

Speaker Profile



Contact Details

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Name: JUNG IL LEE

Title: Principal Research Scientist

Institute: Korea Institute of Science and Technology (KIST)

Jungil Lee was born on Jan. 30, 1953 in Mokpo, Korea and received B.S ('75) from Seoul Nat'l Univ., and M.S. ('79) and Ph.D. ('85) from Brown Univ., Providence, RI, USA, all in Physics. After Post-Doctoral Research at GTE Labs., Waltham, MA, USA, he joined KIST Optoelectronics Lab in 1987 and now is working as a principal researcher at Nano Device Research Center. He served as the chief representative, Beijing Office, Korea-China S&T Coop. Ct., Beijing, China ('93-'96) and was a visiting researcher at LPCS (now IMEP) CNRS/INPG, Grenoble, France ('97-'98). He was a Program Director, Basic & Space Science Program at KISTEP (funding agency for MOST) ('00-'02) and led the Korean Delegation to OECD Global Science Forum ('00-'04). He also served as a Vice President of Korea Nano-Technology Research Society ('04-'05). He is a Vice President of Korean Vacuum Society ('05-'07) and also a member of Advisory Committee for MOST in Information and Electronics ('05-'07). He is presently the Principal Investigator of Nano R&D Program ('02-'10) - Quantum Mechanical Dot/Wire Technology – funded by MOCIE. His fields of study include semiconductor electrical and optical devices, quantum transport in low dimensional systems, low-frequency noise, photonic bandgap physics and device applications. He is married and has two daughters. He can speak fair Chinese and *debutant* French.

Center Information

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Nano Device Research Centre constitutes of two research groups, one on spintronics and the other on semiconductor optoelectronics. Various funding sources include Ministry of Science and Technology (MOST), Ministry of Commerce, Industry and Energy (MOCIE), Ministry of Communications (MOC), US Air Force, and KIST. The total annual budget of the Centre amounts up to approximately 5 MU\$. The Centre includes 14 research staffs and more than 30 visitors, post-docs and graduate students from outside universities. The semiconductor optoelectronics group is pursuing research and development of quantum dot (QD) laser diodes, QD infrared photodetectors, QD superluminescent diodes, quantum cascade lasers, QD vertical cavity surface emitting lasers based on III-V compound semiconductor nanostructures, and nanocrystalline silicon light emitting diodes, among others.

PLATFORM TECHNOLOGIES

- **MBE growth of III-V semiconductor nanostructures**
- **Colloidal fabrication of nanocrystalline silicon**
- **Device processing technologies including e-beam lithography, photolithography, rapid thermal annealing, dry etching etc.**
- **Characterization technologies including photoluminescence, electrical and optical device parameter analysis, 1/f noise measurements, etc.**