

The 17th International Nanotech Symposium & Exhibition

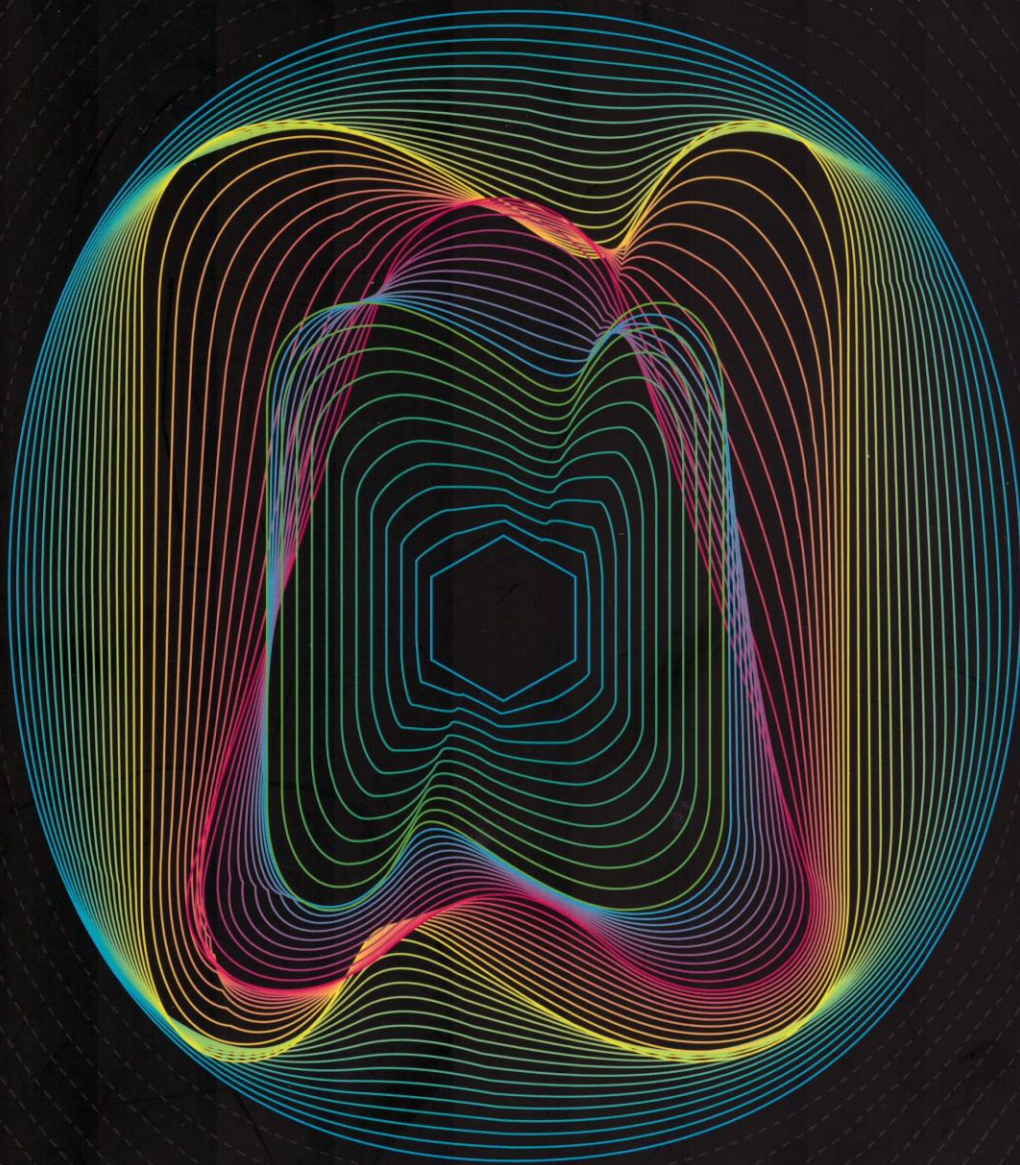
NANO KOREA 2019

July 3~5, 2019, KINTEX, Korea

July 2: Tutorial Session

July 3~5: Symposium & Exhibition

Symposium Program Book

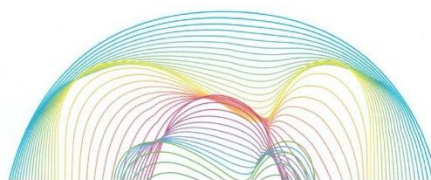


Host Ministry of Science and ICT
Ministry of Trade, Industry & Energy

Organizer Korea Nano Technology Research Society
Nano Technology Research Association

Contents

▪ Greetings	7
▪ Welcome Message	9
▪ Sponsors	11
▪ NANO KOREA 2019	15
▪ Symposium Overview	16
▪ Program at a Glance	18
▪ Committee	20
▪ Venue	22
▪ Programs	
- Program as a Date	26
- Keynote & Plenary Session	29
- Technical Session	42
- Technical Session 1. Nanoelectronic Devices	
- Technical Session 2. Nanophotonics	
- Technical Session 3. Synthesis & Application of Nanoparticles	
- Technical Session 4. 1D & 2D Nanomaterials	
- Technical Session 5. Hybrid Nano Structural Materials	
- <u>Technical Session 6. Nanofabrication & Measurement</u>	
- Technical Session 7. Nanobiotechnology	
- Technical Session 8. Nanomedicine	
- Technical Session 9. Nanotechnology for Energy & Environment	
- Technical Session 10. Nanotechnology for Safety, Standardization and Regulations	
- Technical Session 11. Sensor and Actuator	
- Technical Session 12. Computational Nano Science & Technology for Nanomaterials	
- Satellite Session	149
- Tutorial Session	152
- Public Session	154



- P1906_0699 **Mechanical properties of AZO/Ag/AZO thin film deposited on polyimide substrate**
Dong Hyeon Jung(Korea Institute of Machinery and Materials (KIMM)), Sang Min Kim(Korea Institute of Machinery and Materials (KIMM)), Yun Hwangbo(Korea Institute of Machinery and Materials (KIMM)), Hyun June Jung(Korea Institute of Machinery and Materials (KIMM)), Sung Uk Yoon(Korea Institute of Machinery and Materials (KIMM)), Jung Yup Kim(Korea Institute of Machinery and Materials (KIMM)), Jae Hyun Kim(Korea Institute of Machinery and Materials (KIMM))
- P1906_0731 **Characterization of mechanical properties of nanometer thick film utilizing bulge test**
Jin-Ho Yeo(Sungkyunkwan University), Ji-Beom Yoo(Sungkyunkwan University), Mun-Ja Kim(Samsung Electronics)
- P1906_0770 **Design and fabrication of Kirigami structures for stretchable electronic circuit boards**
Sejeong Won(Center for Advanced Meta-Materials), So Yun Kim(Korea Institute of Machinery and Materials (KIMM)), Bongkyun Jang(Korea Institute of Machinery & Materials), Hak-Joo Lee(Center for Advanced Meta-Materials), Jae-Hyun Kim(Korea Institute of Machinery and Materials (KIMM))
- P1906_0798 **Ablation on hard metal using femtosecond laser**
Youngwan Shin(Korea University of Science and Technology (UST)), Wonsuk Choi(Korea Institute of Machinery and Material (KIMM)), Hoonyoung Kim(Korea Institute of Machinery and Material (KIMM)), Kangwoo Cho(Korea University of Science and Technology (UST)) / Sunghak Cho(Korea Institute of Machinery and Material (KIMM))
- P1906_0800 **Effect of Adhesive Thickness on Dry Transfer of Chemical Vapor Deposition-Grown (CVD) Graphene**
Chan Kim(University of Science & Technology (UST)), Min-Ah Yoon(University of Science & Technology (UST)), Hyun-Jun Jung(Center for Advanced Meta-Materials (CAMM)), Jae-Hyun Kim(Korea Institute of Machinery and Materials (KIMM)), Kwang-Seop Kim(Korea Institute of Machinery and Materials (KIMM))
- P1906_0802 **Ion/electron beam induced deposition of electrical connection for fabricating the specimens of in-situ transmission electron microscopy**
Byeong-Seon An(Sungkyunkwan University), Yena Kwon(Sungkyunkwan University), Jin-Su Oh(Sungkyunkwan University), Cheol-Woong Yang(Sungkyunkwan University)
- P1906_0810 **Fabrication of organic/carbon composite to apply as anode materials of sodium organic batteries**
Hyunho Ha(Korea Institute of Machinery and Materials (KIMM)), Chang-Soo Woo(Korea Institute of Machinery and Materials (KIMM)), Soo-Hwan Jeong(Kyungpook National University), Seungmin Hyun(Korea Institute of Machinery and Materials (KIMM))
- P1906_0824 **Selective transfer of graphene with flat-surface stamp**
Min-Ah Yoon(University of Science & Technology (UST)), Chan Kim(University of Science & Technology (UST)), Hyun-June Jung(Center for Advanced Meta-Materials), Jae-Hyun Kim(Korea Institute of Machinery and Materials (KIMM)), Kwang-Seop Kim(Korea Institute of Machinery and Materials (KIMM))
- P1906_0839 **Injection Molding of Plastic Nano Gap Channel Device for Cells or Bacteria**
Sang-Won Woo(Korea Institute of Machinery and Materials (KIMM)), Hyun-Ah Noh(Korea Institute of Machinery and Materials (KIMM)), Jeong-Hwan Kim(Korea Institute of Machinery and Materials (KIMM)), Kwan Oh Kim(Korea Institute of Machinery and Materials (KIMM)), Jae-Sung Yoon(Korea Institute of Machinery and Materials (KIMM)), Sun-Kyoung Kim(Seoul National University of Science and Technology (SEOULTECH)), Seunghee Jeong(NosQuest Inc), Hyung Soon Park(NosQuest), Yeong-Eun Yoo(Korea Institute of Machinery and Materials (KIMM))