

Chair Professor Defeng Sun, Head of Department of Applied Mathematics Received the Distinguished Collaborator Award from Hong Kong Research Center, Huawei Technologies Co. Ltd.

Congratulations to Chair Professor Defeng Sun, Head of Department of Applied Mathematics at PolyU for winning the Distinguished Collaborator Award from Hong Kong Research Center, Huawei Technologies Co. Ltd. for his contribution on a collaborative research project named 'Solving Large Scale Linear Programming Models for Production Planning (面向排產的大規模線性規劃求解器)'. Professor Sun and his research team received the award from Dr Huiling Zhen, the representative of Huawei Technologies Co. Ltd. (2nd from the left), on 29 October 2021 (Friday).



The project focused on the core technical problem of the multi-factory production planning problem, which can be regarded as a relaxed linear programming problem of the large-scale mixed-integer programming problem. Based on the specific structure and data characteristics of the specific problems, in this project, Professor Sun and his research team constructed a more stable and robust algorithm for providing effective initial solutions and efficient presolving method. The team designed a software package that outperforms the current commercial software package for linear programming. The research

outcome has greatly enhanced the efficiency of the supply chain management and planning.

Focusing on research of the development of efficient optimization algorithms for solving large-scale complex optimization problems, statistical regression models and machine learning problems, Professor Sun devised a world-

recognized second-order sparsity based solution methodology separating useful data from useless data and uncovering minute information on a large scale. This innovative technology has been used both academically and in real-world applications.

Professor Sun currently serves as an Associate Editor of SIAM Journal on Optimization, Mathematical Programming, Journal of the Operations Research Society of China, Journal of Computational Mathematics and Science China Mathematics, and Journal of Optimization Theory and Applications. He has been an Advisory Committee Member of Asia-Pacific Journal of Operational Research since 2014, and is invited as a plenary speaker at the SIAM Conference on Computational Science and Engineering (CSE21) held in March 2021. Professor Sun is an elected Fellow of both the Society for Industrial and Applied Mathematics (SIAM) and the China Society for Industrial and Applied Mathematics (CSIAM).

