



서강대학교 기계공학과
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서강대학교
SOGANG UNIVERSITY

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서강대학교 기계공학과

Department of Mechanical Engineering SOGANG UNIVERSITY

Better Quality of Life

Imagination and Realization

Improved Safety and Better Performance

Extreme Length and Time Scale

Intelligence of Machine



서강대학교
SOGANG UNIVERSITY

Department of Mechanical Engineering Sogang University

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기계공학 분야에 관심 있는 여러분께 유익한 도움이 되기를 바랍니다

서강대학교 기계공학과는 1993년에 설립되어 한국에서 가장 빠르고 경쟁력 있게 성장한 학과 중 하나입니다. 현재 우리 학과는 대한기계학회 회장을 비롯한 국내외 기계공학 분야를 선도하는 21명의 전임교수로 구성되어 있습니다. 최근에는 한국대학교육협의회와 주요 기업이 실시한 "산업계 관점 대학평가"에서 최우수 학과로 선정되기도 하였습니다.

서강대학교 기계공학과는 기계공학 분야의 글로벌 리더를 양성하고 최첨단 연구를 수행하는 것을 목표로 하고 있습니다. 교육 프로그램은 기계시스템의 설계, 제작, 제어를 다루는 기초 분야뿐만 아니라 인간형 로봇, MEMS, 바이오 공학, 나노 공학 등의 첨단 분야를 포함하고 있습니다. 학과 교수들은 대학원생과 함께 심도 있고 분야를 선도하는 연구를 수행하고 있으며, 학과 차원에서 학생들에게 적성과 진로 탐색을 위한 학부연구프로그램(Undergraduate Research Program)을 제공하고 있습니다.

우리 학과에서는 다중현상 CFD 연구센터와 미래융합 의료기기 개발사업, 산학협력선도대학 육성사업(LINC) 등 다수의 대형 과제를 수행하고 있으며, 산학연계 프로그램인 삼성 STP 트랙과 삼성 APMT 트랙을 통하여 학생들에게 취업과 재정 지원의 기회를 제공하고 있습니다.

이 자료집에는 서강대학교 기계공학과 현황을 소개하고 있으며, 관심 있는 분들에게 도움이 되기를 바랍니다.

기계공학과 제12대 학과장
손기헌

A Message from the Department Chair

Since its foundation in 1993, the department of Mechanical Engineering in Sogang University has presented itself as one of the fastest developing and most competitive departments in Korea. It currently consists of 21 full-time faculty members leading domestic and international societies of Mechanical Engineering, including the president of Korean Society of Mechanical Engineering. Our department was awarded "The best departments from an industrial perspective" in our major by Korean Council for University Education and major Korean companies in their recent university assessment.

We are missioned to educate our students to become global leaders in the various fields of engineering by performing state-of-the-art researches and developing cutting-edge technologies. Our program covers the high-tech fields such as humanoid robotics, MEMS, biotechnology, nanotechnology, as well as the basic areas of the design, production and control of mechanical systems. The professors in our department have been conducting in-depth and leading studies in their fields actively with graduate students. The department supports promising undergraduate students by providing with Undergraduate Research Program for exploring their career and aptitude.

We have performed a number of large-scale projects funded by government for advanced research and education such as Multi-phenomena CFD ERC Center, Development of Future Multi-disciplinary Medical Devices, and Leaders in INdustry-university Cooperation (LINC). By industry-cooperated programs such as Samsung STP and APMT tracks, we have provided our students with various opportunities for employment and financial support.

This brochure is to introduce our department to those interested in sharing our vision and mission.

The Department Chair
Gihun Son

공학교육의 첨단 브랜드, 서강대학교 기계공학과 Frontier in Engineering Education, Mechanical Engineering, Sogang Univ.

과거엔 상상할 수도 없던 일을, 이제 우리는 현실로 하나씩 이뤄가고 있습니다. 이러한 세상의 변화, 시대의 요구와 함께해온 기계공학과는 급변하는 사회 속에서 그 진가를 유감없이 발휘하며 미래 인재를 양성하고 있습니다.

교육 목표

기계공학을 기반으로 다양한 분야에서의 종합적인 설계 및 신기술의 창조적 융합에 기여할 수 있는 독립성과 도전 정신, 봉사 정신을 갖춘 미래형 인재를 양성한다.

- 가치 지향적 교육을 통해 남을 위하여 봉사하는 공학인 양성
- 기계공학을 기반으로 다양한 분야에서의 종합적인 설계 및 신기술의 창조적 융합을 이룰 수 있는 실력 있는 인재 양성
- 전공 분야에서의 탁월성, 판단력, 설득력 등을 골고루 갖추어 급변하는 사회에서 창의적으로 대응 할 수 있는 미래형 인재 양성

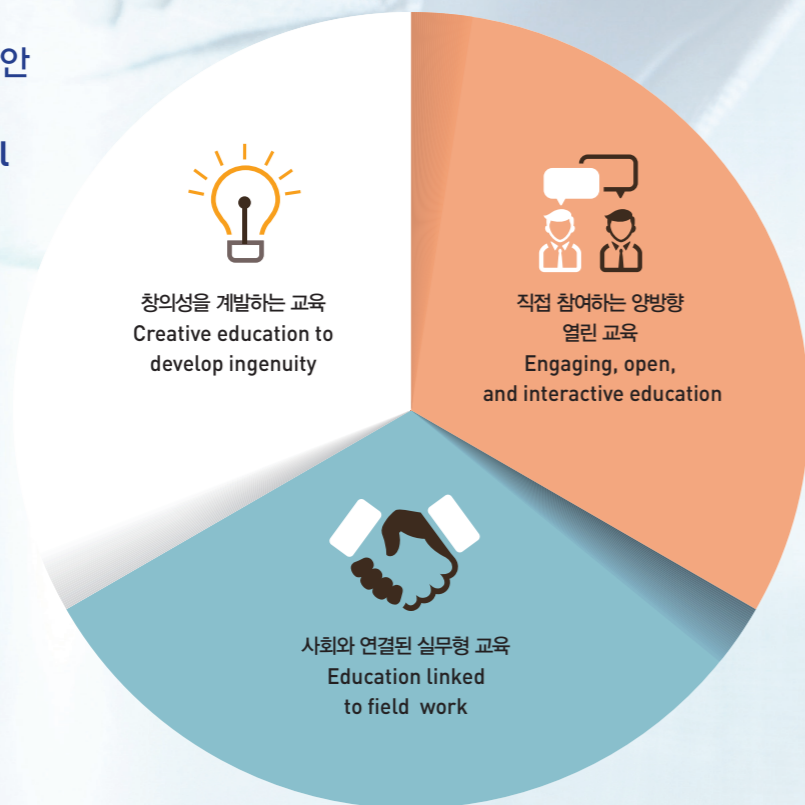
Goals of Education

Foster future leaders who will create new, comprehensive designs and convergence technologies from different fields based on mechanical engineering and work towards an even greater cause, backed by their own independence and courage.

- Nurture engineers working for a common good by providing value-oriented education
- Nurture specialists to create new, comprehensive designs and convergence technologies in various fields and based on mechanical engineering
- Nurture future leaders to creatively respond to a rapidly changing society on the basis of their excellent and reassuring judgment in the field of mechanical engineering

교육목표 실천 방안

Action Items to Fulfill This Goal



연혁

- 1993년 • 3월 기계공학과 설립
• 초대 학과장 이태수 교수
- 1996년 • 3월 기계·전자·전산 학부제 통합
- 1997년 • 3월 기계공학과 대학원 설립
• 제2대 학과장 정시영 교수
- 1998년 • 3월 기계공학과 박사과정 개설
- 1999년 • 2월 기계·화공 학부로 변경
• 3월 제3대 학과장 전도영 교수
- 2000년 • 8월 제4대 학과장 허남건 교수
- 2002년 • 9월 제5대 학과장 김낙수 교수
- 2004년 • 9월 제6대 학과장 이형일 교수
- 2005년 • 2월 대학학문분야평가 우수학과 선정
- 2006년 • 4월 2단계 BK21 사업팀 선정
• 9월 제7대 학과장 이승엽 교수
- 2007년 • 9월 제8대 학과장 허남건 교수
- 2008년 • 9월 제9대 학과장 최범규 교수
- 2010년 • 9월 제10대 학과장 김낙수 교수
- 2012년 • 9월 제11대 학과장 정현용 교수
- 2013년 • 5월 2012년 산업계 관점 대학평가 기계분야 최우수대학 평가 획득
- 2014년 • 9월 제12대 학과장 손기헌 교수

History

- 1993 • Established as the Department of Mechanical Engineering
• First Department Chair : Professor Taesoo Lee
- 1996 • Integrated into the School of Mechanical, Electronic, and Computer Engineering
- 1997 • Established the Graduate School
• Second Department Chair: Professor Siyoung Jeong
- 1998 • Established the Doctoral program
- 1999 • Integrated into the School of Mechanical and Chemical Engineering
• Third Department Chair: Professor Doyoung Jeon
- 2000 • Fourth Department Chair: Professor Namkeon Hur
- 2002 • Fifth Department Chair: Professor Naksoo Kim
- 2004 • Sixth Department Chair: Professor Hyungyil Lee
- 2005 • Selected as the Best Department in the Evaluation of University Academic Affairs
- 2006 • Selected as a 2nd BK21 Team
• Seventh Department Chair: Professor SeungYop Lee
- 2007 • Eighth Department Chair: Professor Namkeon Hur
- 2008 • Ninth Department Chair: Professor Bumkyoo Choi
- 2010 • Tenth Department Chair: Professor Naksoo Kim
- 2012 • Eleventh Department Chair: Professor HyunYong Jeong
- 2013 • Evaluated as the Best University in Mechanical Engineering by the 2012 Industry's Evaluation of Universities
- 2014 • Twelfth Department Chair: Professor Gihun Son

비전

첨단산업의 핵심기반 - 기계기술
기계설계기술은 창의성 구현의 핵심원리를 제공함으로써 모든 첨단기술의 개발과 첨단산업 발전의 원동력이 됩니다. 따라서 기계설계기술의 발전은 첨단기술 발전의 전제조건입니다.

1. 인류를 발전시킨 창의적 기계공학도
인류 문명의 발달은 도구의 사용으로부터 시작되었으며 문명 발달의 척도인 도구는 바로 기계공학의 산물입니다. 기계공학은 각자의 다양한 창의적 상상력을 무한히 발휘하여 개인의 목표를 실현하게 하고 인류의 번영과 복지에 크게 기여하게 하는 학문입니다.

2. 기계시스템기술은 전체와 부분을 하나로 융합시키는 기술
기계시스템기술은 전체와 부분을 하나로 융합시키는 능력을 길러주고 모든 첨단기술 개발과 첨단산업 발전의 핵심원리를 제공해줍니다. 따라서 기계시스템 기술의 발전은 첨단기술과 첨단산업의 발전을 위한 전제조건입니다.

3. 첨단 기계제조기술은 첨단산업의 핵심기반기술
초정밀 제작기술, 지식정보화 제작기술, 사이버 제작기술 등의 첨단 기계제작 기술은 반도체 제작과 IT기기 제조를 위한 핵심기술입니다. 따라서 첨단 기계제조 기술의 발전 없이 이루어진 첨단산업의 제조업은 국가경제에 실질적 수익을 창출해 내기 어렵습니다.

Vision

Fundamentals of Cutting-edge Technologies - Mechanical Engineering

Machine design technology provides the most critical tool to realizing our dreams by facilitating the development of cutting-edge technologies and industries. Thus, machine design technology is the premise of high-end technological development.

1. Creative mechanical engineers have led human development
Civilization's true beginnings were sparked by the use of mechanical tools. Mechanical engineering enables individuals to realize unlimited creativity and ingenuity and contributes to the development and welfare of the human race.

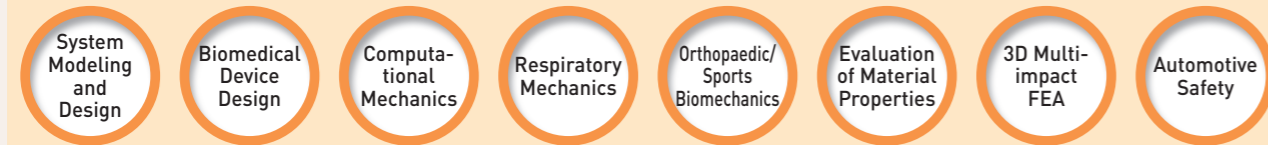
2. Mechanical system technology has integrated the whole and each part
Mechanical system technology allows us to unite the whole along with each of its parts, which in turn provides the basic principles for the development of cutting-edge convergence technologies and related industries.

3. Cutting-edge mechanical manufacturing technology is the core and base technology of high-end industries
Cutting-edge manufacturing technology comprises core technologies for semiconductor and information technology device manufacturing. As such, advanced mechanical manufacturing technology is a prerequisite for high-end manufacturing industries to add value to the national economy.

융합의 새 장을 여는 연구분야

기계공학에 대한 편견이 허물어지고 있습니다. 전통적인 학문의 범주를 벗어나 에너지, 바이오, 로봇, 나노 영역까지 그 응용 범위를 광범위하게 확장하고 있기 때문입니다. 앞으로도 기계공학은 끊임없이 진화하며 인류를 위한 기술과 늘 함께할 것입니다.

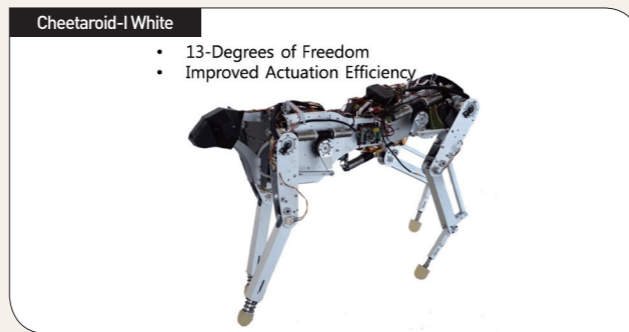
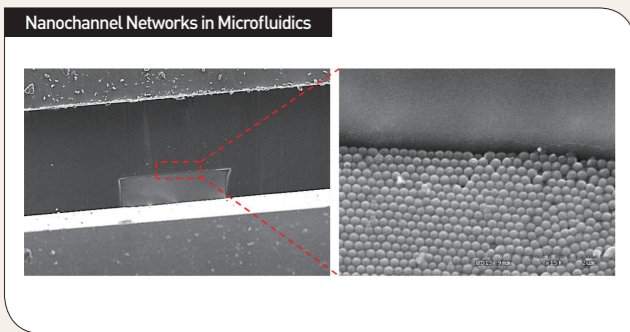
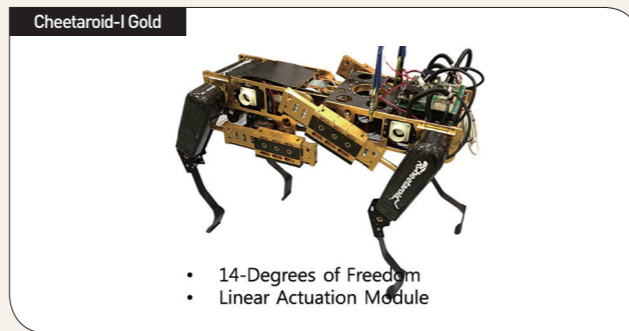
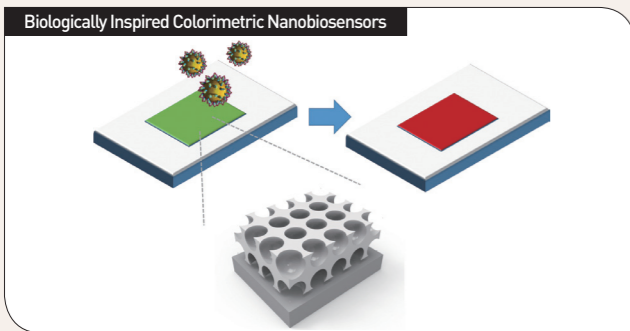
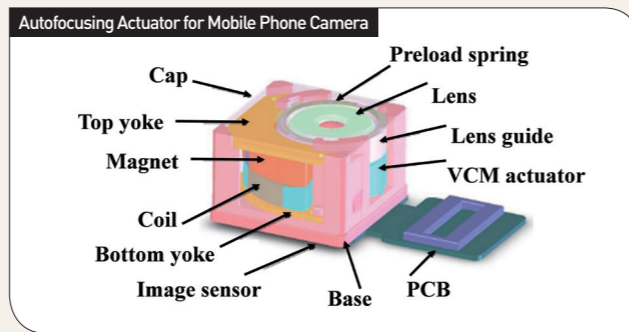
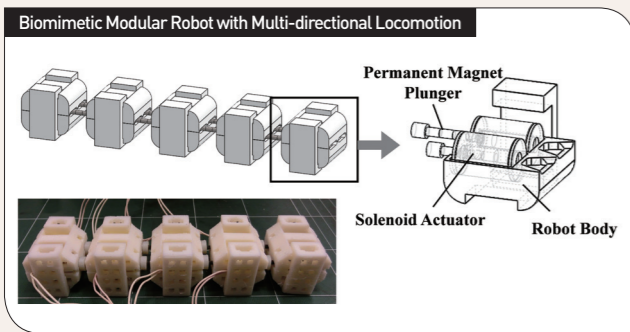
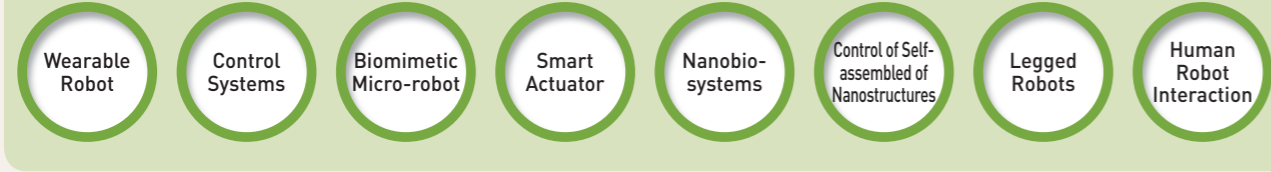
Division of Design and Mechanics



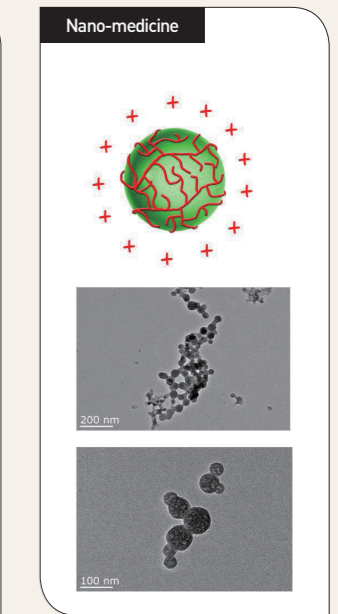
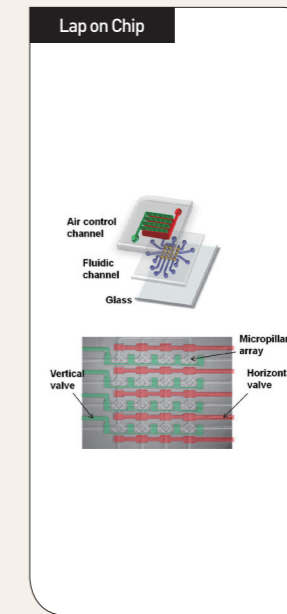
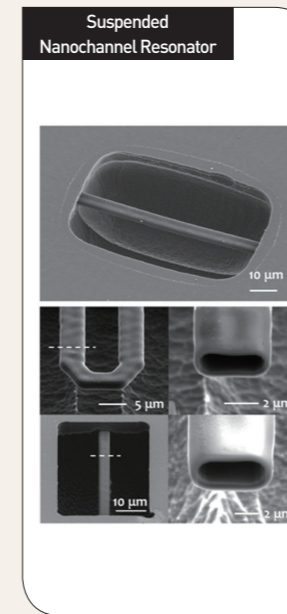
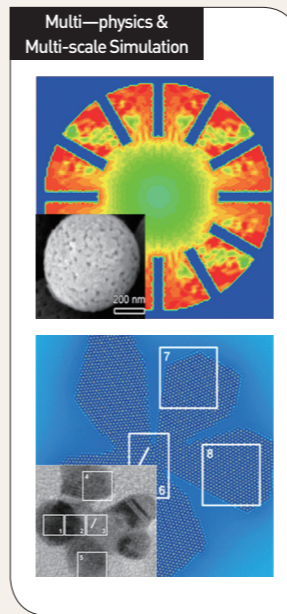
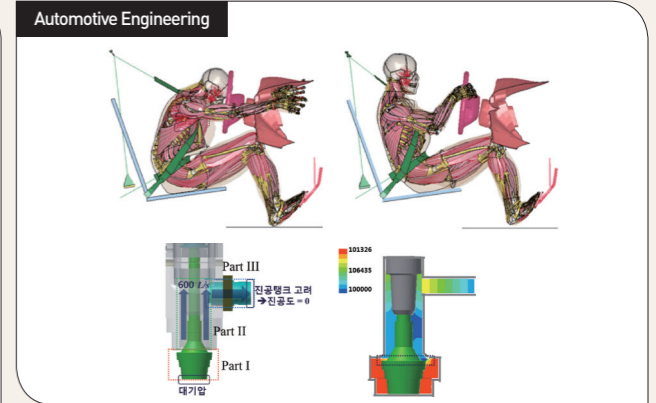
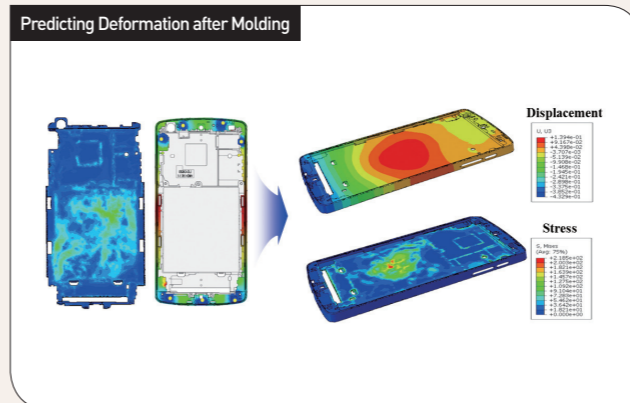
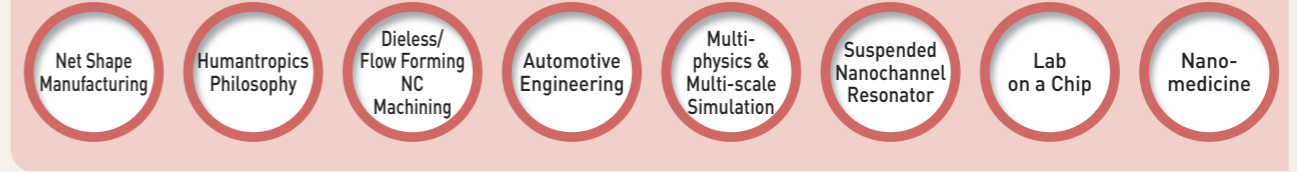
Division of Thermal, Fluids and Energy Engineering



Division of Control, Vibration and Robotics



Division of Manufacturing Engineering



Faculty Members

탁월한 엔지니어는 시대를 리드하는 선구자로 거듭날 수 있습니다,
학생과 함께 발전하는, 전문성과 열정을 겸비한 기계공학과의 교수진을 소개합니다.



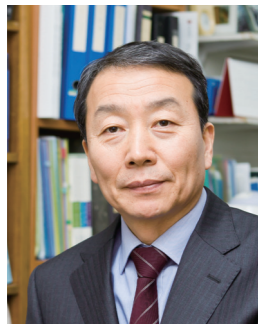
Professor Taesoo Lee received his Ph.D. from the Ohio State University in 1989. He served as a research scientist and an assistant professor at the Ohio State University and Lehigh University, respectively, before joining Sogang in 1993 as a founding member of Mechanical Engineering Department. He currently leads Sogang Research Foundation. He also leads Oxus Co Ltd, Sogang University Spin-off company, as CEO. His research efforts have focused on respiratory mechanics and devices for last couple of decades.

이태수	관심연구 분야	학력
Ph.D., Ohio State University, 1989 M.S., Seoul National University, 1982 B.S., Seoul National University, 1980	<ul style="list-style-type: none"> 호흡역학 및 장치 의료용 산소농축기술 최적설계 	<ul style="list-style-type: none"> 1989년 오하이오 주립대학교 박사 1982년 서울대학교 석사 1980년 서울대학교 학사



Professor Naksoo Kim received his Ph.D. in the department of mechanical engineering of the University of California, Berkeley in 1989. He had worked for ERC/NSM, the Ohio State University as a senior researcher (1989-1990) and Hong-Ik University as an assistant professor (1990-1995). He has been a supervising professor of NSMLab (Net Shape Manufacturing Laboratory) in the department of mechanical engineering at Sogang University, since 1995. His research interest lies in manufacturing processes and technology, metal forming plasticity, polymer processing, and process design based on the finite element method.

김낙수	관심연구 분야	학력
Ph.D., University of California, Berkeley, 1989 M.S., Seoul National University, 1984 B.S., Seoul National University, 1982	<ul style="list-style-type: none"> 메탈 포밍, 플리머 공정 유한요소해석 기반 공정 설계 	<ul style="list-style-type: none"> 1989년 캘리포니아 대학교(버클리) 박사 1984년 서울대학교 석사 1982년 서울대학교 학사



Professor Siyoung Jeong received the B.S. and M.S. degrees in mechanical engineering from Seoul National University, Seoul, Korea in 1982 and 1984, respectively. He received the Ph.D. degree in mechanical engineering from the RWTH Aachen, Germany in 1990. He worked as a research scientist at Korea Advanced Institute of Science and Technology (1985-1986) and Korea Institute of Science and Technology (1991-1994), respectively. He joined Sogang University in 1994. He holds several academic professional memberships including International Institute Refrigeration, American Society of Heating, Refrigeration and Air-Conditioning Engineers, American Society of Mechanical Engineers, the Society of Air-Conditioning and Refrigerating Engineers of Korea and the Korean Society of Mechanical Engineers. His research interest lies in heat and mass transfer in refrigeration cycles and hybrid heat pump.

정시영	관심연구 분야	학력
Ph.D., RWTH Aachen, 1990 M.S., Seoul National University, 1984 B.S., Seoul National University, 1982	<ul style="list-style-type: none"> 환경친화적 냉동시스템 고효율 열교환기 에너지 시스템 시뮬레이션 	<ul style="list-style-type: none"> 1990년 아헨 공대 박사 1984년 서울대학교 석사 1982년 서울대학교 학사



Professor Hyungil Lee received his bachelor's and master's degrees in mechanical engineering from Seoul National University and Korea Advanced Institute of Science and Technology (KAIST), Republic of Korea, respectively, and his Ph.D. from the Massachusetts Institute of Technology (MIT), U.S.A., in 1994, under the supervision of Professor David Parks. He worked for the Korea Atomic Energy Research Institute (1985-1988) and POSCO (1995) as a research engineer. In 1995, he became a professor in the department of mechanical engineering at Sogang University in Seoul. He was granted several research awards, including Yudam academy award in 2001, the best paper award from Korean Federation of Science and Technology Societies (KFSTS) in 2006 and JMST best paper award from Korea Society of Mechanical Engineers (KSME) in 2012, respectively. His work was also selected as one of the top 50 research works by the Ministry of Science and Technology in 2007. His research interest lies in computational mechanics, particularly in the evaluation of material and creep properties, fracture toughness from indentation, and determination of forming limit curves (FLC) of sheet metals such as zircaloy-4 and zirlo.

이형일	관심연구 분야	학력
Ph.D., Massachusetts Institute of Technology, 1994 M.S., Korea Advanced Institute of Science and Technology, 1985 B.S., Seoul National University, 1983	<ul style="list-style-type: none"> 전산 역학 재료 물성 측정/해석 	<ul style="list-style-type: none"> 1994년 매사추세츠 공과대학 박사 1985년 한국과학기술원 석사 1983년 서울대학교 학사



Professor Doyoung Jeon received the B.S. in the mechanical engineering department at the Seoul National University in 1984 and the M.S. and Ph.D. in the mechanical engineering department of the University of California, Berkeley in 1986 and 1991. He worked as an assistant professor at the University of Miami from 1992 to 1994 and joined the Sogang university in 1994. He served as the chairman of the mechanical engineering department and the dean of research affairs at the Sogang University. He served as the committee of the Korean Presidential Advisory Council on Science and Technology and the Korean Presidential Commission on Policy Planning. His research interests include the exoskeletal robot for human assistance and power augmentation, rehabilitation robot and devices, micro medical device such as capsule endoscope, application of smart material such as MR fluids and high precision servo control of mechanical systems.

전도영	관심연구 분야	학력
Ph.D., University of California, Berkeley, 1991 M.S., University of California, Berkeley, 1986 B.S., Seoul National University, 1984	<ul style="list-style-type: none"> 입는 로봇의 설계 및 제어 재활로봇의 응용 서보제어시스템 설계 	<ul style="list-style-type: none"> 1991년 캘리포니아 대학교(버클리) 박사 1986년 캘리포니아 대학교(버클리) 석사 1984년 서울대학교 학사



Professor Nahmkeon Hur received his Ph.D. in Mechanical Engineering from Stevens Institute of Technology, USA in 1988. After working for two years as a senior engineer in Analysis and Design Application Co., USA, he joined Korea Institute of Science and Technology (KIST) and had worked in Turbomachinery Laboratory as a Senior/Principal Researcher for six years. He joined Sogang University as a faculty member in 1996. His primary interest in research includes computational fluid dynamics (CFD) and application of CFD to emerging industrial field. Since 2009 he serves as a Director of Multi-Phenomena CFD Engineering Research Center (ERC) funded by National Research Foundation of Korea. He is a member of National Academy of Engineering of Korea, and currently serving as the President of the Korean Society of Mechanical Engineers (KSME). He has also served as an Editor-in-Chief of a domestic Journal and as an editor of an international Journal.

허남건	관심연구 분야	학력
Ph.D., Stevens Institute of Technology, 1988 M.S., Seoul National University, 1981 B.S., Seoul National University, 1979	<ul style="list-style-type: none"> 전산유체역학 	<ul style="list-style-type: none"> 1988년 스티븐스 공과대학 박사 1981년 서울대학교 석사 1979년 서울대학교 학사



Professor SeungYop Lee has received B.S. degree in the mechanical engineering department at the Seoul National University in 1989 and the M.S. and Ph.D. in the mechanical engineering department of the University of California, Berkeley in 1990 and 1995. He joined the Sogang University in 1997. His research interests are biomimetic sensors and actuators, micro robots, structural colors mimicking insects, high precision designs of information storage devices, various smart actuators, and designs of photobioreactors for microalgae.

이승엽	관심연구 분야	학력
Ph.D., University of California, Berkeley, 1995 M.S., University of California, Berkeley, 1990 B.S., Seoul National University, 1989	• 자연모사 센서/구동기 • 마이크로 로봇 • 고정밀도 정보 저장 장치 설계	• 1995년 캘리포니아 대학교(버클리) 박사 • 1990년 캘리포니아 대학교(버클리) 석사 • 1989년 서울대학교 학사



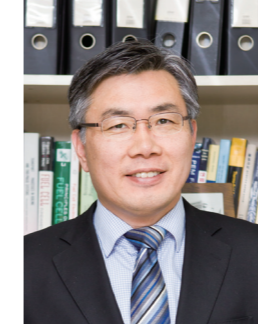
Professor Bumkyoo Choi received his Ph.D. from the University of Wisconsin, Madison in 1992 and worked as a consultative professor at the Forest Product Lab. in USDA from 2001 to 2003. He has served as a professor of the department of mechanical engineering at the Sogang University since 1997. His expertise is in microelectromechanical systems (MEMS), wireless monitoring systems, and finite element analysis of structure (FEA). His research interests are highly interdisciplinary including mechanical engineering, electrical engineering, and biomedical engineering. His current researches are micro-sensor and actuator for industrial and biomedical applications, wireless sensor and actuator design for implantable therapeutic systems, and smart material development for eco-friendly and intelligent device applications.

최범규	관심연구 분야	학력
Ph.D., University of Wisconsin, Madison, 1992 M.S., Seoul National University, 1983 B.S., Seoul National University, 1981	• 의료용 마이크로 센서 • 무선 감시 시스템 • 인체균형성장 유한요소해석	• 1992년 위스콘신 대학교 박사 • 1983년 서울대학교 석사 • 1981년 서울대학교 학사



Professor HyunYong Chililo Jeong received his Ph.D. in Mechanical Engineering at University of Michigan in 1992, and worked on automotive safety at Ford Motor Company and Autoliv Safety Products for five years. He joined as a faculty member at Sogang University in 1998, and is currently a full professor in the Department of Mechanical Engineering. His research interests include automotive safety (both passive and active safety), material modeling of rubbers and polymers, structural analysis (especially on tires), fracture and fatigue analysis, optimal designs (especially for medical devices) and design of experiments.

정현용	관심연구 분야	학력
Ph.D., University of Michigan, Ann Arbor, 1992 M.S., Seoul National University, 1986 B.S., Seoul National University, 1984	• 자동차 안전 • 재료/구조 해석 • 최적설계	• 1992년 미시건 대학교 박사 • 1986년 서울대학교 석사 • 1984년 서울대학교 학사



Professor Gihun Son received his B.S. and M.S. degrees in Mechanical Engineering from Seoul National University in 1986 and 1988, respectively, and Ph.D. in Mechanical Engineering from UCLA in 1996. He worked for UCLA from 1996 to 1998 as a postdoctoral fellow and the Korea Electric Power Research Institute from 1998 to 2000 as a senior researcher. Dr. Son joined the faculty of Mechanical Engineering at Sogang University in 2000. His research interests are in the areas of computational multiphase dynamics, heat transfer, and power plant simulation.

손기현	관심연구 분야	학력
Ph.D., University of California, Los Angeles, 1996 M.S., Seoul National University, 1988 B.S., Seoul National University, 1986	• 전산 다상유동 • 공정 열전달 • 발전플랜트 시뮬레이션	• 1996년 캘리포니아 대학교(로스앤젤레스) 박사 • 1988년 서울대학교 석사 • 1986년 서울대학교 학사



Professor Jungyul Park received his Ph.D. degree in school of mechanical & aerospace engineering from Seoul National University in 2005. Before starting his independent research career as an assistant professor at Sogang University in 2007, he served as a postdoctoral fellow at biomedical engineering in Johns Hopkins University. His current research interests are multidisciplinary nanobiosystems and their applications cover biologically inspired colorimetric nanobiosensors, control and self-assembly of nanostructures, intelligent theragnostic bacteria based biomedical devices, cell/biomolecular separation devices using dielectrophoresis, microenergy harvesting, and biomimetic and biohybrid systems. He is selected as an Emerging Investigators in Lab on a Chip 2012 and also affiliated with interdisciplinary program of integrated biotechnology.

박정열	관심연구 분야	학력
Ph.D., Seoul National University, 2005 M.S., Seoul National University, 2000 B.S., Seoul National University, 1998	• 나노바이오센서 및 시스템 • 나노구조 자기조립화 제어 및 응용 • 나노로봇	• 2005년 서울대학교 박사 • 2000년 서울대학교 석사 • 1998년 서울대학교 학사



Professor Dongchoul Kim received his Ph.D. from the University of Michigan Ann Arbor in 2005 and worked as a research associate at the University of Michigan Ann Arbor and Northwestern University from 2006 to 2007. He is currently an Associate Professor in the Department of Mechanical Engineering at Sogang University. His research interests cover the analysis and design of multi-physics systems and also multi-scale systems for various subjects including nano/microfabrication, bioengineering, Li-ion battery, and automobile industry.

김동철	관심연구 분야	학력
Ph.D., University of Michigan, Ann Arbor, 2005 M.S., University of Michigan, Ann Arbor, 2003 B.S., Yonsei University, 2000	• 자동차 생산기술 • 나노마이크로 구조 설계 • 다중물리 및 다중스케일 해석	• 2005년 미시건 대학교 박사 • 2003년 미시건 대학교 석사 • 2000년 연세대학교 학사



Professor Daejoong Kim received the Ph.D. degree in mechanical engineering at Stanford University, Stanford, California, in 2007. Before that, he earned the B.S. and M.S. degrees in mechanical engineering at Seoul National University, Seoul, Korea, in 1999 and 2001, respectively. He was a postdoctoral research associate at the University of Illinois, Urbana-Champaign. He is currently an Associate Professor at Sogang University in Department of Mechanical Engineering since 2008. He specializes in fluid mechanics and transport phenomena at micro- and nanoscale. His research includes micropumps, micromixers, micro-power sources, reverse/forward osmosis, seawater desalination, and molecular dynamics simulation. He served as a reviewer for many archived journals including Sensors and Actuators A: Physical and Microfluidics and Nanofluidics. He also served as a secretary general, a session organizer, or a session chair in many conferences sponsored by American Society of Mechanical Engineers (ASME) and Korean Society of Mechanical Engineers (KSME).

김대중	관심연구 분야	학력
Ph.D., Stanford University, 2007 M.S., Seoul National University, 2001 B.S., Seoul National University, 1999	<ul style="list-style-type: none"> • 마이크로 유체 소자 • 정/역삼투, 해수 담수화 • 분자동력학 해석 	<ul style="list-style-type: none"> • 2007년 스탠포드 대학교 박사 • 2001년 서울대학교 석사 • 1999년 서울대학교 학사



Professor Choongsoo Shin received his Ph.D. in Mechanical Engineering from Stanford University in 2006 and worked as a postdoctoral fellow at Stanford University and Medical School of the University of California at San Francisco. He joined as a faculty member at Sogang University in 2009 and currently an associate Professor in the Department of Mechanical Engineering. He received the 1st place of New Investigator Recognition Award at Orthopaedic Research Society, USA in 2009 and the best paper award from International Society of Arthroscopy, Knee Surgery & Orthopaedic Sports Medicine, Japan in 2009. His research interests span the area of multidisciplinary biomechanical and biomedical system including computational & experimental neuromusculoskeletal biomechanics, mechanics of human movement and sports injury, biomedical imaging analysis, robot assisted surgery, rehabilitation and medical device design.

신충수	관심연구 분야	학력
Ph.D., Stanford University, 2006 M.S., Stanford University, 2001 B.S., Hanyang University, 1997	<ul style="list-style-type: none"> • 근골격계 생체역학 • 의료기기/시스템 설계 • 재활공학 	<ul style="list-style-type: none"> • 2006년 스탠포드 대학교 박사 • 2001년 스탠포드 대학교 석사 • 1997년 한양대학교 학사



Professor Cheolsoo Lee received Ph.D. and M.S. degree in Industrial Engineering from Korea Advanced Institute of Science and Technology (KAIST) in 1990 and 1986, and the bachelor's degree from Hanyang University in 1984. He worked as a professor at Chonnam National University from 1990 to 2008 and joined Sogang university in 2008. He served as the director of Korean Institute of Industrial Engineers and Society of CAD/CAM Engineers and the vice president of Sogang Institute of Advanced Technology. His research includes CNC (computerized numerical control), CAD/CAM system, machining process, machine design, process automation and flow forming process.

이철수	관심연구 분야	학력
Ph.D., Korea Advanced Institute of Science and Technology, 1990 M.S., Korea Advanced Institute of Science and Technology, 1986 B.S., Hanyang University, 1984	<ul style="list-style-type: none"> • 캐드/캠 • 공정 자동화 	<ul style="list-style-type: none"> • 1990년 한국과학기술원 박사 • 1986년 한국과학기술원 석사 • 1984년 한양대학교 학사



Professor Jungchul Lee received the B.S. and M.S. degrees in mechanical engineering from Seoul National University, Seoul, Korea in 2001 and 2003, respectively. He received the Ph.D. degree from the Georgia Institute of Technology in 2007. His dissertation was "Fabrication, Characterization, and Application of Multifunctional Microcantilever Heaters." During 2007-2008, he worked as a postdoctoral research associate in Prof. King's group at the University of Illinois Urbana-Champaign. After spending 2 years (2008-2010) in the Biological Engineering Department at the Massachusetts Institute of Technology as a postdoctoral research associate, he is now on the faculty in the Department of Mechanical Engineering at Sogang University, Seoul, Korea and serves as a reviewer for several international journals including Journal of Microelectromechanical Systems and Lab on a Chip. His research area includes unconventional micro-/nanofabrication using functional materials and high precision nanoscale sensing.

이정철	관심연구 분야	학력
Ph.D., Georgia Institute of Technology, 2007 M.S., Seoul National University, 2003 B.S., Seoul National University, 2001	<ul style="list-style-type: none"> • 멤스/멤스 • 정밀 계측 • 신소재 공정 	<ul style="list-style-type: none"> • 2007년 조지아 공과대학 박사 • 2003년 서울대학교 석사 • 2001년 서울대학교 학사



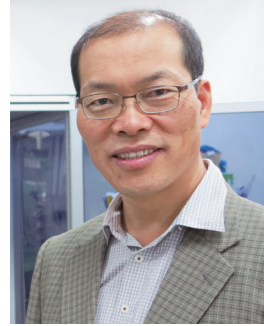
Professor Seongwon Kang received his Ph.D. in Mechanical Engineering from Stanford University, USA in 2008. After working for two years as a postdoctoral researcher in Center for Turbulence Research in Stanford Univ., he joined Sogang University as a faculty member in 2010. His primary interest in research includes high-fidelity numerical simulations of complex flows with multi-physics phenomena such as chemical reaction, fluid-structure interaction, heat transfer, acoustics, small-scale turbulent eddies, multi-component mixing, etc. He has applied state-of-art simulation techniques to various theoretical and industrial applications including a gas turbine combustor, IC engine, fluid machinery, nuclear reactor, etc. to analyze flow physics and solve engineering issues. He is currently working actively on developing novel systematic flow control strategies to improve efficiency of advanced energy conversion devices. He has served as a reviewer for several international/domestic journals and currently is an associate editor of an international journal.

강성원	관심연구 분야	학력
Ph.D., Stanford University, 2008 M.S., Seoul National University, 1999 B.S., Seoul National University, 1997	<ul style="list-style-type: none"> • 다중현상 유체역학 • 열전달/연소/동력기관 • 산업용/의료용 유체기계 	<ul style="list-style-type: none"> • 2008년 스탠포드 대학교 박사 • 1999년 서울대학교 석사 • 1997년 서울대학교 학사



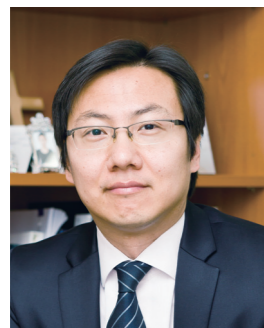
Professor Kyoungchul Kong received the B.Eng. degree (summa cum laude) in mechanical engineering and the B.S. degree in physics, both in 2004, and the M.S. degree in mechanical engineering in 2006 from Sogang University, Seoul, Korea, and the Ph.D. degree in mechanical engineering from the University of California, Berkeley, CA, USA, in 2009, where he later worked as a postdoctoral research fellow until 2011. In 2011, he joined the Department of Mechanical Engineering, Sogang University, as an assistant professor. He has authored or coauthored a number of technology patents and technical articles in journals and conference proceedings in the area of Robotics, Control Systems and Mechatronics. His current research interests include design, modeling, and control of mechatronic systems with emphasis on locomotion and mobility of human-centered robotic systems. Dr. Kong was the recipient of the Best Student Paper Award at the IEEE Conference on Advanced Intelligent Mechatronics in 2008 and the Best Paper Award in the Division of Dynamic Systems and Control at the Korean Society of Mechanical Engineers Annual Conference in 2005. He also received the Superior Young Faculty Career Award from the National Research Foundation of Korea in 2012.

공경철	관심연구 분야	학력
Ph.D., University of California, Berkeley, 2009 M.S., Sogang University, 2006 B.S., Sogang University, 2004	<ul style="list-style-type: none"> • 메카트로닉스 • 인간 중심 로봇 시스템 	<ul style="list-style-type: none"> • 2009년 캘리포니아 대학교(버클리) 박사 • 2006년 서강대학교 석사 • 2004년 서강대학교 학사



Professor Kootae Kang, who earned a Ph.D. and a M.S. from Korea Advanced Institute of Science and Technology in Mechanical Engineering in 1977 and 1984 respectively, received a B.A. in Mechanical Design from Seoul National University in Seoul in 1982. He joined the Sogang University as a professor in 2012. As a professor of Mechanical Engineering, Prof. Kang has taught courses and seminar in Automotive Engineering, Management of Technology, Powertrain Design, Method of Simulation, NVH technology. Prof. Kang worked at Powertrain Research Center in Hyundai-Kia Motor Company for 28 years. He developed an own engine in Hyundai-Kia Motor Company. And he developed the vision for corporate-wide long term technology/product development and step-by-step action plan which turned out to Ward's Auto's World Best Engines including Gamma and Lambda engines as an Executive Director at Powertrain Research Center. He has led several national studies on government investment in Powertrain. Prof. Kang's recent research has concentrated on issue with a fuel-efficient (high-mileage) car and a Dual Clutch Transmission and e-mobility and a test system for powertrain for inspection.

강구태	관심연구 분야	학력
Ph.D., Korea Advanced Institute of Science and Technology, 1997 M.S., Korea Advanced Institute of Science and Technology, 1984 B.S., Seoul National University, 1982	<ul style="list-style-type: none"> • 고효율 자동차 • 듀얼 클러치 변속기 • 파워트레인 실험 시스템 	<ul style="list-style-type: none"> • 1997년 한국과학기술원 박사 • 1984년 한국과학기술원 석사 • 1982년 서울대학교 학사



Professor BongGeun Chung received his Ph.D. degree from University of California Irvine in 2007. He previously worked at Harvard-MIT Division of Health Sciences and Technology and Harvard Medical School from 2007 to 2009 as a postdoctoral research fellow and instructor. He also worked as an assistant professor at Department of Bionano Engineering in Hanyang University (ERICA Campus) from 2009 to 2013. Prof. Chung is currently an associate professor at Department of Mechanical Engineering in Sogang University. His research mainly focuses on developing the multi-functional microfluidic devices, nanomaterials, and electrochemical biosensors. He is currently served as an associate editor of Biomedical Engineering Letters and senior editorial board member of American Journal of Cancer Therapy and Pharmacology since 2013.

정봉근	관심연구 분야	학력
Ph.D., University of California, Irvine, 2007 M.S., Hanyang University, 2002 B.S., Hanyang University, 1997	<ul style="list-style-type: none"> • 다기능성 마이크로 유체 소자 • 나노재료 및 전기화학 센서 	<ul style="list-style-type: none"> • 2007년 캘리포니아 대학교(얼바인) 박사 • 2002년 한양대학교 석사 • 1997년 한양대학교 학사



Professor Wonjung Kim received his Ph.D. from the Massachusetts Institute of Technology in 2013 and is currently a faculty member in the Department of Mechanical Engineering at Sogang University. His research interests include biofluid dynamics and micro fluid mechanics. He investigates nature's myriad mechanisms for fluid transport, which inspire fluid mechanical engineering. He explores the area of interdisciplinary science, spanning biology, theoretical mechanics, material science and engineering. He is also interested in experimental and theoretical investigations of the dynamics of fluids on the micro-scale and thus studies the physics of interfacial phenomena and the application of microfluidic structures for handling of microliter volumes of fluid.

김원정	관심연구 분야	학력
Ph.D., Massachusetts Institute of Technology, 2013 M.S., Seoul National University, 2009 B.S., Seoul National University, 2006	<ul style="list-style-type: none"> • 마이크로유체역학 • 생체유체역학 • 계면현상 	<ul style="list-style-type: none"> • 2013년 매사추세츠 공과대학 박사 • 2009년 서울대학교 석사 • 2006년 서울대학교 학사

열린 미래가 시작되는 곳

적성과 진로 탐색에 유용한 학부연구프로그램을 운영해 학생들의 신중한 선택을 돕습니다. 또한 학문적 교류와 지적인 만남이 자유롭게 펼쳐지는 대학생활의 장을 마련해 학생들이 자신의 가능성을 믿고 미래를 개척해나가는 데 힘을 실어주고 있습니다.



학부연구프로그램

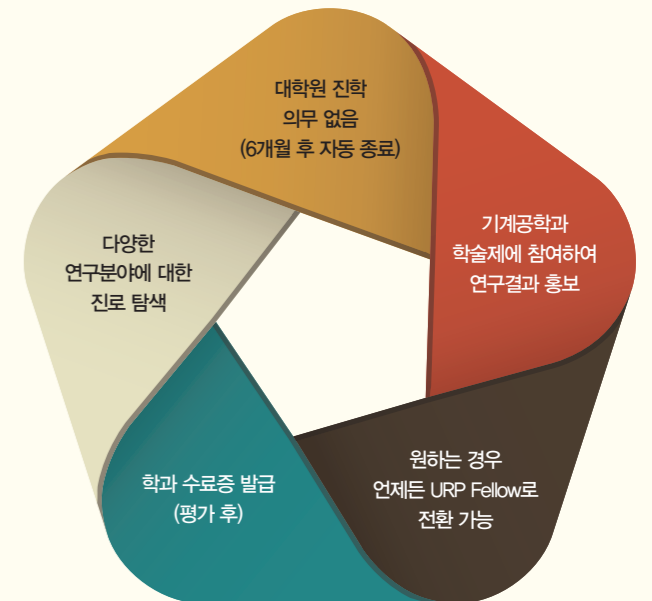
기계공학과에서는 수업만으로 적성과 진로를 탐색하는 수동적인 교육방식에서 탈피하여, 학생들에게 연구 경험의 기회를 통하여 능동적으로 적성과 진로를 탐색하는데 도움이 되도록 URP(학부연구프로그램)을 제공하고 있습니다. URP는 학생들이 부족한 정보를 갖고 타인의 조언만으로 적성에 맞지 않는 진로를 택하지 않도록 도와줄 것입니다. 또한 대학원 진학에 관심 있는 학생들에게는 연구 경험을 미리 제공하여 보다 성공적인 대학원 생활이 가능하도록 도와줄 것입니다. 특히 연구직에 관심이 있는 모든 학생들은 반드시 URP를 활용할 것을 권장합니다.

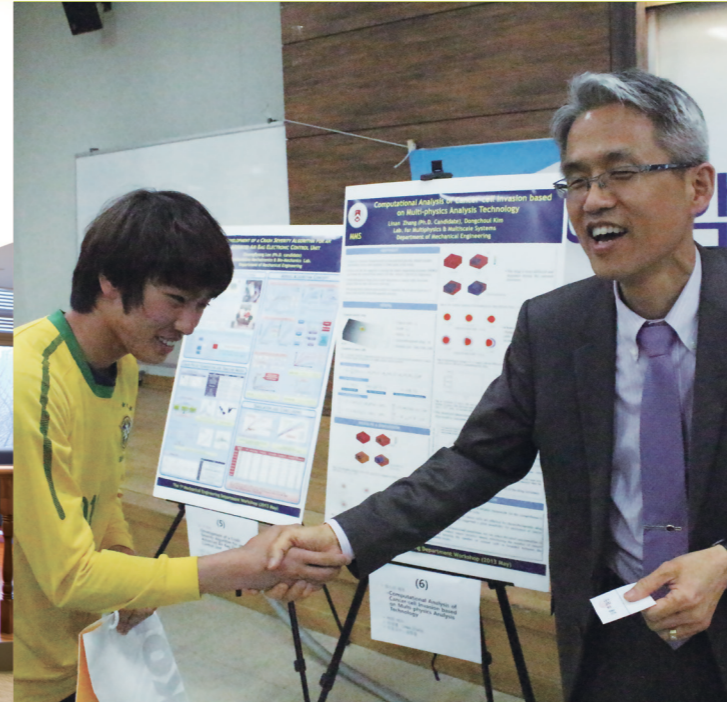
URP는 Intern과 Fellow의 두 가지의 트랙으로 운영됩니다.

Undergraduate Research Program

Our Department runs the Undergraduate Research Program(URP) to provide students with opportunities to proactively explore their interests and career paths through research experiences outside of the classroom. URP will guide students to make well-informed decisions on their future careers. In addition, it will provide a preview of graduate research activities for students who desire to continue studying in the field of mechanical engineering. We strongly recommend that students interested in pursuing a career in research should harness the opportunities presented by URP.

URP provides two program tracks (Intern and Fellow).





Student Activities



혁신을 선도하는 창조적인 산·학·연 협력

대학과 정부 혹은 대학과 산업체가 보유한 지식과 기술, 인적 자원이 결합돼 가치 있는 지식재산을 창출하는 산·학·연 협력. 서강대학교 기계공학과가 정부와 연계하여 추진 중인 프로젝트와 산학협력 사업은 창조경제 시대의 문을 활짝 열고 있습니다.

주요 정부 프로젝트 목록 (완료/진행중)

List of Major Projects with Government Funding in the Past & Present

지원기관	과제명
(재)한국학술진흥재단 National Research Foundation	[BK21]의공학 응용 바이오 센서 및 액추에이터 인력양성팀 [BK21] Education and training of biosensors and actuators for biomedical engineering
교육과학기술부 Ministry of Education and Science Technology	[ERC]다중현상 CFD 연구센터 [ERC] Multi-phenomena computational fluid dynamics engineering research center
(재)한국학술진흥재단 National Research Foundation	[BK21]차세대 설계기술 분야의 핵심 모델링기법 인력양성팀 [BK21] The key modeling technique human resource development team of the next generation design technology field
교육과학기술부 Ministry of Education and Science Technology	고속주행로봇을 위한 4족 보행 동물의 상황인지, 주행패턴 및 균형유지방법 Analysis and algorithmization of environment recognition, locomotion, and balancing schemes of quadruped animals for a high-speed running robot system
지식경제부 Ministry of Knowledge Economy	경량 고강도 알루미늄 휠 포밍기 제작 기술 개발 Development of lightweight and high strength aluminum wheel flow-forming machining systems
지식경제부 Ministry of Knowledge Economy	공작기계 선회테이블용 내경, 1000mm급 대형 트러스트 베어링 개발 Development of large-scale thrust bearing (grade of 1000mm inner diameter) for turning table of machine tools
국방부 Agency for Defense Development	초경량 휴대용 연료전지를 위한 연료 및 산화제 공급 모듈 개발 Development of fuel/oxidizer supply modules for ultralight portable fuel cells
서울산업통상진흥원 Seoul Business Agency	무소음 침단 냉각 방식을 이용한 고효율, 고휘광 LED 조명 장치 개발 Development of high power-high capacity LED Light device using noiseless cooling technology
교육과학기술부 Ministry of Education and Science Technology	대규모 방사성 오염의 생물학적 처리를 위한 친환경 융합 기술 개발 Development of green fusion technology for massive biological reduction of radioactive contaminations
지식경제부 Ministry of Knowledge Economy	방사능을 제거하는 특이미세조류 개발과 적용 Applications of microalgae on reduction of radioactive contaminations
교육과학기술부 Ministry of Education and Science Technology	PET용 방사성의약품 고수율 자동 합성 시스템 융합 기술 개발 Fusion technology development of full automatic preparation system for high radiochemical yield of PET radiopharmaceuticals
보건복지부 Ministry of Health & Welfare	호흡장애인의 이동능력 확보를 위한 휴대용 산소공급기 개발 Development of portable oxygen supply device to secure respiratory patient's mobility
교육과학기술부 Ministry of Education and Science Technology	핵연료 지지격자 공정해석 및 설계 융합 시스템 개발 Development of integrated system of process analysis and design for nuclear fuel spacer grid
지식경제부 Ministry of Knowledge Economy	중증장애인을 위한 QoL 기반 휠체어결합형 하지 운동/재활훈련 시스템 개발 Development of wheelchair integrated lower-limb exercise/rehabilitation system for severely disabled people
방위사업청 Defense Acquisition Program Administration	착용형 근력증강로봇 자세 안정화 방법론 연구 Research on the postural stabilization of power augmentative robotic exoskeletons
교육과학기술부 Ministry of Education and Science Technology	고내구성 바이오 compatible 무선충전 슈퍼전지 개발 Development of biocompatible wireless charging battery
보건복지부 Ministry of Health & Welfare	비뇨기 질환 모니터링 및 치료기기 시스템 개발 Development of status monitoring and therapeutic system for urologic diseases
보건복지부 Ministry of Health & Welfare	스마트 심폐순환보조 장치의 혈액펌프 개발 Development of blood pump of smart cardiopulmonary circulation secondary device

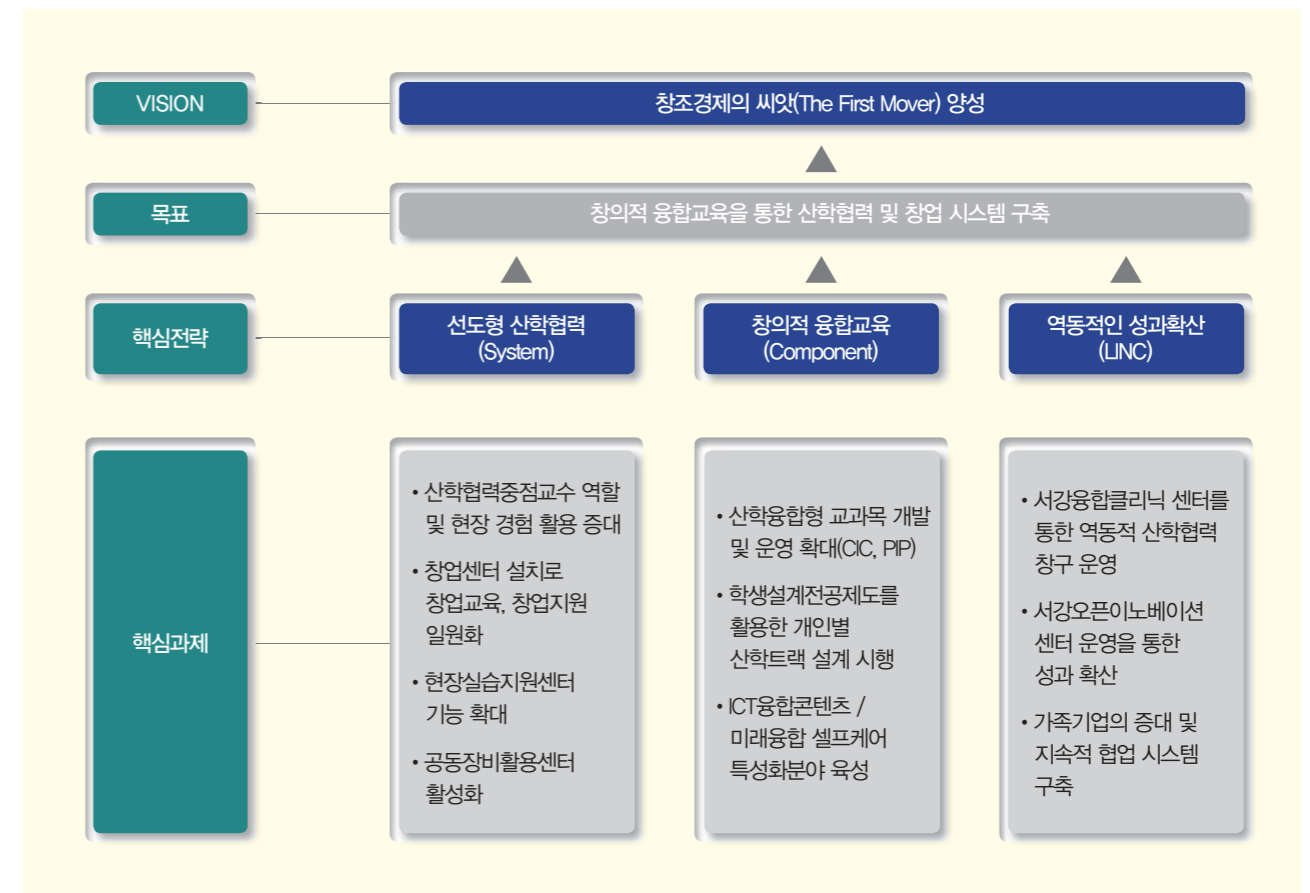
산학협력 Industry-University Collaboration

■ 산학협력선도대학 육성사업(LINC) 참여

서강대학교는 정부의 산학협력선도대학 육성사업에 선정되어 2014년부터 3년 동안 매년 약 50억 원을 산학협력, 창업 및 관련 교육, 인프라 구축에 투입합니다. 이에 따라 기계공학과 산학협력 사업이 더욱 활발해질 것이며, 미래 사회에 실제로 필요한 창의적, 선도형 인력 양성의 시발점이 될 것입니다.

■ Participation in the national project 'Leaders in INdustry-university Cooperation (LINC)'

Sogang university conducts a national project LINC and is financially supported by Ministry of Education for industry-university collaboration and business establishment. This will lead the Department of Mechanical Engineering to actively collaborate with industry and to give students the skill sets as creative pioneers in engineering.

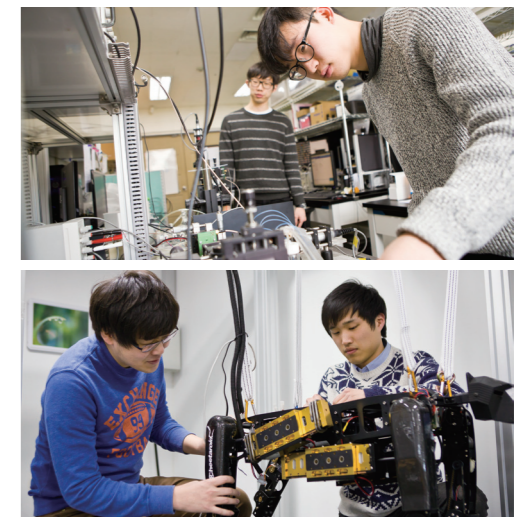


■ '산업계 관점 대학평가'에서 일반기계부분 최우수등급 획득

서강대 기계공학과는 기술 이전 성과와 교육 과정의 산업계 요구 적합도에서 높은 평가를 받아 한국대학교육협의회가 국내 주요 기업들과 함께 실시하는 '2012 산업계 관점 대학평가' 일반기계 분야에서 최우수등급을 받았습니다. 서강대 기계공학과는 다양한 기업들과 정부 연구기관의 관계자로 구성된 산학협력협의체를 구성해 정기 회의를 거쳐 교과과정을 지속적으로 보완하고 있으며, 삼성전자, LG전자, 두산인프라코어 등과 산학트랙을 개설·운영 중입니다.

■ Excellent department of mechanical engineering from an industrial perspective

Korean Council for University Education and Korean major companies reported that the Department of Mechanical Engineering of Sogang University is 'excellent' from an industrial perspective in their regular university assessment. We put our efforts to develop courses in regular discussion with experts from industry and national laboratories and offer industry-university programs with companies including Samsung Electronics, LG Electronics, and Doosan Infracore.



체계적인 교과과정 선진화된 커리큘럼

수준 높은 교육이 실력 있는 학생들을 기릅니다. 학문의 기본개념부터 무한한 활용 범위까지 치밀하게 짜여진 교과과정은 기계공학 전반의 이론과 실재를 깊이 있게 탐구하고 이해하도록 만듭니다.

학부 전공교과과정 Major for Undergraduate

구분 Category	코드 Code	교과목명 Course Name	학년 Year
전공필수 Required	MEE2008	공학설계개론 Introduction to Engineering Design	1
	MEE2013	동역학 Dynamics	2
	MEE2022	열역학 I Thermodynamics I	2
	MEE2012	유체역학 I Fluid Mechanics I	2
	MEE2011	고체역학 Solid Mechanics	2
	MEE3015	설계방법론 Design Methodology	3
	MEE3004	생산공정 Manufacturing Processes	3
	MEE2025	모형설계제작 Manufacturing Laboratory	3
	MEE3025	기계공학실험 I Mechanical Engineering Laboratory I	3
	MEE4021	창의적종합설계 Capstone Design	4
전공선택 Optional	MEE2005	기계공학개론 Introduction to Mechanical Engineering	1
	MEE2026	2D-CAD	2
	MEE2014	디자인과 재료 Materials for Mechanical Design	2
	MEE2001	정역학 Statics	2
	MEE2021	기구설계 Mechanism Analyses and Design	2
	MEE2028	제품설계기초 Fundamentals of Product Design	2
	MEE3001	제품설계분석 I-신뢰도 Product Design Analysis I: Reliability	3
	MEE3003	진동학 Vibration	3
	MEE3011	부품설계 Mechanical Component Design	3
	MEE3012	내연기관 Thermo Machinery	3
	MEE3013	자동제어 Automatic Control	3
	MEE3022	유체역학 II Fluid Mechanics II	3
	MEE3024	성형공정설계 Process Analysis and Design	3
	MEE3032	열전달 Heat and Mass Transfer	3
	MEE4003	디지털제어시스템 Digital Control Systems	3
	MEE4015	바이오역학 Biomechanics	3
	MEE4023	로봇설계 및 제어 Robot Design and Control	3
	MEE2030	기술혁신과 산업화전략 Strategic Management of Technological Innovation	3
	MEE4002	냉동 및 공기조화 Refrigeration	3,4
	MEE4047	기계공학세미나 Seminar in Mechanical Engineering	3,4
	MEE3002	열역학 II Thermodynamics II	3,4
	MEE4004	3D-CAD	3,4
	MEE4011	최적설계 및 실습 Optimal Design	3,4
	MEE4013	고급동역학 Advanced Dynamics	3,4
	MEE4025	자동차공학 Automobile Engineering	3,4
	MEE4033	메카트로닉스 Mechatronics	3,4
	MEE3026	기계공학실험 II Mechanical Engineering Laboratory II	3,4
	MEE4014	MEMS설계제작 MEMS Design and Fabrication	4
	MEE4024	계측 및 신호처리 Measurement and Signal Processing	4
	MEE4016	바이오방공학개론 Introduction to Biomimetics	4
	MEEG012	전산유체역학 Computational Fluid Dynamics	4
	MEE4001	제품설계분석 II-FEA Product Design Analysis II: FEA	4
MEE4022	신재생에너지공학개론 Introduction to Renewable Energy Systems	4	
MEE4032	마이크로열유체공학 Micro Thermal Fluid Engineering	4	
MEEG005	연속체역학 Continuum Mechanics	4	
MEEG006	유한요소법개론 Introduction to FEM	4	
MEE4046	특수연구 Special Topics	4	

대학원 전공교과과정 Major for Graduate

코드 Code	교과목명 Course Name	코드 Code	교과목명 Course Name
MEE5005	연속체역학 Continuum Mechanics	MEE6452	연소공학 Combustion Engineering
MEE5006	유한요소법개론 Introduction to the Finite Element Method	MEE6454	특수가공 Nontraditional Manufacturing Processes
MEE5007	전산유체역학 Computational Fluid Dynamics	MEE6455	고급메카트로닉스 Advanced Mechatronics
MEE6024	탄소성 이론과 응용 Theory and Application of Elastic-Plasticity	MEE6461	고등기계설계 Advanced Mechanical Design
MEE6229	응용수학 I Engineering Math I	MEE6463	고급열전달 Advanced Heat Transfer
MEE6249	응용수학 II Engineering Math II	MEE6464	미소가공 Micromechanics
MEE6311	형상모델링 Geometric Modeling	MEE6471	미소구조해석 Analysis of Micro-structure
MEE6312	고급열역학 Advanced Thermodynamics	MEE6473	고급 제어 II Advanced Control Systems II
MEE6313	선형진동학 Oscillations in Linear Systems	MEE6474	센서공학 Sensor Engineering
MEE6321	응용탄성학 Applied Elasticity	MEE6481	복합재료 역학 Mechanics of Composite Materials
MEE6322	통계열역학기초 Fundamental Statistical Thermodynamics	MEE6484	시스템 인식 및 실무 System Identification and Practices
MEE6323	고급제어 I Advanced Control Systems I	MEE6491	변형체의 동적해석 Dynamic Response Analysis for Deformable Bodies
MEE6329	응용수치해석 Applied Numerical Methods	MEE6493	비선형제어 Nonlinear Control
MEE6331	비선형고체역학 Nonlinear Solid Mechanics	MEE6512	열펌프시스템 Heat Pump System
MEE6341	최적설계 Optimal Design	MEE6513	나노공학개론 Introduction to Nanotechnology and Engineering
MEE6343	고급유체역학 Advanced Fluid Mechanics	MEE6515	마이크로/나노 열유체공학 Micro/nano Thermal and Fluids Engineering
MEE6344	센서기초이론 Basic Theory of Sensor	MEE6516	나노바이오 시스템설계 및 제어 Design and Control of Nanobio Systems
MEE6411	기구설계 및 해석 Mechanism Design and Analysis	MEE6517	강인제어시스템 Robust Control System
MEE6412	전도열전달 Conduction Heat Transfer	MEE6518	바이오시스템 모델링 및 분석 Modeling and Analysis of Biological System
MEE6413	지능형구동기 Intelligent Actuator	MEE6521	자동차안전공학 Automotive Safety Engineering
MEE6419	공학논문작성법 Writing Science and Technical Papers	MEE6522	재생에너지공학 Renewable Energy
MEE6421	파괴역학 Fracture Mechanics	MEE6531	차량동역학 Vehicle Dynamics
MEE6422	복사열전달 Radiation Heat Transfer	MEE6541	호흡역학 및 기기 Respiratory Mechanics and Devices
MEE6423	비선형진동학 Oscillations in Nonlinear Systems	MEE6543	고급전산유체역학 Advanced Computational Methods For Fluid Dynamics
MEE6425	실험계획법 Design of Experiments	MEE6552	터보기계 Turbomachinery
MEE6429	고급수치해석 I Advanced Numerical Analysis I	MEE6562	에너지공학특론 Selected Topics in Energy Engineering
MEE6431	고급유한요소해석 Advanced Finite Element Method	MEE6568	세미나 I Seminar I
MEE6432	난류 Turbulence	MEE6578	세미나 II Seminar II
MEE6433	동역학특론 Advanced Dynamics	MEE6588	세미나 III Seminar III
MEE6434	공정설계의 CAE CAE for Process Design	MEE6598	고급 기계공학 현장실습 I Advanced Industrial Project in Mechanical Engineering I
MEE6439	고급수치해석 II Advanced Numerical Analysis II	MEE6599	고급 기계공학 현장실습 II Advanced Industrial Project in Mechanical Engineering II
MEE6441	경계요소법 Boundary Element Method	MEE6691	특수연구 I Special Topics I
MEE6445	다상유동 Multiphase Flow	MEE6692	특수연구 II Special Topics II
MEE6443	로봇공학 Advanced Robotics	MEE6693	특수연구 III Special Topics III
MEE6444	정밀가공 Precision Manufacturing Processes	MEE6694	특수연구 IV Special Topics IV
MEE6451	생체역학 Bio-Mechanics		

