

Hyungseok Yoon, Ph.D.

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EDUCATION

Ph.D.	Chonnam National University, Gwangju, Korea. Department of Mechanical engineering, Thesis title: Development and characteristic evaluation of capacitive force sensor using high dielectric material (Advisors: Prof. Dr. Insu Jeon).	Mar. 2012 - Feb. 2020
M.S.	Chonnam National University, Gwangju, Korea. Department of Mechanical engineering, Thesis title: The development of 3D package for 4 stack chip through finite-element analysis and moire measurement and analysis (Advisor: Prof. Dr. Insu Jeon).	Mar. 2009 - Aug. 2011
B.S.	Chonnam National University, Gwangju, Korea. Department of Mechanical engineering, (Advisor: Prof. Dr. Insu Jeon).	Mar. 2003 - Feb. 2009

EXPERIENCES

Research Student	Center for Mechanical Metrology, Korea Research Institute of Standards and Science, Daejeon, Korea (working with Dr. Jong-Ho Kim).	2015-Present
Graduate Student	Department of Mechanical Engineering, Chonnam National University, Gwangju, South Korea (Principal Investigator: Prof. Dr. Insu Jeon).	2011-2014
Research Student	Package Research Team, Electronics and Telecommunications Research Institute, Daejeon, South Korea (working with Dr. Kwang-seong Choi).	2009-2010

RESEARCH INTERESTS

- Development of capacitive sensors for micro displacement and load sensing.
- Various applications of capacitive pressure sensors.
- Development of wearable devices using contact resistance pressure sensors.
- Static analysis of various structures.

EXPERTISE & SKILLS

- **Design and manufacture of capacitive and contact resistance type pressure sensors.**
- **Static characterization using impedance analyzer.**
- **Manufacture of flexible capacitive pressure sensor.**
- **Manufacture of wearable device using contact resistance sensor.**
- **Glancing angle deposition (GLAD) technique using an E-beam evaporator.**
- **Design & Numerical analysis Tool: Rhino, Patran, Hypermesh, Abaqus.**

JOURNAL PUBLICATIONS

1. Tran, V. T., Mredha, M. T. I., Pathak, S. K., **Yoon, H.**, Cui, J., & Jeon, I. “Conductive Tough Hydrogels with a Staggered Ion-Coordinating Structure for High Self-Recovery Rat.” *ACS Appl. Mater. interfaces*, 11(27), 24598-24608 (2019).
2. **Yoon, H.**, Choi, K. S., Bae, H. C., Moon, J. T., Eom, Y. S., & Jeon, I. “Evaluating the material properties of underfill for a reliable 3D TSV integration package using numerical analysis.” *Microelectronics Reliability*, 71, 41-50 (2017).
3. Jang, H., **Yoon, H.**, Ko, Y., Choi, J., Lee, S. S., Jeon, I., ... & Kim, H. “Enhanced performance in capacitive force sensors using carbon nanotube/polydimethylsiloxane nanocomposites with high dielectric properties.” *Nanoscale*, 8(10), 5667-5675 (2016).

SELECTED PRESENTATIONS

1. **H. Yoon**, H. Kim, J. Kim, I. Jeon, “Enhanced performance of capacitive force sensors by CNT dielectric material” poster presentation at KSME2016RE, Korea, April 2016.
2. **H. Yoon**, I. Jeon, “The development of the high reliability 3D package through the FE analysis and Moire experiment” poster presentation at KSME, Korea, November 2015.
3. **H. Yoon**, I. Jeon, “Verification of faulty mechanism for fan-out wafer level package using numerical analysis” oral presentation at CMECE-II, China, January 2015.
4. **H. Yoon**, I. Jeon, “The oblique angle deposition method for fabrication of CsI(Tl) micro columnar structure” poster presentation at ISGMA2014, Korea, June 2014.

PATENTS

1. “MANUFACTURE METHOD OF TACTILE SENSOR AND TACTILE SENSOR USED THEREBY”, Patent#: 1019490260000 (Registration date: February 11, 2019), Republic of Korea.
2. “High Efficiency Thermoelectric Power Generation Module and Method of Manufacturing the Same”, Patent#: 1014693740000 (Registration date: November 28, 2014), Republic of Korea.

REFERENCES

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