專 題 演 講

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題 目： Online Algorithms with Advice

大 綱：

Online algorithms have to make decisions without knowing the full input. A well-known example is caching: Which page should we discard from a cache when there is no more space left? The classical way to analyze the performance of online algorithms is the competitive ratio: How much worse is the result of an optimization problem relative to the optimal result. A different and relatively new viewpoint is the advice complexity: How much information about the future does an online algorithm need in order to become optimal? Or, similarly, how much can we improve the competitive ratio with a given amount of information about the future? In this talk we will look at the growing list of known results about online algorithms with advice and the interesting problems that occured when the pioneers of the field came up with the definition of this model.

簡 歷：

Peter Rossmanith is a professor of Theoretical Computer Science at RWTH Aachen University in Germany. He is mainly interested in Efficient Algorithms, but also likes to look at all other aspects in Computer Science and Mathematics including Computer Science Education. He is the author of more than one hundred scientific publications, has been on the program committee of numerous conferences, and is associate editor of Computer Science Review. He is a board member of the German Computer Science Faculty Association and chairman of the committee that designs the tasks for the Federal Computer Science Competition in Germany.