
|               | Zhen Zhang                           | Jingyu Liu                                                                                                                                         | Yue Feng      | Kunlun Qi      | Fanghui Liu     | Zhenyi ZHU (CUHK)      |
|               | Pingyuan Wei                         | Hei Yin Lam                                                                                                                                        | Jie Du        | Jaeyong Lee    | Atsushi Nitanda | ZeXian LI (PolyU)      |
| 12:40 - 14:00 | Lunch Break                          |                                                                                                                                                    |               |                |                 |                        |
| 14:00 - 16:00 | MS01, LT1                            | MS08, 209A                                                                                                                                         | MS10, 209B    | MS07, 203      | MS03, 202       | MS19, 201              |
|               | Xiaomin Pan                          | Yuanfei Huang                                                                                                                                      | Jiajie Li     | Shukai Du      | Zetao Fei       | Changpin Li            |
|               | Zhichao Peng                         | Qiao Huang                                                                                                                                         | Zhi Zhou      | Xiang Wang     | Jiaxin Zhou     | Changtao Sheng         |
|               | Xiang Sun                            | Shenglan Yuan                                                                                                                                      | Shengfeng Zhu | Ruishu Wang    | Jinrui Zhang    | Yufeng Nie             |
|               | Hongqiao Wang                        |                                                                                                                                                    | Maolin Deng   | Jun Cao        | Xinyu Liu       | Xiangcheng Zheng       |
| 16:00 - 16:30 | Coffee Break                         |                                                                                                                                                    |               |                |                 |                        |
| 16:30 - 18:00 | MS09, LT1                            | MS08, 209A                                                                                                                                         |               | MS11, 203      | MS12, 202       | SC02, 201              |
|               | Zhiguo Wang                          | Shuting Gu                                                                                                                                         |               | Zhongjian Wang | Lei Shi         | Kota TAKEDA (Nogoya U) |
|               | Chaozhen Wei                         | Weiguo Gao                                                                                                                                         |               | Zheng Ma       | Jiaye Teng      | Zhen HAO (CUHK)        |
|               | Huayi Wei                            |                                                                                                                                                    |               |                | Jinming Weng    | Xingguang JIN (CUHK)   |

|               | The Third HKSIAM Biennial Conference |                                                                            |               |                       |                |                       |
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|               | Friday, 11th July 2025               |                                                                            |               |                       |                |                       |
| 9:00 - 9:50   | Plenary Session LT1                  | Shi JIN                                                                    |               |                       |                |                       |
|               | Chair:<br>Liu LIU                    | Quantum Computation of partial differential equations and related problems |               |                       |                |                       |
| 9:50 - 10:20  | Closing Ceremony + Coffee Break      |                                                                            |               |                       |                |                       |
| 10:20 - 12:20 | MS08, LT1                            | MS13, 209A                                                                 | MS20, 209B    | SC03, 203             | MS14, 202      | MS19, 201             |
|               | Hongqiao Wang                        | Hao Dong                                                                   | Gaoyue Guo    | Chenhao LU (CityU)    | Mikyoung Lim   | Daxin Nie             |
|               | Xiaopeng Chen                        | Shubin Fu                                                                  | Simone Scotti | Xiao MENG (HKBU)      | Lingyun Qiu    | Maria Lopez-Fernandez |
|               | Chengyu Liu                          | Viet Ha Hoang                                                              | Jiaqiang Wen  | Qingle LIN (PolyU)    | Wenlong Zhang  | Zihao Yang            |
|               | Haijun Yu                            | Jian Huang                                                                 | Lihu Xu       | Tsz Ching CHOW (CUHK) |                | Yuwen Li              |
| 12:30 - 14:00 | Lunch Break                          |                                                                            |               |                       |                |                       |
| 14:00 - 16:00 | SC04, LT1                            | MS13, 209A                                                                 | MS17, 209B    | MS18, 203             | MS12, 202      | MS19, 201             |
|               | Yuchen HUANG (CUHK)                  | Hyea Hyun Kim                                                              | Zhiwen Zhang  | Chen Cui              | Xiaotong Yuan  | Xiaochuan Tian        |
|               | Yixuan ZHANG (PolyU)                 | Mengnan Li                                                                 | Tao Xiong     | Fei Wang              | Shao-Qun Zhang | Nicola De Nitti       |
|               | Tsz Lok IP (CUHK)                    | Yating Wang                                                                | Juncai He     | Ying Yang             | Shijun Zhang   | Jieqiong Zhang        |
|               | Trung Hieu GIANG (CityU)             | Xiangcheng Zheng                                                           | Huayi Wei     | Taishan Zeng          | Chenghao Liu   | Minghua Chen          |