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| <b>Research Theme:</b> Interdisciplinary Biology (Cell Biology, Biochemistry, Synthetic Biology, Biophysics)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Research Project Title:</b> Liquid-liquid Phase Separation (LLPS)-regulated plant immunity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Principal Investigator/Supervisor:</b> Associate Professor Yansong MIAO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Co-supervisor/ Collaborator(s) (if any):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <p style="text-align: center;"><b>Project Description</b></p> <p><b>a) Background:</b></p> <p>This interdisciplinary project focus on studying the function of protein and lipid condensation in plant immunity in the emerging fundamental principle of Liquid-liquid Phase Separation (LLPS). The liquid-liquid, liquid-to-gel, and liquid-to-solid phase transition of proteins has been recently found as an emerging principle underlying the biomolecular interaction and macromolecular complex formation during the immune-signaling and aging process. Several exciting discoveries made in the lab recently are to be further explored.</p> <p>We provide solid scientific training for your future career and aim to nurture the next generation of scientists. We are looking for a highly motivated PhD student to work on this novel and well-designed project, ensuring high-quality training, high-impact outcomes, and scientific publications.</p> <p>The Ph.D. candidate will use advanced super-resolution living cell imaging, cutting-edge in vitro reconstitution, which integrates biochemistry, biophysics, and synthetic biology systems, to study important pathogen-host interaction and host immunity.</p> <p>As European Molecular Biology Organization (EMBO)-affiliated lab, Miao lab students have different high-quality scientific training opportunities, such as international conferences, workshops, exchanges.</p> <p>For our recent work and publications, please see <a href="https://personal.ntu.edu.sg/yansongm">https://personal.ntu.edu.sg/yansongm</a><br/>For more details of ongoing and new projects, feel free to contact Dr. Miao at <a href="mailto:yansongm@ntu.edu.sg">yansongm@ntu.edu.sg</a>.</p> <p><b>b) Proposed work:</b></p> <p>Our top-notch biotechnologies in the lab and long-term collaborations with material science, structural biology, and modeling groups will ensure a comprehensive understanding of LLPS-mediated pathogenic infection and host immunity.</p> <p><b>c) Preferred skills:</b></p> <p>Enthusiasm for science; Excellent oral and written communication skills; Good collaboration skills.</p> |
| <p style="text-align: center;"><b>Supervisor contact:</b></p> <p><b>If you have questions regarding this project, please email the Principal Investigator:</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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Please apply at the following:

**Application portal:**

<https://venus.wis.ntu.edu.sg/GOAL/OnlineApplicationModule/frmOnlineApplication.ASPX>