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Research Internship Information Collection for Credit Evaluation

Research Internship Name: Short-term Medical Research Internship for Undergraduates

Host Department: Cheeloo College of Medicine

Eligibility Requirements: non-Chinese, full-time undergraduate students, English proficiency, have completed basic study in Biology

Research Internship Description: Shandong University offers a research program opportunity for international students in the summer. SDU will provide students research opportunities in a variety of areas, such as, immunology, genetics, molecular biology, physiology, medical microbiology, cell biology, neurobiology, tumor research, metabolic diseases, pharmacology, new methodology for imaging & medical inspection. The research opportunities will vary from year to year. In early January SDU will provide students with the list of research projects available for the summer of that year. The program will last for 2 to 3 months, starting from early July and terminating before the beginning of the next semester in early September. International students will do the experiments under the instruction of a SDU lab supervisor. The lab instructor will ensure that students are briefed on health and safety procedures in the laboratory and will monitor that the students are conforming to these procedures. In each laboratory, students will have the opportunity to learn the techniques and data analysis required for the specific research project, participate in lab discussion and Journal Club, and take part in scientific research presentations. In addition, students are required to attend one academic lecture every week in order to successfully gain credits recognized by their home university.

Research Internship Objectives: The purpose is to provide students with actual experience in conducting basic research at, and becoming familiar with, medical research laboratories. The program requires students to be self-motivated. Before actually starting the exercises, student should make their own plan based on the assignments from the affiliated laboratory and discussion with the laboratory head. We have intentionally allotted such a long period for this program, to ensure a more substantial and cohesive training. Further, in the hope of enriching training, we ask each student to make a presentation in the final week of training.

Student Roles and Responsibilities: Students will do the experiments under the instruction of a SDU lab supervisor. The lab instructor will ensure that students are briefed on health and safety procedures in the laboratory and will monitor that the students are conforming to these procedures. In each laboratory, students will have the opportunity to learn the techniques and data analysis required for the specific research project, participate in lab discussion and Journal Club, and take part in scientific research presentations.

Hours per week: around 40 hours per week

Grading: depending on the participation of the students in classes or labs and the performance of the final presentation

Number of Internship Positions: no more than 10

Research Internship Location: Baotuquan Campus, Shandong University

Research Internship Dates: July-September

Are the dates flexible: yes

Supervisor(s) Information:

No.	PI	Research Team
1	Prof. Yu Shuyan	Brain Homeostasis Dysregulation and Psychopathology
2	Prof. Yu Xiao	Endocrine Physiology
3	Prof. Ma Chunhong	Laboratory of Immunity and Liver Diseases
4	Prof. Wang Xiao	Research on Reproductive Hormone-Related Tumors
5	Prof. Liu Zhaojian	Cell Function and Diseases
6	Prof. Li Xi	Identification and Functional Study of Pathogenic Genes of Genetic Diseases
7	Prof. Tang Yuchun	Neuroimaging
8	Prof. Sun Jinpeng	Membrane Receptors and Drug Targets
9	Prof. Sun Jinhao	Neural Development and Neurodegenerative Diseases
10	Prof. Sun Gongping	Cell Metabolism and Regeneration
11	Prof. Li Jingxin	Gastrointestinal Inflammation and Immunity
12	Prof. Zou Yongxin	Genetic Mechanisms and Drug Intervention of Developmental Diseases
13	Prof. Yi Fan	Mechanisms of Renal Injury Repair and Intervention Strategies
14	Prof. Zhao Wei	Pathogen Infection and Innate Immunity
15	Prof. Hao Aijun	Stem Cells and Tissue Regeneration
16	Prof. Hu Huili	Adult Stem Cells and Regeneration
17	Prof. Yuan Detian	Liver Development and Diseases
18	Prof. Jia Mutian	Immunometabolism and Targeted Intervention
19	Prof. Gao Chengjiang	Innate Immunity and Inflammation
20	Prof. Gao Peng	Genetic Alterations and Expression Regulation in Tumors
21	Prof. Liang Xiaohong	Organ Crosstalk and Liver Diseases
22	Prof. Han Bing	Research Group on Parasitic Pathogenesis and Prevention Technologies
23	Prof. Han Lihui	Infection and Immune Microenvironment
24	Prof. Li Wenfei	Laboratory of Ribosomal Translational Regulation and Targeted Intervention

25	Prof. Wang Juqiong	Lipid Metabolism Regulation and Related Diseases
26	Prof. Liu Fengming	Immune Microenvironment and Chronic Diseases
27	Prof. Liu Bingyu	Regulatory Mechanisms of Anti-Infective Innate Immune Signal Transduction
28	Prof. Du Xuexiang	Tumor Immunity and Immunotherapy
29	Prof. Yang Fan	Sensory GPCR Pharmacology
30	Prof. Zhang Xiaolu	Tumor Big Data and Pathophysiology
31	Prof. Jia Rui	Cell Homeostasis and Stress
32	Prof. Xing Huaipeng	In Situ Cell Imaging (Biochemistry / Tumor / Immunity / Artificial Intelligence)

For further information about PI-led research teams, please visit:

<http://www.en.bms.sdu.edu.cn/info/1015/1733.htm>

Research Internship Information Collection for Credit Evaluation

Research Internship Name: Properties of Ultra-High Performance Concrete and Its Application in Steel Bridge Deck for Senior Undergraduates and Postgraduates

Host Department: Department of Qilu Transportation

Eligibility Requirements: Students should have background in one of the following areas: Transportation engineering, civil engineering, material engineering, structural engineering, or pavement engineering. Students are required to conduct experiments related to cement based materials during the internship.

Research Internship Description: The topic of the project is properties of ultra-high performance concrete and its application in steel bridge deck. We developed a new type of ultra-high performance concrete based on the ECC by modifying the mix proportion and producing method. This new material is applied as the deck of the steel bridge, which is developing very fast in China. Due to the intrinsic shortcomings of the normal concrete and asphalt deck, the distress could appear during the first couple years. Therefore, the bridge deck should be repaired every several years. This material could solve these problems and extend the service life of the bridge. This research project studies the effects of materials, mix proportion, environment, and fiber orientation on concrete properties including mechanical properties, microstructures, impact resistance, carbonation, freezing-thawing, resistance to chloride penetration and so on. This ultra-high performance concrete will be applied as the deck of the steel bridge. The properties of the structure will also be investigated. During the internship, activities, for example visiting Confucius family mansion, will be organized to help students get familiar with Chinese.

Research Internship Objectives: After the internship, students should understand the basic theories for the design of the ultra-high performance concrete, be able to conduct the typical testing, such as SEM, resistance to freezing-thawing and so on, get familiar with Chinese standards. Students will also understand the performance of ultra-high performance concrete deck of the steel bridge. Another benefit of this internship is that students have opportunities to work and study together with Chinese students. They will chance to thoroughly experience the Chinese culture and make lifelong friends.

Student Roles and Responsibilities: 1. Conduct the literature review related to the research and develop the experimental plan under the instruction of the advisor. 2. Study the Chinese testing standards related to the research. 3. Casting ultra-high performance concrete and bridge deck slab. 4. Conduct experiments, analyze data, and write report.

Hours per week: 20 hours per week

Grading: 60% (working time, lab performance, group talks, and team work) and 40%(independent performance on assigned tasks, e.g. report and optional defense)

Number of Internship Positions: 2

Research Internship Location: Xinglongshan Campus, Shandong University

Research Internship Dates: one month in all year round

Are the dates flexible: Yes

Supervisor(s) Name(s) and Contact Information:

Supervisor : Zhi Ge

Email: zhige@sdu.edu.cn

Tel: +86 15606419030

Administrative Contact Information: Ms. LI Huijing, lihuijing@sdu.edu.cn

Website address: <http://www.istudy.sdu.edu.cn/en/?c=index>

Host university application: Yes

Research Internship Credit: 5 credits (similar like final graduation project)

Tuition fee: Waived for Students from Partner Universities

Dormitory accommodation available: yes, on-campus International Student Dormitory is guaranteed.

Accommodations fee: about 1200yuan/month