

Nanometer Structures Division (NSD)

Ana G Silva Christian Teichert Sidney Cohen



RECENT IUVSTA INTERNATIONAL SCHOOLS

Physics at Nanoscale 2002, 2005, 2008, 2011, 2014, 2017, Czech Republic

Nano-Optics : From Principles to Basic Research and Applications 2016, 2019 - 2nd expected, Portugal

Webinar on Nanoparticles Fundamentals 2017, Italy

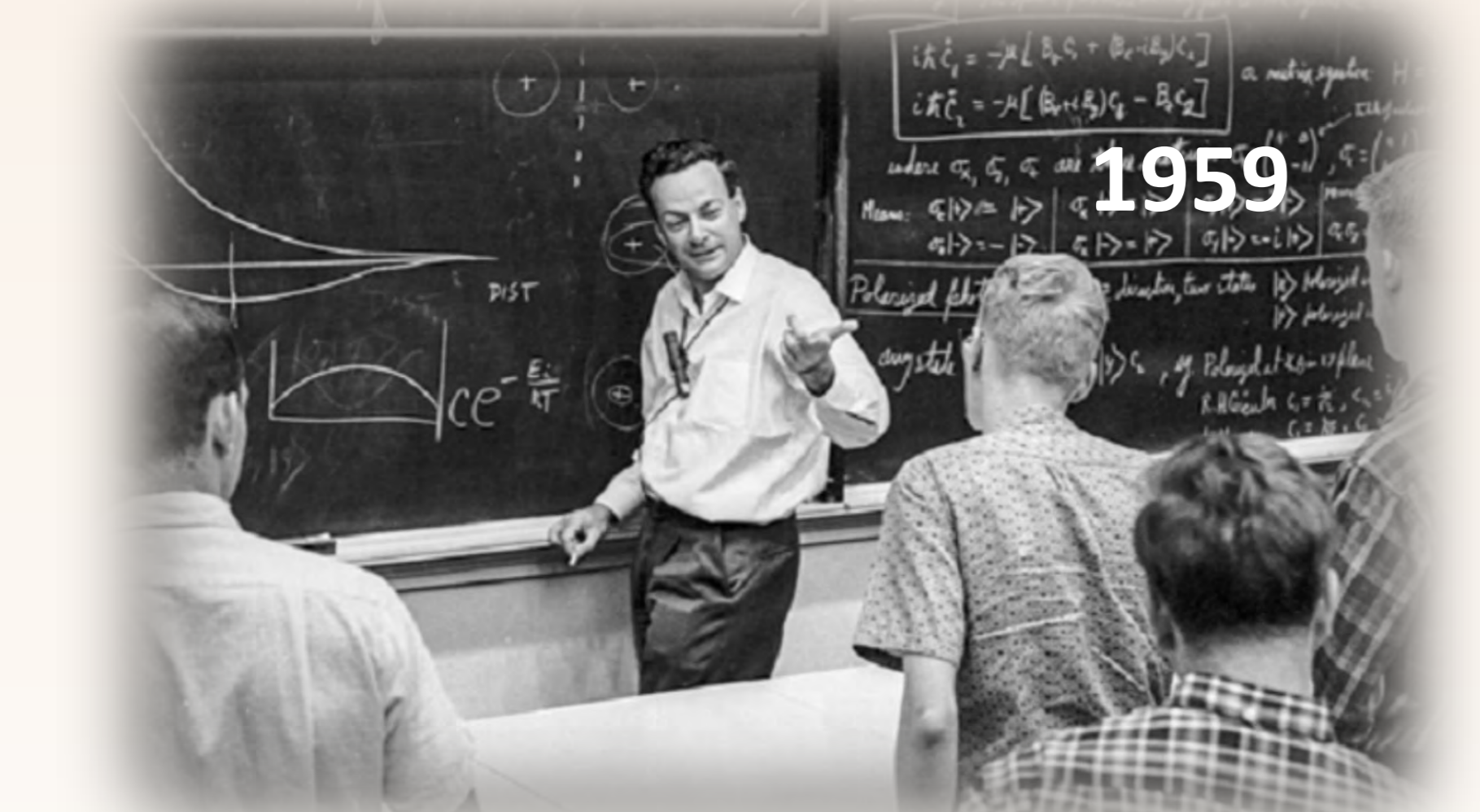
RECENT IUVSTA WORKSHOPS

Nanostructures on Two-Dimensional Solids 2014, Austria

Surface Micro-Spectroscopy and Spectro-Microscopy 2018, Israel

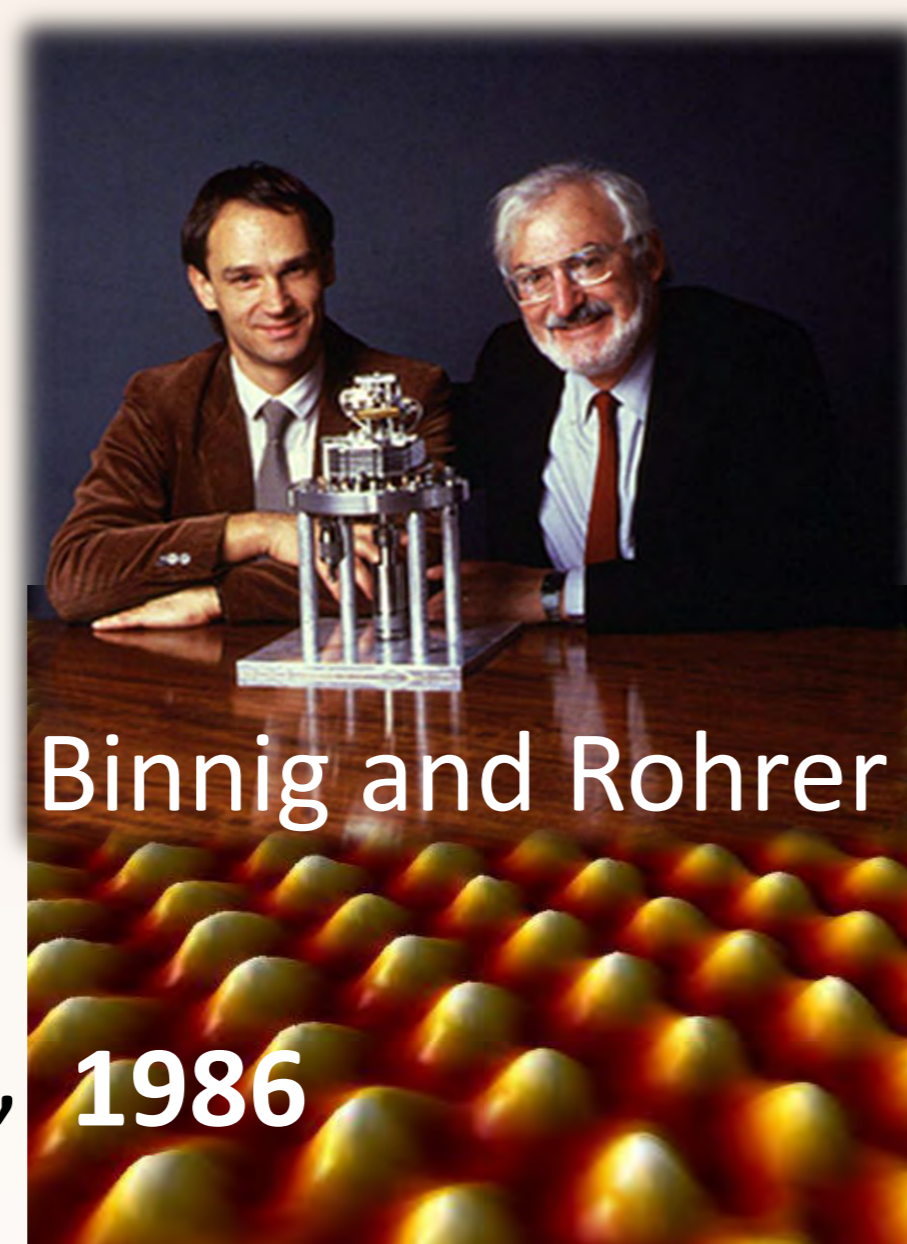
THE BEGINNINGS - PHYSICS AND CHEMISTRY NOBEL'S - INVENTIONS - MILESTONES - THE FUTURE

Feynman Nanotechnology lecture



"There's plenty of room at the bottom"

STM 1981



Binnig and Rohrer

1986

AFM



Gerber Quate and Binnig

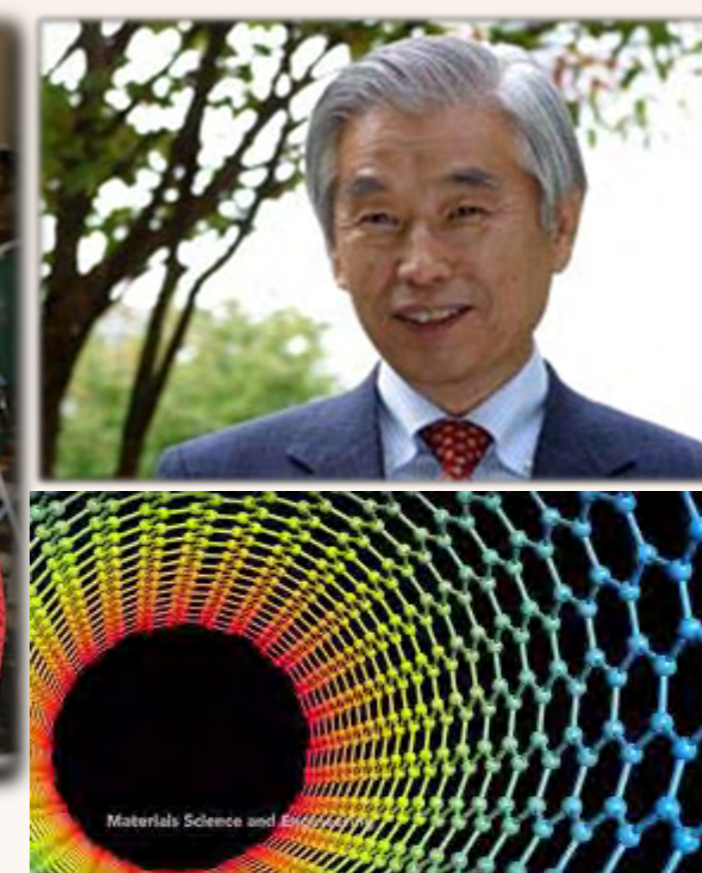
Kavli Prize in Nanoscience 2016

M. Dresselhaus



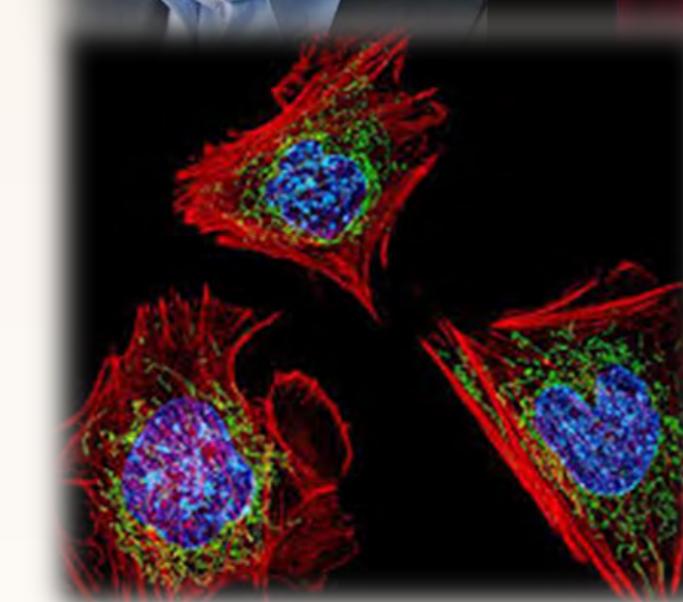
Kavli Prize in Nanoscience 2012

S. Iijima



CNT's 1991

Hell



Betzig



Single Molecule Resolution 2014

Moerner

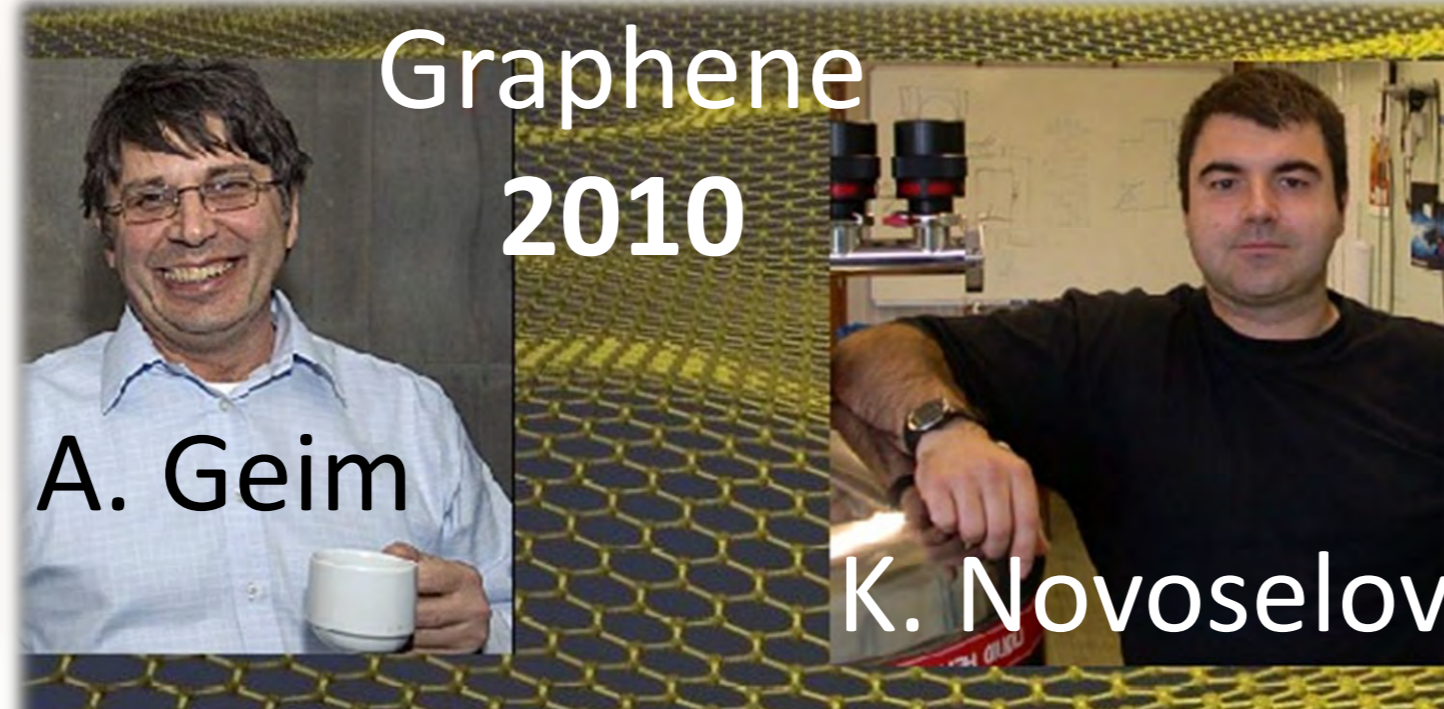


Fert and Grünberg



C₆₀-1996

Graphene 2010



A. Geim

K. Novoselov



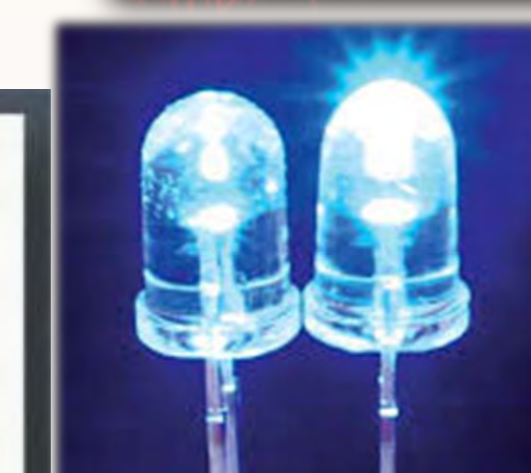
Akasaki



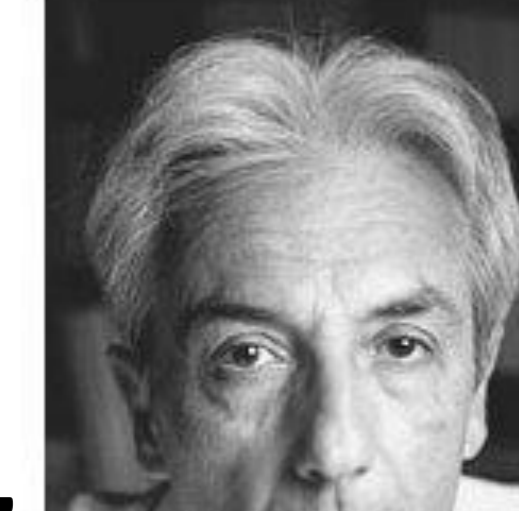
Amano Blue LED 2014



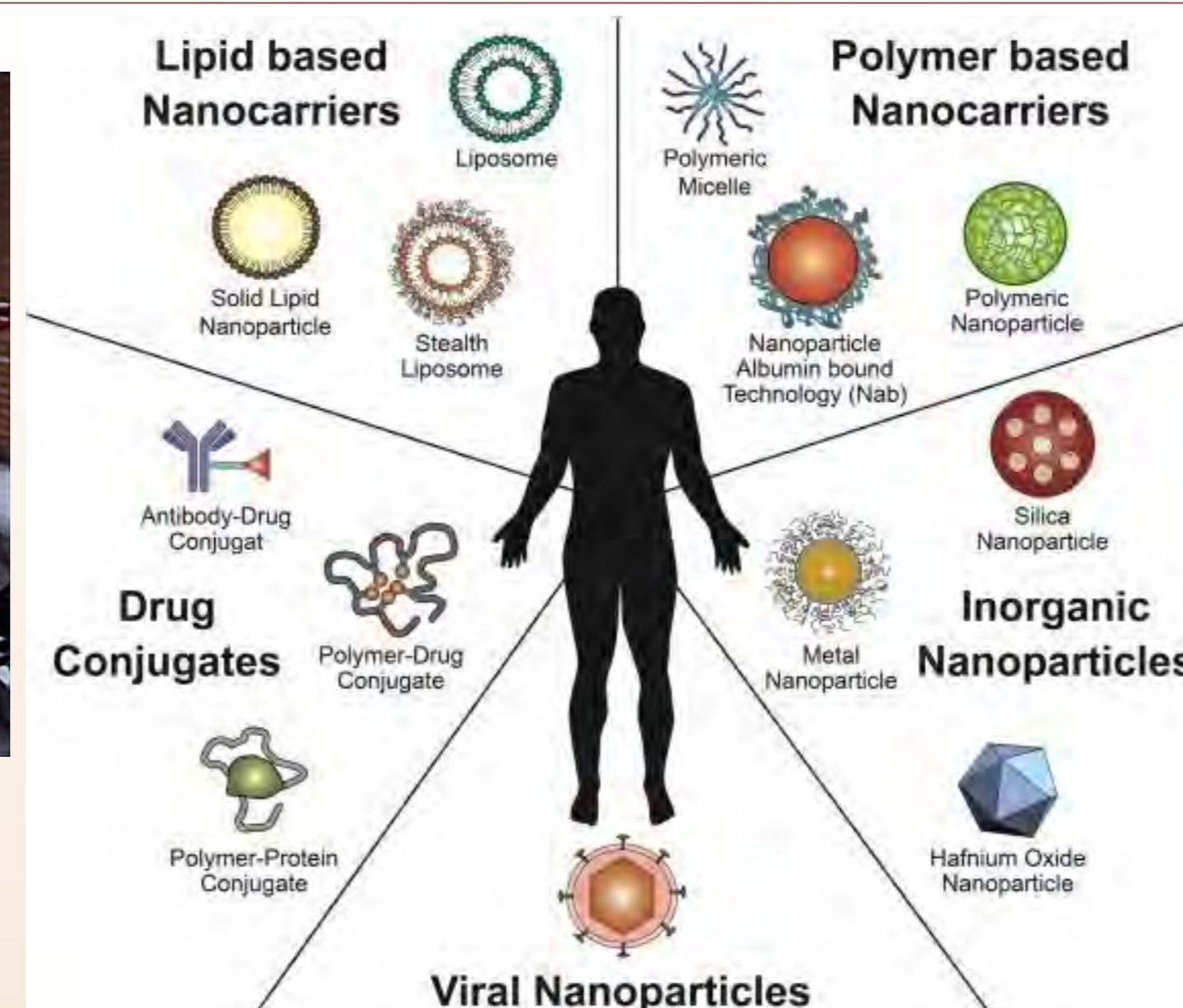
Nakamura



2007 GMR



HIGHLIGHTS - CONTRIBUTIONS TO SOCIETAL BENEFITS.



FOOD AND HEALTH FOR ALL

MOBILITY

WELL-BEING in LATER LIFE

and AGEING



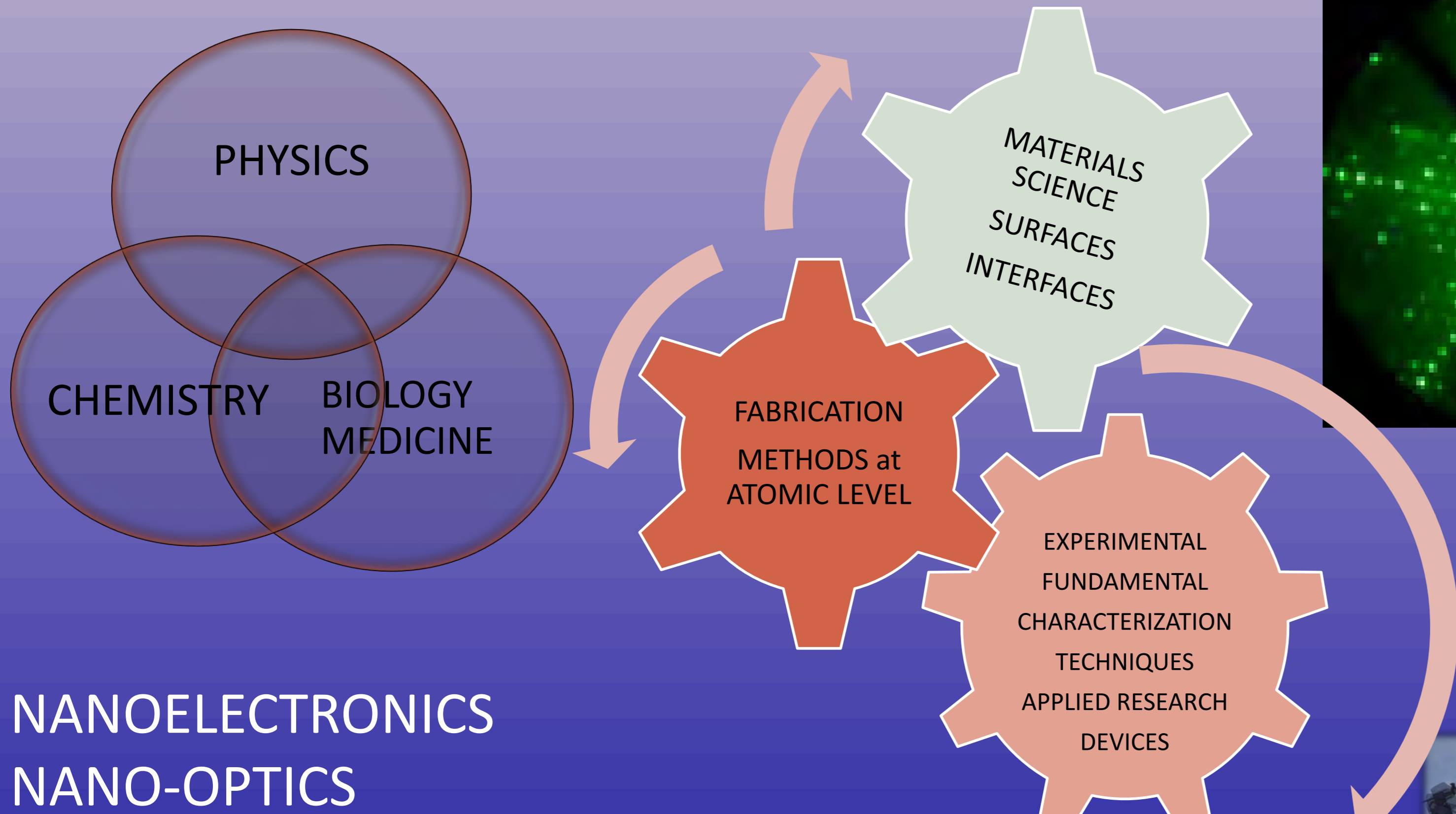
ENERGY SAVING

WORLD DEFENCE

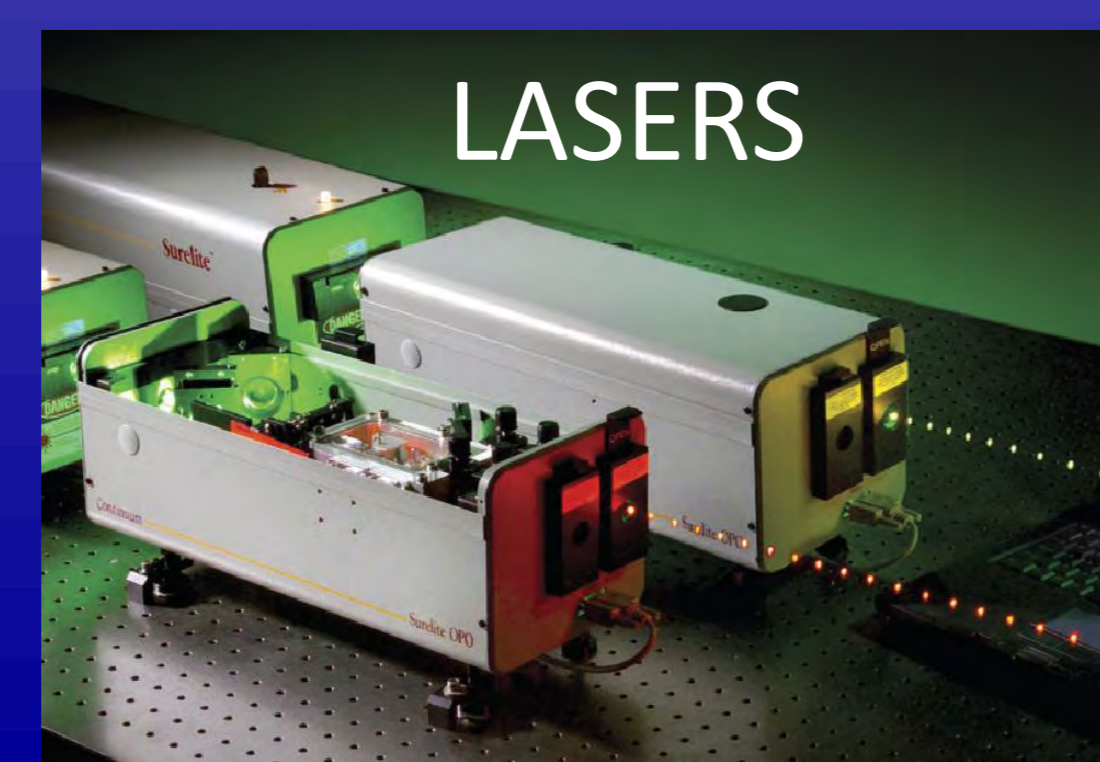
AEOROSPACE



RESEARCH - INTERDISCIPLINARITY - CROSSED FIELDS – ADVANCED TECHNOLOGY



NANOELECTRONICS
NANO-OPTICS
OPTICAL TELECOMMUNICATIONS
NANOMEDICINE
SOLAR CELLS, ENERGY
HIGH DENSITY STORAGE DATA



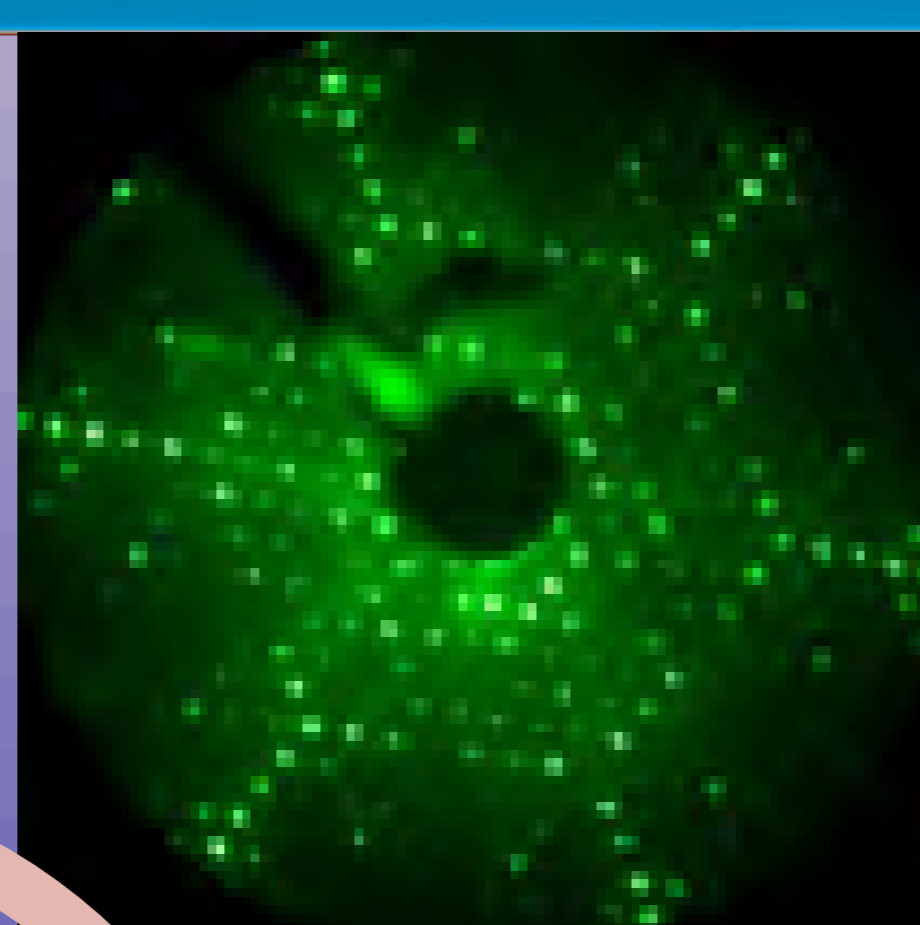
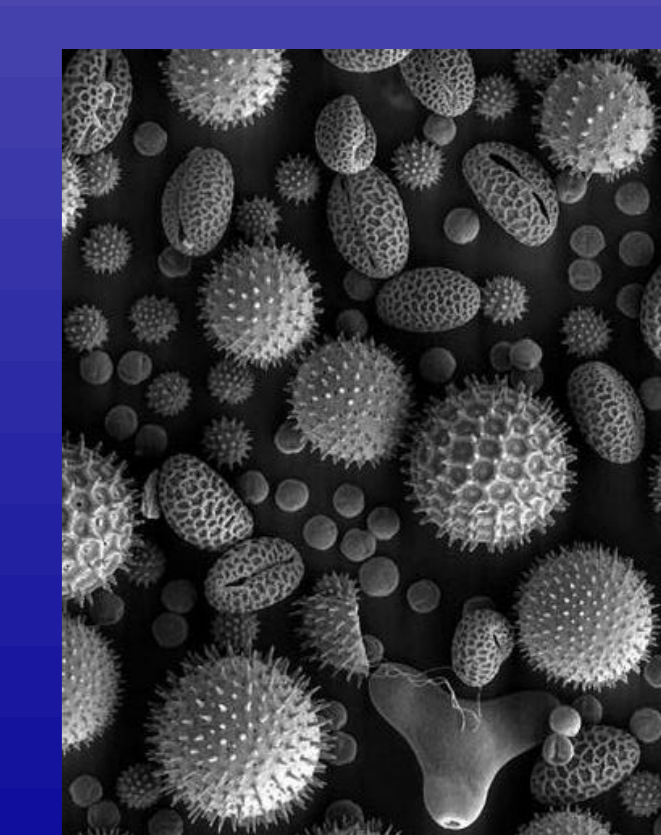
LASERS



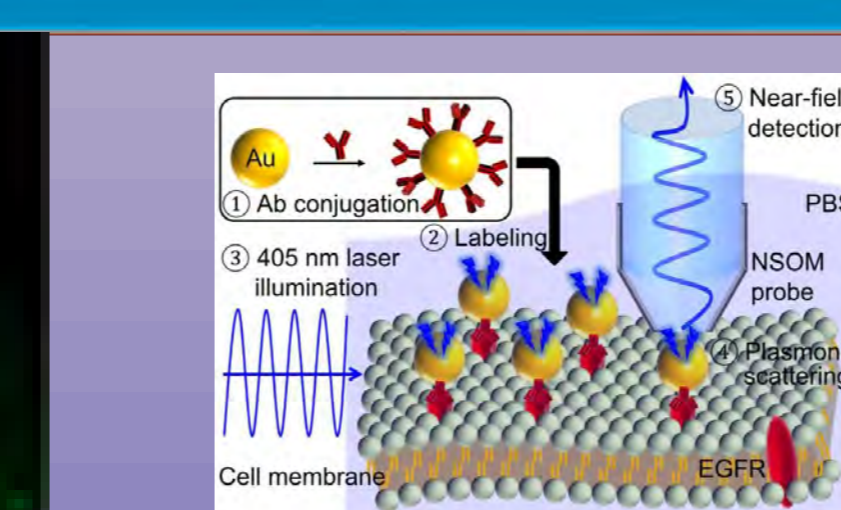
Large Facilities



CLEAN ROOM



LEED

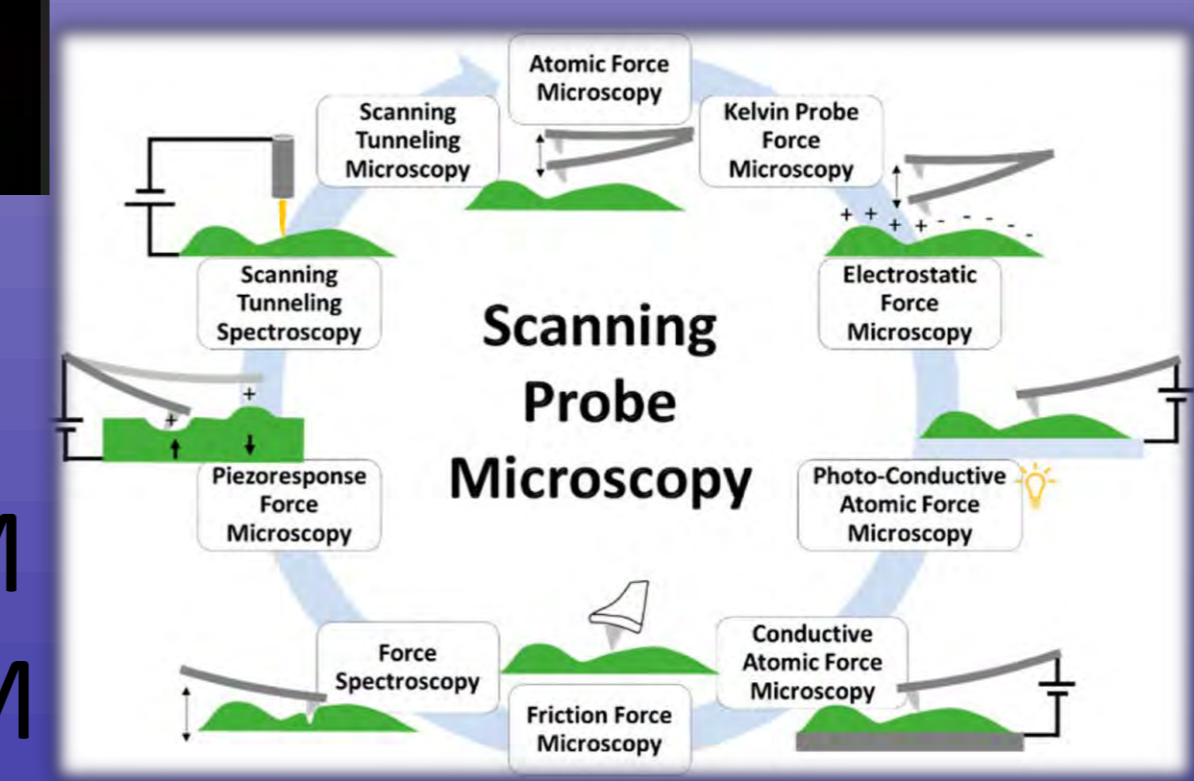


NSOM

MBE

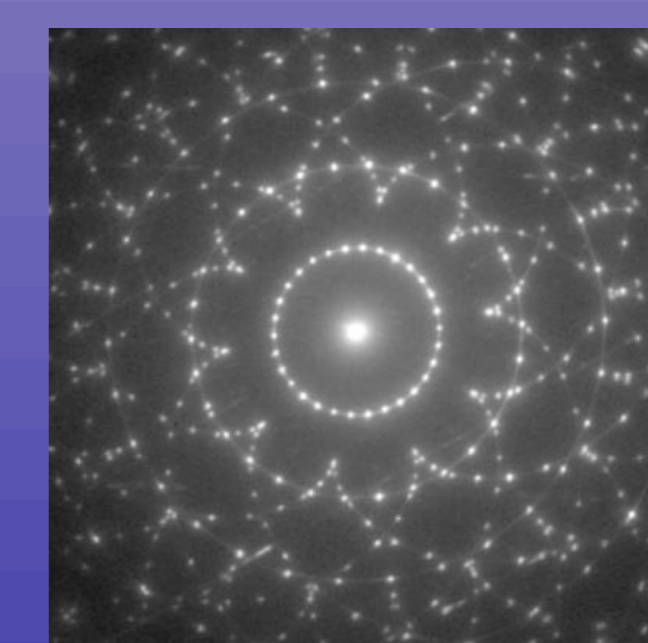


SEM TEM



Scanning Probe Microscopy

STM AFM



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