NUS Physics Germany Immersion Programme

3rd – 22nd July 2007
Outline of Today's Presentation

• Brief summary of the trip
• Places we visited
• Things we have learned from the trip
• Should such a trip be organised again in future?
Physics in Germany
Munich

3rd – 14th July

• Universities
• Neutron Research Reactor
• Max-Planck Institutes
• Wendelsstein Observatory
• Deutsche Museum
Ludwig-Maximillians University of Munich

- Largest university in Germany
- Site of 1943 White Rose campaign where students conducted anti-Nazi activities
- Heisenberg, Max Planck and Pauli were associated with the university
Neutron Research Reactor

- Production of neutrons for research and medicine
Max Planck Institutes

- Max Planck Institute for Quantum Optics
Max Planck Institutes

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Quantum Information Technology
Max Planck Institutes

- Max-Planck Institute for Plasma Physics
- Germany’s largest facility for fusion Physics
Wendelsstein Observatory

- Summit of Mount Wendelstein, 1848 m high in the Bavarian Alps
- Institute for Astronomy and Astrophysics of the University of Munich
Physics Colloquium on String Theory
Deutsche Museum

- Largest museum in Germany for Science and Technology
Goettingen

14th – 20th July

- Georg-August Universitat
- Institute of Astrophysics
- Particle Accelerator Lab
- Max Planck Institute
Georg-August Universität

Faculty of Physics with new observatory
Institute of Astrophysics

• Observatory at the top of the university building
Particle Accelerator Lab

- The particle accelerator at Georg-August University
However, not all Physics...
Alte-Pinakothek Art Museum
LMU Student Summer Night
Die Muenchner Residenz

- Residence of the German aristocracy
and of course...

Biergarden!!
In Goettingen...

- Cemetery where famous physicists such as Max Planck, Born and Schwarzschild were buried
Goettinger Tageblatt

- Local newspaper publishing company
Sartorius Company

- Manufacture of filtration membranes
Hannover Muenden
University prison??

Yes!!

• Students were once placed in there for bad behaviour
• Otto von Bismarck was once a resident
Thoughts and Reflections

- Exposure to new and many exciting areas of research in Physics
  - Neutron Physics
  - Biophysics
  - Quantum Optics
  - Cosmology
  - Plasma Physics
  - Astrophysics / Nuclear Astrophysics

- Culture of lively academic discussion and debate observed at colloquiums

- Glimpse of undergraduate studies in Germany (interactive demonstration of physical principles in Electrodynamics lecture)

- Visits to places where physics Nobel laureates once studied or lived (or even buried!) was truly an experience to be treasured.
Physics
• Not just a holiday filled with consumerism

• Opportunity to visit places one might not be able to if traveling on our own (nuclear reactor…)

• Opportunities for interaction with foreign students and lecturers.

• Exposure to research developments in foreign countries and develop similar ideas to when one undertakes research back home.

Social/Cultural
• Germany offers a rich history for one to experience (early 16th century/pre-war/post-war)

• Culture – food, drinking, art, architecture/city layout

• Providing overseas opportunities for students who might be unable to visit overseas
The End