

## Computer Science

Session **L**

Room: B119 Baxter

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| 1:00 - 1:20 PM | <b>Yash Pincha</b><br>Imperial College London                                     | Sub-grid black holes: Learning the multi-scale dynamics of accretion feedback                             | Anima Anandkumar<br><i>Bren Professor of Computing and Mathematical Sciences</i><br>Chuwei Wang<br><i>Graduate Student in Computing and Mathematical Sciences</i><br>Haiyang Wang<br><i>Graduate Student in Physics</i><br>Elias R. Most<br><i>Assistant Professor of Theoretical Astrophysics; William H. Hurt Scholar</i> |
| 1:20 - 1:40 PM | <b>Miles M. Waugh</b><br>University of California, Irvine                         | Parameter-conditioned neural operators for size-generalizable dynamics in driven Hubbard-Holstein systems | Anima Anandkumar<br><i>Bren Professor of Computing and Mathematical Sciences</i><br>Chuwei Wang<br><i>Graduate Student in Computing and Mathematical Sciences</i>                                                                                                                                                           |
| 1:40 - 2:00 PM | <b>Chuyang Xiang</b><br>Shanghai Jiao Tong University<br><i>VURP Fellow</i>       | Sub-grid black holes: Learning the multi-scale dynamics of accretion feedback                             | Anima Anandkumar<br><i>Bren Professor of Computing and Mathematical Sciences</i><br>Chuwei Wang<br><i>Graduate Student in Computing and Mathematical Sciences</i>                                                                                                                                                           |
| 2:00 - 2:20 PM | <b>Lufang A. Chiang</b><br>National Taiwan University<br><i>BaBar SURF Fellow</i> | Elucidating the design space of consistency flow maps for time-dependent PDEs                             | Anima Anandkumar<br><i>Bren Professor of Computing and Mathematical Sciences</i><br>Jiachen Yao<br><i>Graduate Student in Computing and Mathematical Sciences</i>                                                                                                                                                           |
| 2:20 - 2:40 PM | <b>Zi-Siang Hsu</b><br>National Taiwan University<br><i>BaBar SURF Fellow</i>     | PosteriorBench: From point estimates to posterior matching in evaluating generative inverse solvers       | Anima Anandkumar<br><i>Bren Professor of Computing and Mathematical Sciences</i><br>Jiachen Yao<br><i>Graduate Student in Computing and Mathematical Sciences</i>                                                                                                                                                           |
| 2:40 - 2:50 PM | <b>BREAK</b>                                                                      |                                                                                                           |                                                                                                                                                                                                                                                                                                                             |

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| 2:50 - 3:10 PM | <b>Michael H. Chen</b><br>Caltech<br><i>David Zheng SURF Fellow</i>           | Neural operators and stochastic methods for PDE-based navigation                                | Anima Anandkumar<br><i>Bren Professor of Computing and Mathematical Sciences</i><br>Chuwei Wang<br><i>Graduate Student in Computing and Mathematical Sciences</i><br>Xi Deng<br><i>Postdoctoral Scholar Research Associate in Computing and Mathematical Sciences</i><br>Hong Chul Nam                                                                               |
| 3:10 - 3:30 PM | <b>Tanish Rao</b><br>Caltech<br><i>Dr. Jane Chen SURF Fellow</i>              | Simulation-trained neural reconstruction of ultrasound data for detecting brain micrometastases | Anima Anandkumar<br><i>Bren Professor of Computing and Mathematical Sciences</i><br>Ryan Han<br><i>Graduate Student in Computing and Mathematical Sciences</i>                                                                                                                                                                                                       |
| 3:30 - 3:50 PM | <b>Erh-Wei Sheng</b><br>National Tsing Hua University                         | SU(2)-equivariant neural networks for magnetic molecules                                        | Anima Anandkumar<br><i>Bren Professor of Computing and Mathematical Sciences</i><br>Beom Seok Kang<br><i>Graduate Student in Chemical Engineering</i><br>Danish Khan<br><i>Postdoctoral Scholar Research Associate in Computing and Mathematical Sciences</i><br>Yuchao Lin<br><i>Postdoctoral Scholar Research Associate in Computing and Mathematical Sciences</i> |
| 3:50 - 4:10 PM | <b>Robert R. Walker</b><br>Caltech<br><i>Carol Casey SURF Fellow</i>          | A survey on relational database course pedagogy                                                 | Ethan Ordentlich<br><i>Teaching Assistant Professor of Computing and Mathematical Sciences</i>                                                                                                                                                                                                                                                                       |
| 4:10 - 4:30 PM | <b>Kailen A. Hargenrader</b><br>Caltech<br><i>J. Weldon Green SURF Fellow</i> | Capturing rare events: A theory-motivated rethinking for attention kernels in transformers      | Andrew M. Stuart<br><i>Bren Professor of Computing and Mathematical Sciences</i><br>Bohan Chen<br><i>Postdoctoral Scholar Research Associate in Computing and Mathematical Sciences</i>                                                                                                                                                                              |
| 4:30 - 4:50 PM | <b>Huy N. Nguyen</b><br>Michigan State University                             | Trimodal contrastive learning for joint conditional probability estimation in fluid dynamics    | Andrew M. Stuart<br><i>Bren Professor of Computing and Mathematical Sciences</i><br>Hojjat Kaveh<br>Claire Valva<br><i>Postdoctoral Scholar Research Associate in Computing and Mathematical Sciences</i>                                                                                                                                                            |