

WHY CNS, UNIST?

The World's Top Researchers lead UNIST College of Natural Sciences.

Two Faculty of CNS was selected as the World's Top 1% Researcher (HCR by Clarivate) 9 UNIST faculty was selected as HCR 2023

Highly Cited
Researcher
2023

Clarivate™

Rodney S. Ruoff Dept. of Chemistry
Director of IBS Center for Multidimensional Carbon Materials
Selected for 10 consecutive years

Kwang Soo Kim Dept. of Chemistry _ Selected for 6 consecutive years



Reiden Ranking ranked

**No. 1 in Korea for
7 consecutive years**



THE the World in Emerging
University Evaluation in 2023 ranked

**No. 1 in Korea,
No. 10 in the World**



QS Asian University Evaluation for
Paper Citation in 2023 ranked

**No. 1 in Korea,
No. 2 in Asia**

Specialist

With a population of over 500 students, CNS is committed to providing students with educational experiences that prepare them to successfully become future leaders and innovators in their field of area. In order to strengthen students' global capabilities, all classes are conducted in English and are always open to foreign students.

Global Research Internship

To enhance students' research experience and cultivate global capabilities, CNS is operating to send undergraduates to overseas universities for 1:1 exchange. Selected students will belong to the laboratory and contribute to the lab's ongoing project with local researchers. This program recruits in the fields of Physics, Math, and Chemistry.

Benefits

Dispatch 4 to 8 weeks
during Summer/
Winter vacation

Belonging to a Local
Lab & Participating
in Research Projects

Inbound :
Dormitory & Meals

Outbound :
Round-Airfare &
Living Expenses

* Every benefits are flexible depend on agreement of conditions.



COLLEGE OF NATURAL SCIENCES

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Republic of Korea
www.cns.unist.ac.kr





U N I S T
COLLEGE OF
N A T U R A L
S C I E N C E S

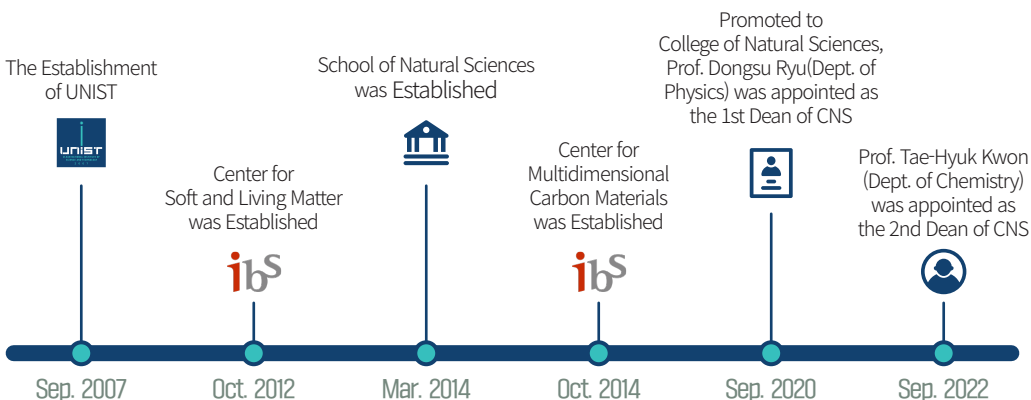


COLLEGE OF NATURAL SCIENCES

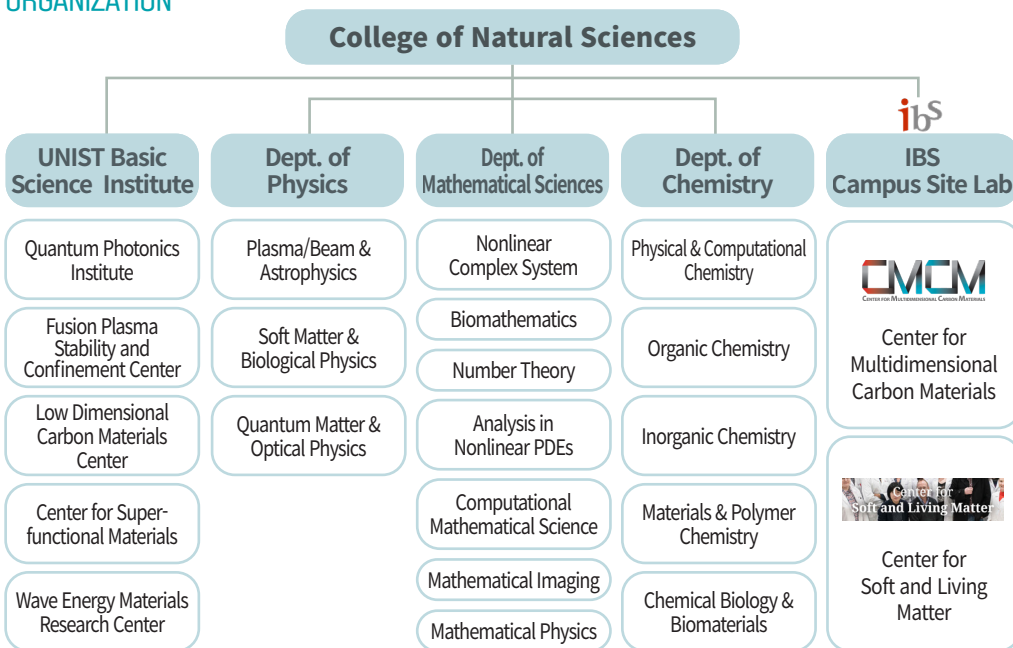
VISION	GOAL	Strategies
World Leading University to Advance Science and Technology for the Prosperity of Humankind	To be Ranked within the Top 10 Science and Technology University by 2030	Creativity, Interdisciplinary, Education, Globalization, Research Intensive

HISTORY

FIRST IN CHANGE



ORGANIZATION





The Department of Physics in UNIST leads students to develop into a professional in a variety of fields fused with physics, including electronics, materials science, and energy science, as well as detailed research topics in modern physics.

Leading University in Quantum Information

- Open a Micro Major in Quantum Information for Undergraduate (from 1st semester of 2023)
- Free use of IBM Q Network for all UNIST members
- Established Center for Training Specialists in Quantum Information Science

23 Faculties, 3 Research Groups

Plasma/Beam & Astrophysics

Kyujin Kwak Nuclear Astrophysics, Astro-Chemistry	Dongsu Ryu High Energy Astrophysics, Cosmology	Yongkyoon In 3-D Magnetic Field Physics	Moses Chung Intense Beam and Accelerator Physics	Min Sup Hur Plasma Photonics, Laser Fusion
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Soft Matter & Biological Physics

Jaeup Kim Soft Matter Statistical Physics, Deep Learning	Chae Un Kim Biophysics, High-Pressure X-ray Physics	Cheol-Min Ghim Biological Information Processing
Joonwoo Jeong Soft Matter Physics, Neutron Microscopy	Francois Amblard Cell Biology and Sociology	Tlusty Tsvi RNA, DNA, Biophysics

Quantum Matter & Optical Physics

Woojin Kwon Quantum Vortex Matter, Quantum Transport	Daisik Kim Terahertz Nanotechnology	Je Hyung Kim Quantum Photonics, Quantum Information	Seon Namgung Optical/Magnetic/Electrical Hybrid Device
Kibog Park Superconductor Device, Quantum Computing	Kunook Chung High-performance Optoelectronic Device	Noejung Park Quantum Mechanics, Light-Matter Interaction	Hyeong-Ryeol Park Ultrafast Laser, Nanostructure
Changhee Sohn Strongly Correlated Quantum Phenomenon	Yoon Seok Oh Quantum Physical Properties	Hosub Jin Topological Electronics	Seok-Hyung Lee Quantum Thermodynamics



The Department of Mathematical Sciences in UNIST cultivates talented students with creative thinking skills and professionals with various theories of mathematics through education that encompasses pure and applied mathematics.

Leading University in Machine Learning & AI

- Operating on Machine Learning & AI Major Courses
- Hold an International Workshop on AI & Big Data Analysis
- ‘Core.Today’, Start-up Company of Professor : Developing an AI based Korean Text Clustering system

14 Faculties, 7 Research Groups

Nonlinear Complex System	Biomathematics	Mathematical Imaging	Mathematical Physics
Pilwon Kim Mathematical Modeling of Social Phenomena, Game Theory	Chang Hyeong Lee Epidemic Modeling and Computation	Yunho Kim Imaging Processing, Inverse Problems	Rak-Kyeong Seong Mathematical Physics, Machine Learning, AI
Number Theory			
Hae-Sang Sun MU Invariant	Jaehyun Cho Artin L-Function	Chol Park Galois Representations	
Analysis in Nonlinear PDEs			
Bongsuk Kwon Partial Differential Equations Hyperbolic Conservation Laws	Hantaek Bae Navier - Stokes Equations	Kyudong Choi Euler Equations, Vortex Ring	Youngae Lee Calculus of Variations, Nonlinear Analysis
Computational Mathematical Science			
Bongsoo Jang Numerical Analysis Methods, Text Mining	Chang-Yeol Jung Stochastic Systems and Uncertainty Quantification	Jin Hyuk Choi Mathematical Finance	



The Department of Chemistry in UNIST studies biochemistry, which understands life phenomena, organic and inorganic chemistry, which creates new materials, material chemistry, which contains materials essential for daily life, and physical chemistry which understands every principles of chemistry.

World Leading University in Chemistry

- Two of the World's Top 1% Researchers (HCR) : Rodney S. Ruoff, Kwang Soo Kim
 - * Total 9 UNIST faculty was selected as HCR 2023
- Ranked 3rd in the World and 2nd in Korea in the Top 1% Paper Citation Index(FWCI)

28 Faculties. 5 Research Groups

Physical & Computational Chemistry

Oh-Hoon Kwon Ultrafast Microscopy, Condensed Matter Physics

Yung Sam Kim 2D IR Spectroscopy, H-bond Dynamics

Seung Kyu Min Quantum Chemistry, Excited State

Hyunchul Oh Molecular Physisorption, Energy Carrier

Bum Suk Zhao Molecular Motion Control

Thomas Schultz Physical Chemistry, Spectroscopy

Organic Chemistry

Cheol-Min Park Organic Synthesis, Medical Chemistry

Kyoseung Sim Stretchable Polymeric Semiconductor

Sung You Hong Regiochemistry, Oxidation State Changes

Bartosz Grzybowski Nanoscience, Chemical Networks

Inorganic Chemistry

Myoung Soo Lah Metal-Organic Frameworks, Crystal Engineering

Changho Yoo Organometallic Chemistry, Homogeneous Catalysis

Wonyoung Choe Metal-Organic Framework, Carbon Neutrality

Jan-Uwe Rohde Coordination Chemistry, Green Chemistry

Materials & Polymer Chemistry

Kwang Soo Kim Superfunctional Materials

Bong Soo Kim Organic Solar Cells, Organic Transistors

Young S. Park Organic Synthesis, Synthetic Methodology

Yung Doug Suh Advanced Molecular Probing

Hyeon Suk Shin 2D Materials, Graphene

Geunsik Lee 2D Materials, Perovskite Solar Cell

Steve Granick Colloids, Polymers

Rodney S. Ruoff Synthesis and Properties of Carbon and Related Materials

Christopher W. Bielawski Synthetic Macromolecular Chemistry

Chemical Biology & Biomaterials

Tae-Hyuk Kwon Applications of Wave Energy, Photodynamic Therapy

Jung-Min Kee Chemical Biology, Drug Discovery

Douyoung Min Nano Bio Dynamics, Membrane Protein

Ja Hyoung Ryu Supramolecular Therapy, Nanomedicine

Jaeheung Cho Biomimetic Chemistry, Coordination Chemistry



INSTITUTE FOR BASIC SCIENCE CAMPUS SITE LAB

Aiming at the world's highest level of basic science research,
IBS was established in November 2011 by Republic of Korea.
Out of 31 centers nationwide, 3 belong to UNIST, and which of 2 are in CNS.



Center for Multidimensional Carbon Materials

Rodney S. Ruoff

Next Generation Carbon Materials
Development-Design/Synthetic/
Physical Research



Center for Soft and Living Matter

Bartosz Grzybowski

Bioengineering, Synthetic Polymers
and Protein Analysis by research in
Soft Materials



UBSI

**UNIST Basic Science Institute was established in May 2019
to conduct strategic research in basic science.**

Major Business

Incubating Program

Supporting from undergraduate to post-doc researchers, we look forward to growth as leading researchers.

Challenging/ Innovation Research

We promise to continue investing in key research fields for the innovative performance of researchers.

Global Research Cooperation

To present a global vision to UNIST, we explore overseas joint research partner institutions to sign MOU, exchange students, and invite scholars to give lectures.

CNS Research Center

Noejung Park

Quantum
Photonics
Institute

Yongkyoon In

Fusion Plasma
Stability and
Confinement
Center

Hyeon Suk Shin

Low Dimensional
Carbon Materials
Center

Geunsik Lee

Center for
Super-functional
Materials

Tae-Hyuk Kwon

Wave Energy
Materials Research
Center