2023 College of Science, National Pingtung University

Middle and Long-Term Plans and Departmental Achievement Presentations

【Academic Programs】

【Keynote Speech】Dynamics of a stochastic epidemic model with correlation effects-Prof. Jin-long Li (Tsinghua University/ Institute of Computational and Modeling Sciences)

【Weekly Meeting】Learning, Brain Science, and Education and Training - Dr. Ruowei Jiang, R&D Director, Apricot Sun Training Consultant Co.

【Keynote Speech】On new integral inequalities with applications to inequality theory-Prof. Wei-Shi Du (Department of Mathematics, National Kaohsiung Normal University)

【Keynote Speech】Mathematics in Image Processing: Reconstructing Three-Dimensional Objects and Segmentation of Medical Images - Dr. Bing-Tsai Lu (National Cheng Kung University))

【Keynote Speech】What's the use of studying statistics? Let's be a statistician! Associate Prof. Hu Fu-Chiang (National Cheng Kung University)

【Weekly Meeting】Promoting Sustainable Transformation through the Power of Pathways - Carrefour Sustainability Chairman and Carrefour Cultural and Educational Foundation Mr. Su Xiaozhen, Sustainability Chairman

【Keynote Speech】Constant-weight conflict-avoiding codes-Prof. Cailian Wang (Department of Applied Mathematics, National Sun Yat-sen University)

【Keynote Speech】What is a Stochastic Differential Equation? - Prof. Bo-Han Hsu (Department of Applied Mathematics, National Sun Yat-sen University)

【NSTC】

主持人	內容
吳進通	計畫名稱：佐佐木流形上極小勒讓德曲面之研究　執行起迄：2023/08/01~2024/07/31 總核定金額：243,000元 計畫概述：在具有偽埃因斯坦結構的佐佐木流形上的勒讓德平均曲率流，我們期望能證明其具有長時間的存在性及收斂到極小的勒讓德曲面。
梁惟捷	計畫名稱：壓縮感測之大尺度訊號重建演算法　執行起迄：2023/08/01~2024/07/31 總核定金額：669,000元 計畫概述：科技的進步造成自然界訊號的擷取越來越龐大，而為解決大數據所帶來會耗費計算成本的影響，本計畫預計提出有效的演算法去降低感測以及回復時的成本。
羅元勳	計畫名稱：排列統計量的研究　執行起迄：2023/08/01~2025/07/31 總核定金額：1,247,000元 計畫概述：組合數學與代數、幾何學等許多傳統的數學領域都有很深刻的聯結，其中排列的統計量往往能反映出其所代表的抽象概念的本質結構。本計畫著重在一些重要的排列統計量及其之間的組合雙射、受限制排列和拋物商子集的有號分布，並推廣至B、D型考克斯特群和複反射群。
傅東山	計畫名稱：關於廣義有號排列之研究　執行起迄：2022/08/01~2024/07/31 總核定金額：1,300,000元 計畫概述：研究主題是屬於組合數學領域，探討有號排列統計量的計數性質及其推廣。

【After-school tutoring】

112-1課輔助教時間從9月18日開始

地點：五育樓402教室。

時間：星期一、二、三、四晚上7點到9點。

提供本系必修課程輔導時間，該時段將有助教協助輔導學習。

助教輔導時間如下:

星期一	星期二	星期三	星期四
呂芷安 (線性代數)	孫瑞苔 (微積分)	白子葳 (微積分) 18:30-20:30	
張宏勳 (微積分)	蔡承祐 (圖論)	施佑錡 (計算機概論)	
機率論 (林于傑)	黃昱綺 (統計學)	謝旻翰 (數值分析)	

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【Department Development Plan】

※EMI Teaching Assistance Program in the Department of Applied Mathematics ※

Speaker: Ms. Ling Yun Chung (Adjunct Lecturer, Nanhua University)

Time: Reserve in advance, every Saturday.

- Purpose: To enhance students' English listening, speaking, reading and writing skills through the interactive learning of the Mathematics courses in English, lectures, explanations, corrections and discussions.
- **Program Practice：**
  - Invite scholars and experts with relevant academic qualifications in English teaching and who have formal university teaching qualifications in China to conduct regular online English enrichment learning activities focusing on English listening and speaking skills. The program is designed to provide a regular online English enrichment program for English listening and speaking skills.
  - Interactive learning will be conducted online through the guided reading of academic papers in English, reports, lectures, explanations, suggestions, corrections, and discussions.
- **Program Benefits：**
  - Enhance students' English listening, speaking, reading, and writing skills, and train them in logical comparisons and judgments that are different from those in Chinese, so that they can develop a foundation for language learning in the future.
  - Students can learn from experts and scholars who have both theoretical and practical qualifications in English language teaching and who are qualified to teach at universities in China. Students will be able to interact with scholars and experts who are qualified to teach English as a foreign language and who have been certified to teach at universities in China.
  - In addition to improving the English language skills of our students, we also enhance their mathematical skills through full English lectures in math courses or academic papers by our faculty. Teachers can also develop or modify their ability to teach Mathematics courses or academic papers in English.
  - By inviting students to study with us, we can enhance their English listening, speaking, reading, and writing skills, which will increase their chances of finding employment in the future, and strengthen the ties between students and faculty members.
- **Future Practices：**
  - In the future, it is expected to extend the assessment of basic English proficiency to include all English courses for university students.
  - In addition to the original announcement, each class instructor will strengthen the publicity to encourage students to participate in the program.

※Department of Applied Mathematics, Basic Mathematics Education in the Southern Region - Downward Bound Tutorial Learning Program※

Presenter：Jun-cheng Chen (Industry Lecturer, M.S. Department of Applied Mathematics, Pingtung University)

Time: Every Saturday and Sunday

***Purpose:**

To invite high school and junior high school students in the south central region to participate in the program through lectures, explanations, answers, and discussions of the National High School Mathematics Curriculum, in addition to fulfilling social responsibility. It can also achieve the purpose of enrollment promotion.

***Program Approach:**

- Invite industry faculty with both theory and practice to teach the national high school mathematics curriculum online.
- Interactive learning through lectures, explanations, answers, and discussions.

***Program Benefits:**

- Enhance the basic mathematical skills of high school and junior high school students in South Central Taiwan, and train them in mathematical logical thinking, so as to cultivate the foundation for future science and technology courses.
- Through the interactive learning process with the theoretically and practically oriented students, the students will be able to learn more about the mainstream mathematical issues outside of the school curriculum. The program is designed to provide students with the opportunity to learn about mainstream mathematics topics outside of the school curriculum.
- Through lectures, practical applications, and exercises, students will be able to build a foundation for future mathematics exams by practicing various types of archaeological problems. To promote the development of basic mathematics downstream.
- This course is designed to promote basic mathematics and to fulfill social responsibility by building up students' willingness to study in order to achieve enrollment goals.
- In addition to inviting faculty members to teach, faculty members are also invited to observe the class, which can be used as a pre-service training for future teaching and to strengthen the connection between faculty and friends.

***Future Practices:**

- Expand the invitation to alumni with relevant teaching experience to participate in teaching.
- In addition to the original announcement, we will also encourage more NSS students to participate in the program through the promotion of the alumni in different cities and counties.