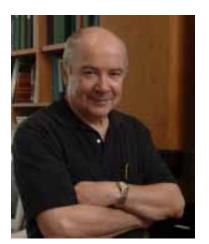# RESEARCH SEMINAR

## STRUCTURAL BIOLOGY: CHALLENGES AND PROSPECTS
## NOBEL PRIZE WINNER PROFESSOR JOHANN DEISENHOFER

Johann Deisenhofer is the 1988 Nobel Prize winner in Chemistry.
He was awarded the prize jointly with Hartmut Michel and Robert Huber for their crystal structure determination of the membrane bound photosynthetic reaction centre. Prof Deisenhofer has been working at the Howard Hughes Medical Institute and The University of Texas Southwestern Medical Center at Dallas since 1988.

Prof Deisenhofer has published over 150 journal articles, book chapters and books, but it is the quality rather than quantity that is outstanding. Most publications are in the extreme top journals such as Nature, Science, Cell and PNAS. He has over 20,000 citations, an h-index of 62 and an average of 130 citations per paper. He received a number of awards in addition to his Nobel Prize in Chemistry in 1988. Among other memberships and honours, he is a member of Academia Europaea, National Academy of Sciences of the USA, and Fellow of the American Association for the Advancement of Science.

Since the 1950s, structural biology has experienced enormous progress and has contributed to almost all aspects of biological research. Despite countless successes, challenges remain. Among them are a continuing need to push the boundaries of current techniques for structure determination of proteins and nucleic acids, as well as larger assemblies. Equally necessary are improvements of our understanding of macromolecular structures, so that we can make reliable predictions, for example, about the folding, stability, and function of proteins.

Using examples from our own work, I will discuss open questions in modeling macromolecular structures and dynamics. I will also comment on recent technological developments, such as, for example, the free electron lasers coming online in Europe, the US, and Japan.

Date:       Wednesday 22 September 2010
Time:       4:00pm
Venue:      Dunbar Physics Lecture Theatre