

NUS High School Distinguished Visitor Programme

Reported by DYLAN TOH SHAN HONG from M13103

Recently, NUS High School was very honoured to host Professor Imre Leader, an eminent Professor of Pure Mathematics, from 23rd to 31st August 2013.



Professor Leader obtained his PhD in 1989, at the University of Cambridge. He was previously a member of the British team in the IMO, and later led the team from 1999 to 2001. He was awarded the Whitehead Prize of London Mathematical Society in 1999. He was also the Chief Coordinator and

Problems Group Chairman for IMO 2002, and is currently a fellow of Trinity College, Cambridge. His research work has concentrated on Graph Theory and Combinatorics, particularly in isoperimetric inequalities, extremal Combinatorics and Ramsey Theory.

On 26th August 2013, he conducted a lesson on extremal combinatorics with Olympiad students. During the class, he brought up the various techniques that could be used in handling problems dealing with infinity, and shared with us about the different ways one should approach a problem. The lesson was certainly fascinating and fruitful for all.



The next day, he delivered a lecture to year 5 and 6 math majors and other students. He shared with us the various problems regarding “Pursuing and Evading”, and the methods used to tackle them. The concluding problem was extended to the infinite scale, providing different views and solutions. He ended with a note on the applications of this field; that everything covered in the lecture was merely the tip of the iceberg. The topic was in its essence captivating and complex. Professor Leader addressed the various cases and perspectives, allowing us to comprehend the proofs easily and effectively.



He also held an open talk to all who were interested in mathematics. Titled “Think of a Number”, he ran through the countless different ways to obtain a large number. Each idea he touched on opened new doors for many; each new concept exposed the audience to the endless possibilities that could arise from a simple problem: defining the largest number under a minute. He

ended off with a note that the search for the largest number would be endless; however, it would be the ideas that truly mattered.



During a sharing session with the Einstein+ members, he shared with us his journey as a mathematician. It was certainly not an easy feat; he related that his daily life was not one full of surprises, but one of hard work and perseverance. It was years of hard work for a final, brilliant product, but through the years, he was not even sure that what he was searching for truly existed. However, he still expressed his strong encouragement for students brave enough to choose an identical path, as he believed that with enough determination, one would eventually succeed.



Personally, I feel that it was a very interesting, amazing experience. The topics covered were completely new to me, the methods unfamiliar. Professor Leader has truly exposed me to topics I have never reached into before, posing problems that have stretched my perception of Mathematics. I am now more encouraged to further explore the various aspects of Mathematics, dwelling into the realm of the unknown!