

## Curriculum Vitae

### Prof. Soon-Gil Yoon

**Date of birth:** November 25, 1959, Kyung-Kido, South Korea.

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**Affiliation:** Department of Materials Science and Engineering, Chungnam National University, Daeduk Science Town, 305-764, Daejeon, Korea

#### ♣ Academic Carrier:

1978. 3 – 1982. 2: Dept. of Metallurgical Engineering, Yeonsei University, BS.  
1983. 3 – 1985. 2: Dept. of Materials Science and Technology, Korea Advanced Institute of Science and Technology (KAIST), M.S.  
1985. 3 – 1988. 8: Dept. of Materials Science and Technology, KAIST, Ph.D.  
Supervisor: Prof. Ho-Gi Kim

#### ♣ A carrier record:

1990. 2 – Present: Department of Materials Engineering, Chungnam National University, Professor  
1992. 7 – 1993. 7: New Jersey State University (Rutgers University): Visiting Professor.  
Supervisor: Prof. Amhaid Saffari  
1999. 8 – 2000. 8: North-Carolina State University: Visiting Professor. Supervisor:  
Prof. Anguis Kingon  
2006. 4 – 2013. 3: Director of BK21 project in Chungnam National University  
2008. 2 – Present: Editor-in-Chief, The Open Biomaterials Journal  
2008. 2 – Present: Editorial Board Member, The Open Materials Science Journal  
2015. 8 – Present: Editorial Board Member, Scientific Report Journal  
2013. 9 – Present: Director of BK plus 21 project in Chungnam National University  
2013. 11 – 2018. 11: Principle Investigator of Basic Research Lab. supported from NRF.

- #### ♣ Research Area:
- 1) Thin film Capacitors using BMNO dielectric films on Graphene
  - 2) Organic/Inorganic Perovskite Halide Thin Films grown *via* Chemical Vapor Deposition
  - 3) Transparent conducting oxide films: AZO/(Ag, Au)/AZO

multilayer

- 4) Perovskite Solar Cells using graphene top- and bottom-electrode
- 5) Fusion Technology of Solar, Thermoelectric, and Piezoelectric energy harvesting using single structure.
- 6) Antibacterial activity using Al-doped ZnO and ZnAl<sub>2</sub>O<sub>4</sub> thin films
- 7) *8-inch-scale* graphene grown directly at 150 °C without transfer *via* PATCVD
- 8) Electrical performance of N-doped and B-doped graphene TFTs based on transfer-free, 8-inch-scale, high-quality monolayer graphene grown directly at 100 °C.
- 9) Energy harvesting using piezoelectric organic/inorganic perovskite MAPbI<sub>3</sub>, MASnI<sub>3</sub>, and MABrI<sub>3</sub> and Flexoelectricity of Zn-Al:LDH nanosheets *via* most facile synthesis

#### ♣ **Selected Papers (Corresponding Authors): Peer Reviewed SCI Papers**

- 1) Jun-Ku Ahn, Kyung-Woo Park, Hyun-June Jung, and **Soon-Gil Yoon\***, "Phase-Change InSbTe Nanowires Grown *in Situ* at Low Temperature by Metal-Organic Chemical Vapor Deposition (MOCVD) ", **Nano Letters**, **10**, 472-477 (2010).
- 2) Thanh-Tung Duong, Quoc-Dung Nguyen, Soon-Ku Hong, Dojin Kim, **Soon-Gil Yoon\*** and Thanh-Huy Pham, "Enhanced Photoelectrochemical Activity of the TiO<sub>2</sub>/ITO Nanocomposites Grown onto Single-Walled Carbon Nanotubes at a Low Temperature by Nanocluster Deposition" **Advanced Materials**, **23**, 5557 (2011).
- 3) Hyun-June Jung, **Soon-Gil Yoon\***, Soon-Ku Hong and Jeong-Yong Lee, "Transparent Nanoscale Floating Gate Memory Using Self-Assembled Bismuth Nanocrystals in Bi<sub>2</sub>Mg<sub>2/3</sub>Nb<sub>4/3</sub>O<sub>7</sub> (BMN) Pyrochlore Thin Films Grown at Room Temperature", **Advanced Materials**, **24**, 3396-3400 (2012).
- 4) Byeong-Ju Park, Jin-Seok Choi, Hyun-Suk Kim, Hyun-You Kim, Jong-Ryul Jeong, Hyung-Jin Choi, Hyun-June Jung, Min-Wook Jung, Ki-Seok An, Hyun-jung Shin, Myung-Mo Sung, and **Soon-Gil Yoon\***, "Realization of Large-Area Wrinkle-Free Monolayer Graphene Films Transferred to Functional Substrates", **Scientific Reports**, **5**, 9610-9617 (2015).

- 5) Yun-Jeong Kim, Tran-Van Dang, Hyung-Jin Choi, Byeong-Ju Park, Ji-Ho Eom, Hyun-A Song, Daehee Seol, Yunseok Kim, Sung-Ho Shin, Junghyo Nah, and **Soon-Gil Yoon\***, "Piezoelectric properties of  $\text{CH}_3\text{NH}_3\text{PbI}_3$  perovskite thin films and their applications in piezoelectric generators", **Journal of Materials Chemistry A**, 4, 756-763 (2016).
- 6) Hyung-Jin Choi, Byeong-Ju Park, Ji-Ho Eom, Min-Ju Choi, and **Soon-Gil Yoon\***, "Achieving Antifingerprinting and Antibacterial Effects in Smart-Phone Panel Applications Using ZnO Thin Films without a Protective Layer", **ACS Applied Materials & Interfaces**, 8, 997-1003 (2016).
- 7) Byeong-Ju Park, Jin-Seok Choi, Ji-Ho Eom, Hyunwoo Ha, Hyun You Kim, Seonhee Lee, Hyunjung Shin, and **Soon-Gil Yoon\***, "Defect-Free Graphene Synthesized Directly at 150 °C *via* Chemical Vapor Deposition with No Transfer", **ACS Nano**, 12, 2008-2016 (2018).
- 8) Swathi Ippili, Venkatatraju Jella, Jaegyul Kim, Seungbum Hong, and **Soon-Gil Yoon\***, "Enhanced piezoelectric output performance via control of dielectrics in  $\text{Fe}^{2+}$ -incorporated  $\text{MAPbI}_3$  perovskite thin films: Flexible piezoelectric generators", **Nano Energy** 49, 247-256 (2018).
- 9) Venkatatraju Jella, Swathi Ippili, Ji-Ho Eom, Yun-Jung Kim, Hye-Jin Kim, and **Soon-Gil Yoon\***, "A Novel Approach to Ambient Energy (Thermoelectric, Piezoelectric and Solar-TPS) Harvesting: Realization of a Single Structured TPS-Fusion Energy Device using  $\text{MAPbI}_3$ ", **Nano Energy** 52, 11-21 (2018).
- 10) Venkatatraju Jella, Swathi Ippili, Ji-Ho Eom, Jihoon Choi, and **Soon-Gil Yoon\***, "Enhanced output performance of a flexible piezoelectric energy harvester based on stable  $\text{MAPbI}_3$ -PVDF composite films", **Nano Energy** 53, 46-56 (2018).
- 11) Min-Ju Choi, Ji-Ho Eom, **Soon-Gil Yoon\*** *et al.* "Most facile synthesis of Zn-Al:LDHs nanosheets at room temperature *via* environmentally friendly process and their high power generation by flexoelectricity", **Materials Today Energy** 10, 254-263 (2018).
- 12) Venkatatraju Jella, Swathi Ippili, Ji-Ho Eom, S. V. N. Pammi, Jang-Soo Jung, Van-Dang Tran, Van Hieu Nguyen, Artavazd Kirakosyan, Seokjin Yun, Deul Kim, Moon Ryul Sihn, Jihoon Choi, Yun-Jeong Kim, Hye-Jin Kim, and **Soon-**

- Gil Yoon\***, “A Comprehensive Review of Flexible Piezoelectric Generators Based on Organic-Inorganic Metal Halide Perovskites (**Review Paper**)”, **Nano Energy** 57, 74-93 (2019).
- 13) Swathi Ippili, Venkatraju Jella, **Soon-Gil Yoon\*** et al, “An eco-friendly flexible piezoelectric energy harvester that delivers high output performance is based on lead-free MASnI<sub>3</sub> films and MASnI<sub>3</sub>-PVDF composite film”, **Nano Energy**, 57, 911-923 (2019).
- 14) Byeong-Ju Park, Yire Han, Jin-Seok Choi, Hyunwoo Ha, Hyun You Kim, Cheolho Jeon, Ji-Ho Eom, Kangho Park, Hee-Tae Jung, Yun-Ho Kim, and **Soon-Gil Yoon\***, “Transfer-Free, Large-Scale, High-Quality, Monolayer Graphene Synthesized Directly at Lower Temperatures than Boiling Point of Water”, **Under Review at ACS Nano**.
- 15) Yire Han, Byeong-Ju Park, Ji-Ho Eom, Van-Dang Tran, S. V. N. Pammi, Ippili Swathi, Ha-Rim Ahn, Cheolho Jeon, and **Soon-Gil Yoon\***, “Predominant Electrical Performance of Nitrogen-doped Graphene Thin Film Transistors Based on Transfer-Free, Large-Scale, High-Quality, Monolayer Graphene Synthesized at 150 °C”.

♣ **Peer Reviewed SCI Papers: 1990-Present: 340 papers**