



**CIMPA - UNESCO - NEPAL RESEARCH SCHOOL  
ON  
NUMBER THEORY IN CRYPTOGRAPHY AND ITS APPLICATIONS  
(A Satellite Conference of ICM 2010)**



July 19 – 31, 2010 (Srawan 3 – 15, 2067)

Kathmandu University, Dhulikhel, Kavre

## **CLOSING CEREMONY**

### **Collaborations:**

- International Center of Pure and Applied Mathematics (CIMPA), France
- United Nations Educational Scientific and Cultural Organization (UNESCO)
- Ministeiro de Ciencia e Innovacion (MICINN), Spain
- Universita' Roma Tre, Italy
- Nepal Mathematical Society (NMS)
- International Centre of Theoretical Physics (ICTP), Trieste
- International Mathematical Union (IMU)
- Institut de Mathematiques de Luminy, Marseille, France
- National Board of Higher mathematics (NBHM), India
- The French Embassy in Nepal, Kathmandu

### **Sponsors:**

- Ministry of Science and Technology (MOST), Nepal
- University Grants Commission (UGC), Nepal
- Nepal Academy of Science and Technology (NAST)
- Kathmandu Engineering College (KEC), Kathmandu
- Siddhartha College & H.S.S., Banepa
- Mathematics Teachers Society, Kavre
- Chelsea International Academy, Kathmandu
- Popular Education Foundation, Nepal







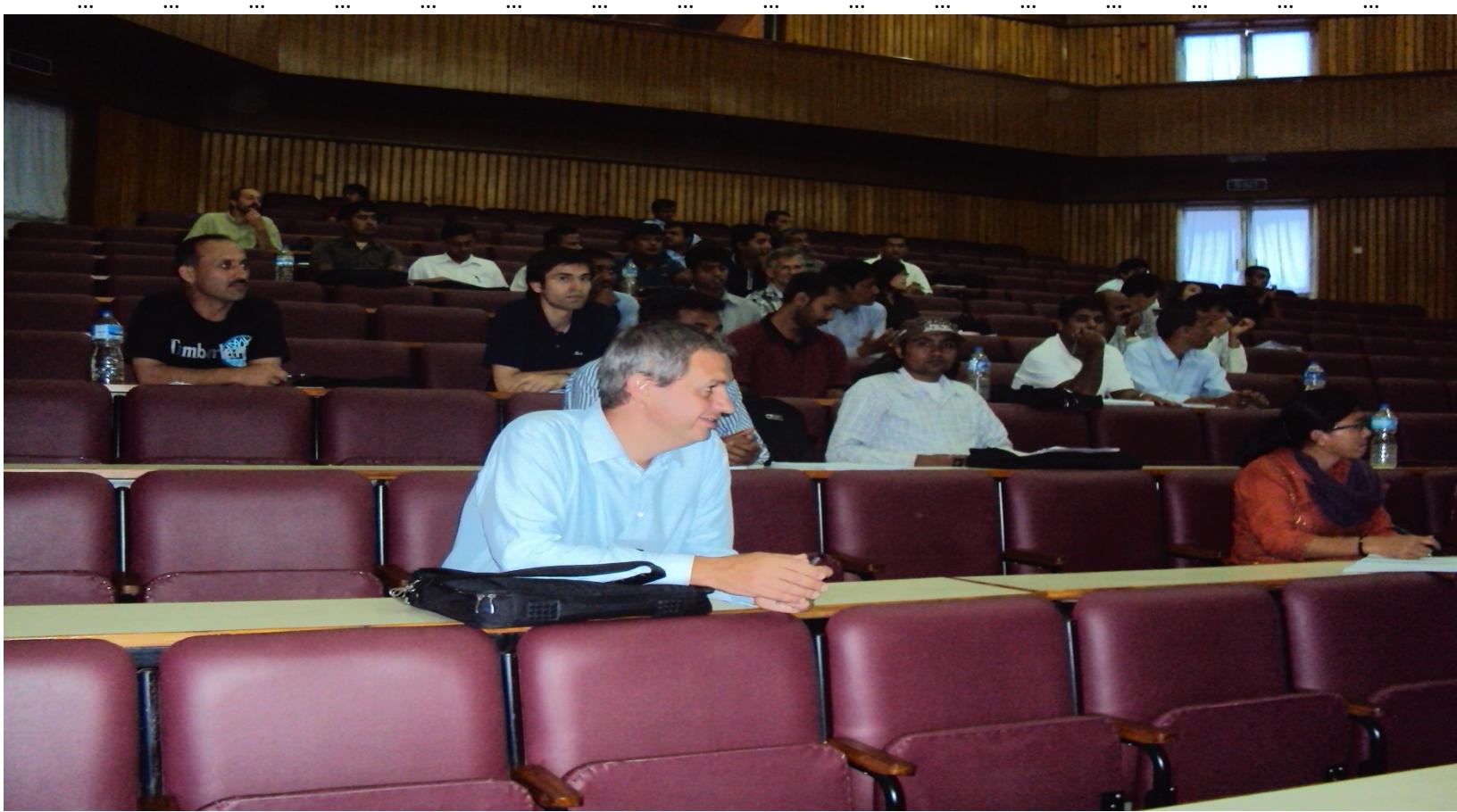




A man with glasses and a light-colored shirt is standing behind the podium, looking down at some papers he is holding.







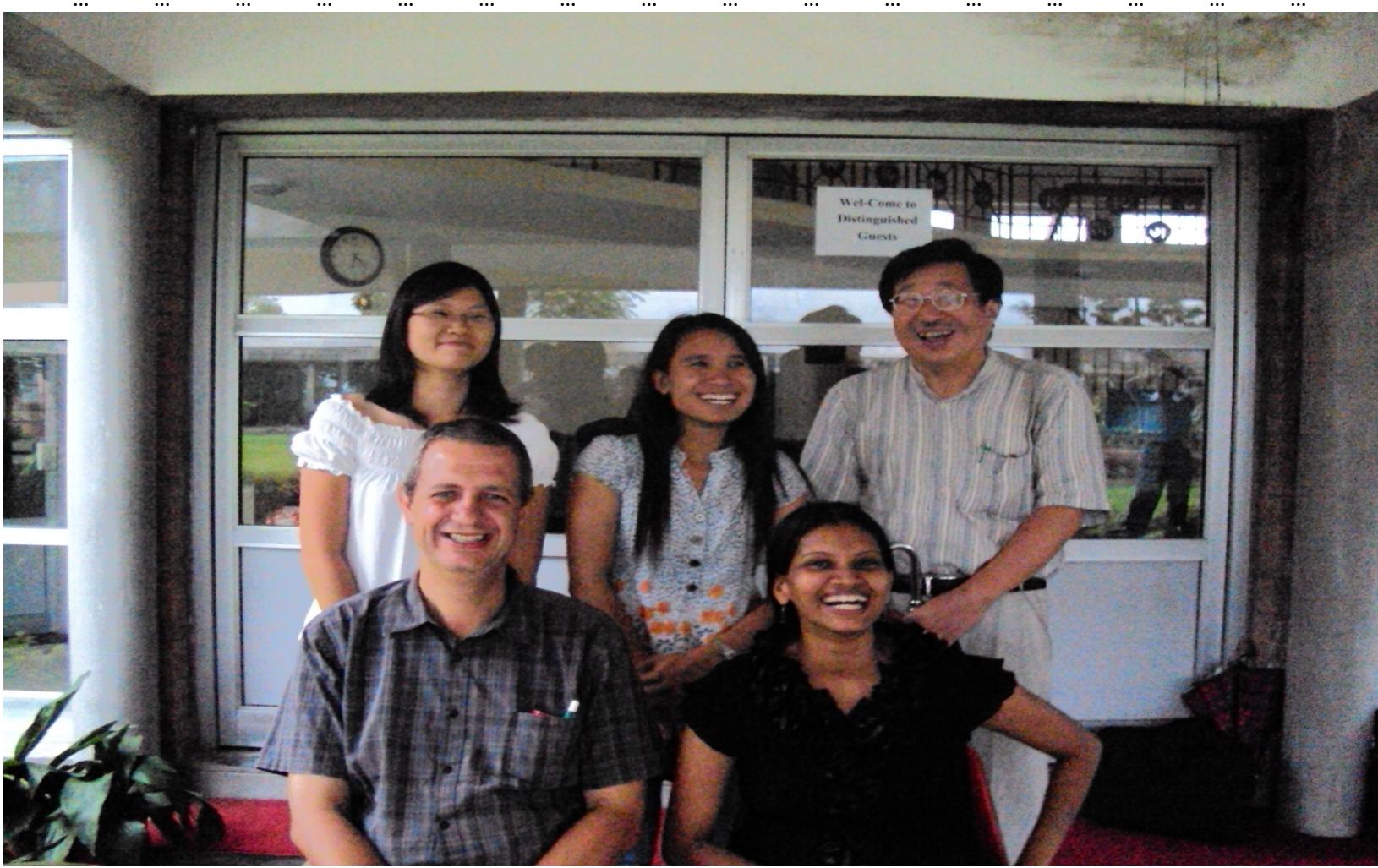






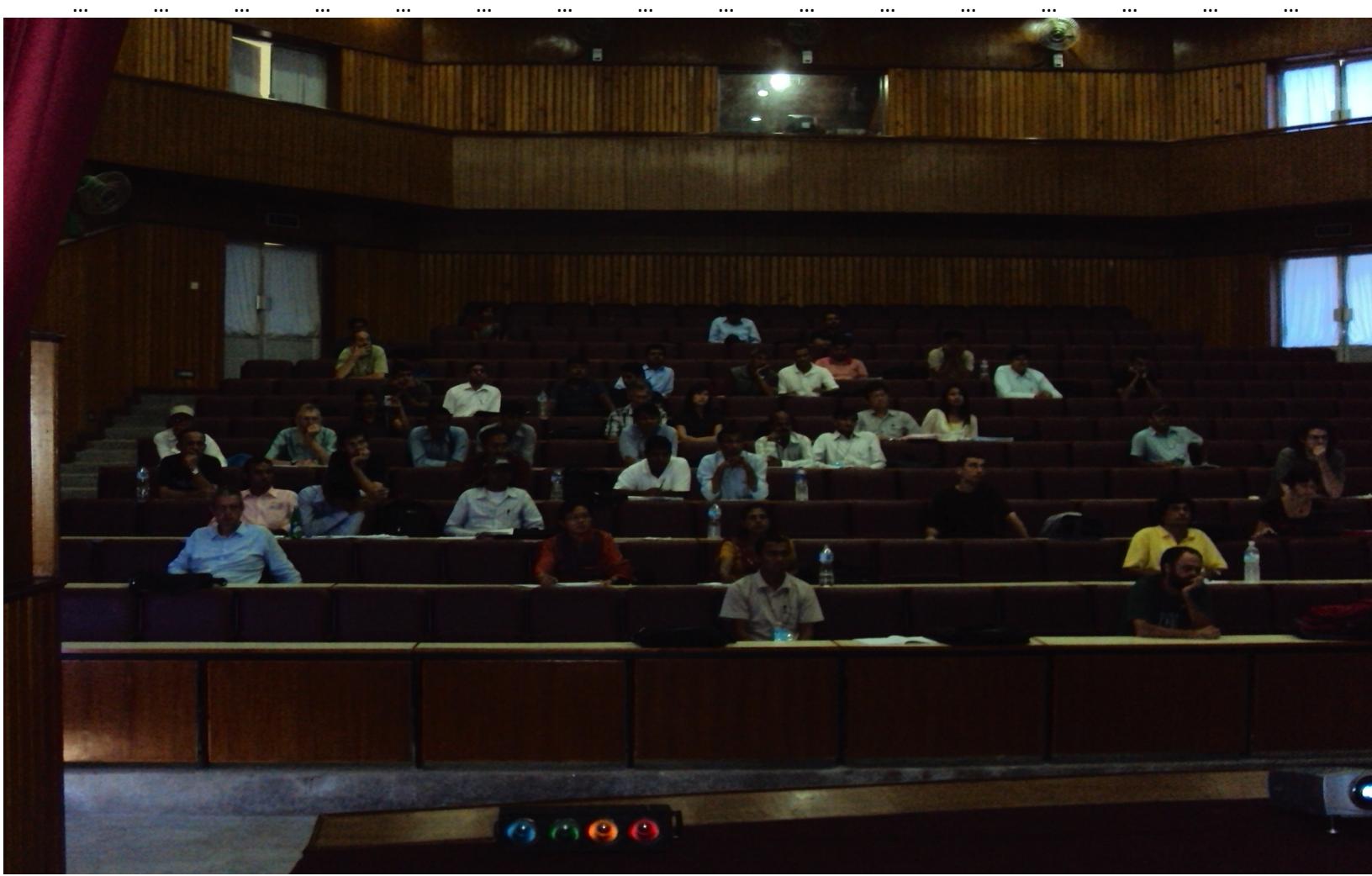


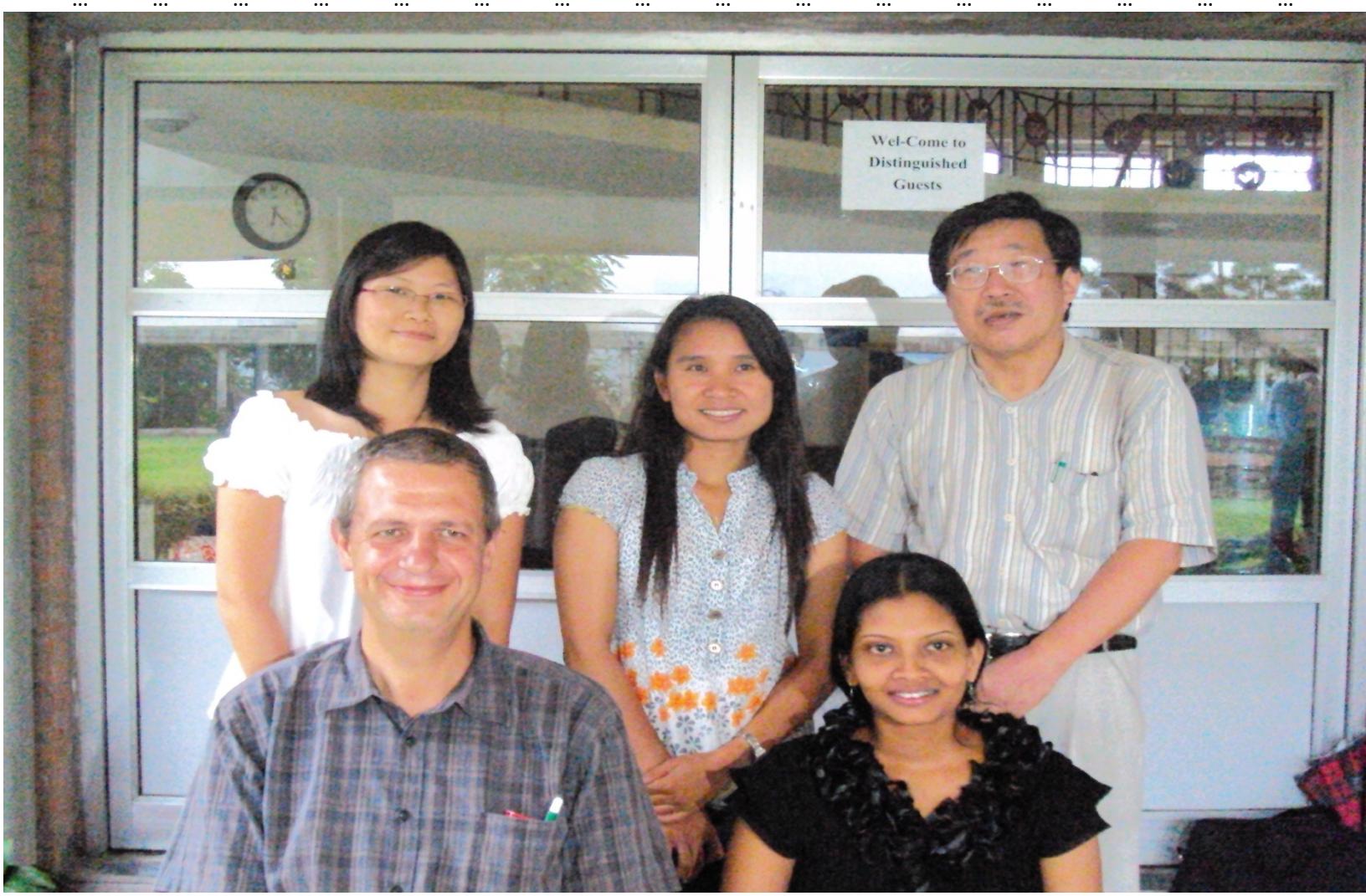






A man in a light blue shirt stands behind a podium, smiling. He is positioned behind a large white banner that features the Kathmandu University logo.







$$\zeta(s) = \prod_{p} (1 - p^{-s})^{-1} = \sum_{n=1}^{\infty} \frac{1}{n^s}, \quad \sigma > 1$$
$$(1 - 2^{-s}) \zeta(s) = \sum_{n=1}^{\infty} \frac{(-1)^n}{n^s} \rightarrow \sum_{n=1}^{\infty} \frac{(-1)^n}{2^n n^s} = L_{\zeta, 2}(s)$$

polylogarithm

$$(1 - 2^{-s}) \zeta(s) = \sum_{n=1}^{\infty} \frac{1}{2^n n^s}$$

$$(1 - 2^{-s})(1 - 3^{-s}) \zeta(s) = \sum_{n=1}^{\infty} \frac{1}{2^n 3^n n^s}$$

$$\prod_p (1 - p^{-s}) \zeta(s) = 1$$

$\therefore \mathbb{Z} \in \{\text{Euclidean}\} \subset \{\text{PID}\} \subset \{\text{UFD}\}$

polynomial complexity :  $O(\log n)$

exponential complexity:  $O(2^{\log n})$

$O(n)$

= 0 0

$$5 = (5)$$

$$\text{GCD}(5, 36) = 1$$

