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EDUCATION

M.S. & Ph.D. 2006.03 – 2011.08

Department of Materials Science and Engineering
Seoul National University, Seoul, Korea

Thesis Title: “Growth behavior and characteristics of Ru based electrodes grown by CVD/ALD for next generation DRAM device” (advisor: Prof. Cheol Seong Hwang)

B.S. 2002.03 – 2006.02

Department of Materials Science and Engineering,
Seoul National University, Seoul, Korea

CAREER

Associate Professor, Department of Materials Science and Engineering,
Seoul National University of Science and Technology 2021.10 – Present

Assistant Professor, Department of Materials Science and Engineering,
Seoul National University of Science and Technology 2017.08 – 2021.09

Senior Researcher, Advanced Materials Research Center,
Korea Research Institute of Chemical Technology (KRICT) 2013.09 – 2017.08

Postdoctoral Fellow, Thin Film Scientific Group,
IMEC, Belgium 2012.02 – 2013.08

RESEARCH Interests

1. Atomic Layer Deposition (ALD) of Electronic Materials

- ALD of Higher-k dielectric and advanced electrode films for semiconductor devices
- ALD of Low-resistivity metallic films for interconnect metallization
- ALD of High-mobility n-type and p-type channel materials for post-Si devices
- ALD of Transparent conducting semiconductor/oxides materials for display applications

2. Advanced Semiconductor Devices

- Development of next generation DRAM capacitor and Emerging memory devices
- P and N-type TFTs and complementary devices for NAND, M3D technology, and transparent electronics

3. Fundamental Study on ALD Technology

- Study on the Growth Characteristics and Surface Reaction Chemistry of ALD films
- Development of novel metal-organic precursor for ALD processes
- ALD process diagnostics using in-situ analysis tool
- ALD coating on nano/powder materials

AWARDS

1. Outstanding Research Faculty Award , Seoul National University of Science and Technology	2024.03
2. Outstanding Research Faculty Award , Seoul National University of Science and Technology	2021.11
3. KRICT Star Award , Korea Research Institute of Chemical Technology	2016.02
4. KRICT Best Paper Award , Korea Research Institute of Chemical Technology	2015.03

SCI PUBLICATIONS (1st author / Corresponding author), 96 SCI papers

1. Ji Young Park, Jeong Hwan Han, Byung Joon Choi, “High-performance of ZnO/TiO₂ heterostructured thin-film photocatalyst fabricated via atomic layer deposition” Journal of Vacuum Science & Technology A, 42 (2024)
2. Ha Young Lee, Jeong Hwan Han, Byung Joon Choi, “Growth of conformal TiN thin film with low resistivity and impurity via hollow cathode plasma atomic layer deposition” Journal of Vacuum Science & Technology A, 42 (2024)
3. Jae Hyeon Lee, Wangu Kang, Hong Keun Chung, Seong Keun Kim, **Jeong Hwan Han (corresponding)**, “Phase-controlled molybdenum dioxide electrodes by RF reactive magnetron sputtering for achieving high-k rutile TiO₂ dielectric” Vacuum, 220 (2024)
4. Jina Kim, Hee Won Jang, Myeong Gil Chae, Heenang Choi, Jeong Eun Shin, Bo Keun Park, Taek-Mo Chung, **Jeong Hwan Han (corresponding)**, “Horizontally aligned ALD-SnO films grown on SiO₂-passivated high-k HfO₂ dielectrics for high-mobility and low-power P-channel thin-film transistor” Surfaces and Interfaces, 44 (2024)
5. Jong Hyeon Won, Hyeonhui Jo, Pil Ju Youn, Bo Keun Park, Taek-Mo Chung, **Jeong Hwan Han (corresponding)**, “Ternary Ga–Sn–O and quaternary In–Ga–Sn–O channel based thin film transistors fabricated by plasma-enhanced atomic layer deposition” Journal of Vacuum Science & Technology A, 41 (2023)
6. Wangu Kang, Ji Sang Ahn, **Jeong Hwan Han (corresponding)**, “Plasma-enhanced atomic layer deposition of molybdenum carbide and carbonitride films using bis (isopropylcyclopentadienyl) molybdenum (IV) dihydride and an H₂/N₂/Ar plasma” Journal of Vacuum Science & Technology A, 41 (2023)
7. Jungkyun Kim, Hakseung Rhee, Myeong Won Son, Juseong Park, Gwangmin Kim, Jae Bum Jeon, Hanchan Song, Geunwoo Kim, Byong-Guk Park, **Jeong Hwan Han (co-corresponding)**, Kyung Min Kim, Electromigration Reliability of Barrierless Ruthenium and Molybdenum for Sub-10 nm Interconnection” ACS Applied Electronic Materials, 5 (2023)
8. Eun Chong Ko, Jae Yeon Kim, Hakseung Rhee, Kyung Min Kim, **Jeong Hwan Han (corresponding)**, “Low-resistivity ruthenium metal thin films grown via atomic layer deposition using dicarbonyl-bis (5-methyl-2, 4-hexanediketonato) ruthenium (II) and oxygen”, Materials Science in Semiconductor Processing, 156 (2023)
9. Myeong Gil Chae, Jina Kim, Hee Won Jang, Bo Keun Park, Taek-Mo Chung, Seong Keun Kim, **Jeong Hwan Han (corresponding)**, “High field-effect mobility and on/off current ratio of p-type ALD SnO thin-film transistor” ACS Applied Electronic Materials, 5 (2023)
10. Jina Kim, Myeong Gil Chae, Young Joon Han, Jun Choi, Kwan Hyun Cho, Heenang Choi, Bo Keun Park, Taek-Mo Chung, Woongkyu Lee, **Jeong Hwan Han (corresponding)**, “High-performance Atomic-Layer-Deposited SnO thin film transistors fabricated by intense pulsed light annealing” Applied Surface Science, 609 (2023)
11. Ji Sang Ahn, Wangu Kang, **Jeong Hwan Han (corresponding)**, “Thermal atomic layer deposition of molybdenum carbide films using bis (ethylbenzene) molybdenum and H₂” Journal of Vacuum Science & Technology A 41 (2023)

12. Myeong Jun Jung, Myeongjun Ji, Jeong Hwan Han, Young-In Lee, Sung-Tag Oh, Min Hwan Lee, Byung Joon Choi, "Atomic layer deposition of ZnO layers on Bi₂Te₃ powders: Comparison of gas fluidization and rotary reactors" *Ceramics International*, 48 (2022)
13. Eun Chong Ko, Wangu Kang, **Jeong Hwan Han (corresponding)**, "Improved dielectric constant and leakage current characteristics of BaTiO₃ thin film on SrRuO₃ seed layer" *Journal of Alloys and Compounds*, 895 162579 (2022)
14. Jong Hyeon Won, Heenang Choi, Seong Ho Han, Bo Keun Park, Taek-Mo Chung, **Jeong Hwan Han (corresponding)**, "Polycrystalline and high purity SnO₂ films by plasma-enhanced atomic layer deposition using H₂O plasma at very low temperatures of 60–90° C" *Vacuum* 196 110739 (2022)
15. Seong Ho Han, Raphael Edem Agbenyeke, Ga Yeon Lee, Bo Keun Park, Chang Gyoung Kim, Taeyong Eom, Seung Uk Son, Jeong Hwan Han, Ji Yeon Ryu, Taek-Mo Chung "Novel Heteroleptic Tin(II) Complexes Capable of Forming SnO and SnO₂ Thin Films Depending on Conditions Using Chemical Solution Deposition" *ACS omega* 7, 1 1232-1243 (2022)
16. Raphael Edem Agbenyeke, Soomin Song, Heenang Choi, Bo Keun Park, Jae Ho Yun, Taek-Mo Chung, Young Kuk Lee, Chang Gyoung Kim, **Jeong Hwan Han (corresponding)**, "Atomic Layer Deposition of Cu₂SnS₃ Thin Films: Effects of Composition and Heat Treatment on Phase Transformation" *Chemistry of Materials* 33 20 8112-8123 (2021)
17. Dohyun Go, Jaehyeong Lee, Jeong Woo Shin, Sungje Lee, Wangu Kang, Jeong Hwan Han, Jihwan An "Phase-gradient atomic layer deposition of TiO₂ thin films by plasma-induced local crystallization" *Ceramics International* 47 (20), 28770-28777 (2021)
18. Wangu Kang, Ji Sang Ahn, **Jeong Hwan Han (corresponding)**, Seed layer mediated growth of high dielectric and low leakage BaTiO₃ thin film using two-step sputtering process *Ceramics International* 47 25826-25831 (2021)
19. Seong-Ho Baek, Young-Min Jeong, Seung Chul Shin, Byung Joon Choi, **Jeong Hwan Han (corresponding)**, "Tunable solid electrolyte interphase formation on SiO anodes using SnO artificial layers for Lithium-ion batteries" *Applied Surface Science*, 549, 149028 (2021)
20. Myeong Gil Chae, Seong Ho Han, Bo Keun Park, Taek-Mo Chung, **Jeong Hwan Han (corresponding)**, "Atomic-layer-deposited SnO film using novel Sn (dmamb)₂ precursor for p-channel thin film transistor" *Applied Surface Science*, 547, 148758, (2021)
21. Won Hee Jeong, Jeong Hwan Han, Byung Joon Choi, "Effect of Ag Concentration Dispersed in HfO_x Thin Films on Threshold Switching" *Nanoscale research letters*, 15, 1-8, (2020)
22. In-Hwan Baek, Ah-Jin Cho, Sangtae Kim, Ga Yeon Lee, Jeong Hwan Han, Taek-Mo Chung, Seung-Hyub Baek, Chong-Yun Kang, Jin-Sang Kim, Cheol Seong Hwang, Seong Keun Kim, " Substrate Surface Modification for Enlarging Two-Dimensional SnS Grains at Low Temperatures" *Chemistry of Materials*, 32, 9026-9033, (2020)
23. Raphael Edem Agbenyeke, Seong Ho Han, Bo Keun Park, Taek-Mo Chung, Young Kuk Lee, Chang Gyoung Kim, **Jeong Hwan Han (corresponding)**, "Simultaneous etching of underlying metal oxide and sulfide thin films during Cu₂S atomic layer deposition" *Applied Surface Science*, 524, 146452, (2020)
24. Seung Chul Shin, Bo Keun Park, Taek-Mo Chung, **Jeong Hwan Han (corresponding)**, "Highly efficient photocatalytic methylene blue degradation over Sn (O, S)/TiO₂ photocatalyst fabricated via powder atomic layer deposition of SnO and subsequent sulfurization" *Materials Letters*, 272, 127868, (2020)
25. Jong Hyeon Won, Seong Ho Han, Bo Keun Park, Taek-Mo Chung, **Jeong Hwan Han (corresponding)**, "Effect of Oxygen Source on the Various Properties of SnO₂ Thin Films Deposited by Plasma-Enhanced Atomic Layer Deposition" *Coatings*, 10, 692 (2020)
26. In-Hwan Baek, Jung Joon Pyeon, Ga-Yeon Lee, Young Geun Song, Hansol Lee, Sung Ok Won, Jeong Hwan Han, Chong-Yun Kang, Taek-Mo Chung, Cheol Seong Hwang, Seong Keun Kim, "Cation-regulated

transformation for continuous two-dimensional tin monosulfide” Chemistry of Materials, 32. 2313-2320 (2020)

27. Daewon Lee, Youngmin Kim, Hyunsu Han, Won Bae Kim, Hyunju Chang, Taek-Mo Chung, Jeong Hwan Han, Hyun Woo Kim, Hyung Ju Kim, “Atomic-layer-deposited SnO₂ on Pt/C prevents sintering of Pt nanoparticles and affects the reaction chemistry for the electrocatalytic glycerol oxidation reaction” Journal of Materials Chemistry A, 8, 15992-16005 (2020)
28. Jung Joon Pyeon, In-Hwan Baek, Young Geun Song, Gwang Su Kim, Ah-Jin Cho, Ga-Yeon Lee, Jeong Hwan Han, Taek-Mo Chung, Cheol Seong Hwang, Chong-Yun Kang, Seong Keun Kim, “Highly sensitive flexible NO₂ sensor composed of vertically aligned 2D SnS₂ operating at room temperature” Journal of Materials Chemistry C, 8, 11874-11881, (2020)
29. **Jeong Hwan Han (1st author)**, Bo Keun Park, Taek-Mo Chung “Atomic layer deposition of pure In₂O₃ films for a temperature range of 200–300 °C using heteroleptic liquid In(DMAMP)₂(OiPr) precursor” Ceramics International 46 (2020) 3139–3143
30. Hong Keun Chung, Jung Joon Pyeon, In-Hwan Baek, Ga-Yeon Lee, Hansol Lee, Sung Ok Won, Jeong Hwan Han, Taek-Mo Chung, Tae Joo Park, and Seong Keun Kim “Investigation of phases and chemical states of tin titanate films grown by atomic layer deposition” Journal of Vacuum Science & Technology A 38, 012404 (2020)
31. Wangu Kang, Byung Joon Choi, **Jeong Hwan Han (corresponding)** “Growth characteristics and film properties of plasma-enhanced and thermal atomic-layer-deposited magnesium oxide thin films prepared using bis(ethylcyclopentadienyl)magnesium precursor” Ceramics International (2020)
32. Jung Joon Pyeon, In-Hwan Baek, Woo Chul Lee, Hansol Lee, Sung Ok Won, Ga-Yeon Lee, Taek-Mo Chung, Jeong Hwan Han, Seung-Hyub Baek, Jin-Sang Kim, Ji-Won Choi, Chong-Yun Kang and Seong Keun Kim “Wafer-Scale, Conformal, and Low-Temperature Synthesis of Layered Tin Disulfides for Emerging Nonplanar and Flexible Electronics” ACS Appl. Mater. Interfaces (2019), 12, 2679-2686 (2019)
33. Jae Kwon Lee, Yoon-Kee Kim, Byung Joon Choi, Taek-Mo Chung, Jeong Hwan Han* “SnO-decorated TiO₂ nanoparticle with enhanced photocatalytic performance for methylene blue degradation” Applied Surface Science 480 (2019) 1089–1092
34. Hyo Yeon Kim, Ji Hyeun Nam, Sheby Mary George, Jin-Seong Park, Bo Keun Park, Gun Hwan Kim, Dong Ju Jeon, Taek-Mo Chung, **Jeong Hwan Han (corresponding)** “Phase-controlled SnO₂ and SnO growth by atomic layer deposition using Bis(N-ethoxy-2,2-dimethyl propanamido)tin precursor” Ceramics International 45 (2019) 5124–5132
35. Younjin Jang, In Won Yeu, Jun Shik Kim, Jeong Hwan Han, Jung-Hae Choi, and Cheol Seong Hwang “Reduction of the Hysteresis Voltage in Atomic-Layer-Deposited p-Type SnO Thin-Film Transistors by Adopting an Al₂O₃ Interfacial Layer” Adv. Electron. Mater. (2019), 1900371
36. In-Hwan Baek, Jung Joon Pyeon, Seong Ho Han, Ga-Yeon Lee, Byung Joon Choi, Jeong Hwan Han, Taek-Mo Chung, Cheol Seong Hwang, and Seong Keun Kim “High-Performance Thin-Film Transistors of Quaternary Indium–Zinc–Tin Oxide Films Grown by Atomic Layer Deposition” ACS Appl. Mater. Interfaces 2019, 11, 14892–14901
37. Raphael Edem Agbenyeke, Soomin Song, Bo Keun Park, Gun Hwan Kim, Jae Ho Yun, Taek-Mo Chung, Chang Gyoung Kim, **Jeong Hwan Han (corresponding)** “Band gap engineering of atomic layer deposited Zn_xSn_{1-x}O buffer for efficient Cu(In,Ga)Se₂ solar cell” Prog Photovolt Res Appl. 2018;1–7.
38. Soon-Gil Jung, Soohyeon Shin, Harim Jang, Won Nam Kang, Jeong Hwan Han, Akinori Mine, Tsuyoshi Tamegai and Tuson Park, “Manipulating superconducting phases via current-driven magnetic states in rare-earth-doped CaFe₂As₂, NPG Asia Materials volume 10, pages156–162(2018)
39. Raphael Edem Agbenyeke, Bo Keun Park, Taek-Mo Chung, Chang Gyoung Kim, **Jeong Hwan Han (corresponding)** “Growth of Cu₂S thin films by atomic layer deposition using Cu(dmamb)₂ and H₂S” Applied Surface Science 456 (2018) 501–506

40. Jung Joon Pyeon, In-Hwan Baek, Weon Cheol Lim, Keun Hwa Chae, Seong Ho Han, Ga Yeon Lee, Seung-Hyub Baek, Jin-Sang Kim, Ji-Won Choi, Taek-Mo Chung, Jeong Hwan Han, Chong-Yun Kang and Seong Keun Kim “Low-temperature wafer-scale synthesis of twodimensional SnS₂” *Nanoscale*, (2018), 10, 17712
41. Dong Ha Kim, Dong-Yo Shin, Young-Geun Lee, Geon-Hyoung An, Jeong Hwan Han, Hyo-Jin Ahn, Byung Joon Choi, “Effects of SnO₂ layer coated on carbon nanofiber for the methanol oxidation reaction” *Ceramics International* 44 (2018) 19554–19559
42. In-Hwan Baek, Jung Joon Pyeon, Young Geun Song, Taek-Mo Chung, Hae-Ryoung Kim, Seung-Hyub Baek Jin-Sang Kim, Chong-Yun Kang, Ji-Won Choi† Cheol Seong Hwang, Jeong Hwan Han, and Seong Keun Kim “Synthesis of SnS Thin Films by Atomic Layer Deposition at Low Temperatures” *Chem. Mater.* (2017), 29, 8100–8110.
43. Soo Hyun Kim, In-Hwan Baek, Da Hye Kim, Jung Joon Pyeon, Taek-Mo Chung, Seung-Hyub Baek, Jin-Sang Kim, **Jeong Hwan Han (corresponding)** and Seong Keun Kim* “Fabrication of high-performance p-type thin film transistors using atomic-layer-deposited SnO films” *J. Mater. Chem. C*, (2017), 5, 3139.
44. Keun-Tae Oh, Hyo-yeon Kim, Dong-hyun Kim, Jeong Hwan Han, Jozeph Park, Jin-Seong Park “Facile synthesis of AlO_x dielectrics via mist-CVD based on aqueous solutions” *Ceramics International* 43 (2017) 8932–8937.
45. Raphael Edem Agbenyeke,, Eun Ae Jung, Bo Keun Park, Taek-Mo Chung, Chang Gyoung Kim,*, **Jeong Hwan Han (corresponding)** “Thermal atomic layer deposition of In₂O₃ thin films using dimethyl(N-ethoxy-2,2-dimethylcarboxylicpropanamide)indium and H₂O” *Applied Surface Science* 419 (2017) 758–763
46. Gun Hwan Kim, Hyunsu Ju, Min Kyu Yang, Dong Kyu Lee, Ji Woon Choi, Jae Hyuck Jang, Sang Gil Lee, Ik Su Cha, Bo Keun Park, Jeong Hwan Han, Taek-Mo Chung, Kyung Min Kim, Cheol Seong Hwang,* and Young Kuk Lee “Four-Bits-Per-Cell Operation in an HfO₂-Based Resistive Switching Device” *small* (2017), 13, 1701781.
47. Hyo Yeon Kim, Eun Ae Jung, Geumbi Mun, Raphael E. Agbenyeke, Bo Keun Park, Jin-Seong Park, Seung Uk Son, Dong Ju Jeon, Sang-Hee Ko Park, Taek-Mo Chung, and **Jeong Hwan Han (corresponding)** “Low-Temperature Growth of Indium Oxide Thin Film by Plasma-Enhanced Atomic Layer Deposition using Liquid Dimethyl(N-ethoxy-2,2-dimethylpropanamido)indium for High-Mobility Thin Film Transistor Application” *ACS Appl. Mater. Interfaces*, 2016, 8 (40), pp 26924–26931
48. Sheby Mary George, Ji Hyeun Nam, Ga Yeon Lee, Jeong Hwan Han, Bo Keun Park, Chang Gyoung Kim, Dong Ju Jeon, and Taek-Mo Chung “N-Alkoxy Carboxylamide-Stabilized Tin(II) and Germanium(II) Complexes for Thin Film Applications” *Eur. J. Inorg. Chem* accepted (2016)
49. Eun Ae Jung, Sheby Mary George, Seong Ho Han, Bo Keun Park, Jeong Hwan Han, Seung Uk Son, Chang Gyoung Kim, Taek-Mo Chung “Synthesis of novel tin complexes using functionalized oxime ligands” *Inorganica Chimica Acta* 446 (2016) 1–5
50. **Jeong Hwan Han (1st author)**, Eun Ae Jung, Hyo Yeon Kim, Da Hye Kim, Bo Keun Park, Jin-Seong Park, Seung Uk Son, Taek-Mo Chung “Atomic Layer Deposition of Indium Oxide Thin Film from a Liquid Indium Complex Containing 1-Dimethylamino-2-Methyl-2-Propoxy Ligands”, *Applied Surface Science* 383 (2016) 1–8
51. Sheby Mary George, Jeong Hwan Han, Bo Keun Park, Chang Gyoung Kim, Hongseok Jang, Kangyong Lee, Sangjun Yim, Sang-ick Lee, Myongwoon Kim, and Taek-Mo Chung, “Synthesis of Mono-Imido Tungsten Complexes Directly from WCl₆”, *ChemistrySelect* (2016), 1, 44–47
52. **Jeong Hwan Han (1st author)**,† Hyo Yeon Kim,† Sang Chan Lee, Da Hye Kim, Bo Keun Park, Jin-Seong Park, Dong Ju Jeon, Taek-Mo Chung, Chang Gyoung Kim, “Growth of tantalum nitride film as a Cu diffusion barrier by plasma-enhanced atomic layer deposition from bis((2-(dimethylamino)ethyl)(methyl)amido)methyl(tert-butylimido)tantalum complex” *Applied Surface Science* 362 (2016) 176–181

53. **Jeong Hwan Han (co-1st author)**,[†] Byoung Kook Lee,[†] Eun Ae Jung, Hyo-Suk Kim, Seong Jun Kim, Chang Gyoung Kim, Taek-Mo Chung, Ki-Seok An “Growth of amorphous zinc tin oxide films using plasma-enhanced atomic layer deposition from bis(1-dimethylamino-2-methyl-2-propoxy)tin, diethylzinc, and oxygen plasma” *Applied Surface Science* 357 (2015) 672–677
54. Woongkyu Lee, Woojin Jeon, Cheol Hyun An, Min Jung Chung, Han Joon Kim, Taeyong Eom, Sheby Mary George, Bo Keun Park, Jeong Hwan Han, Chang Gyoung Kim, Taek-Mo Chung, Sang Woon Lee, and Cheol Seong Hwang “Improved Initial Growth Behavior of SrO and SrTiO₃ Films Grown by Atomic Layer Deposition with {Sr(demamp)(tmhd)}₂ as Sr-precursor” *Chem. Mater.* (2015)
55. Sheby Mary George, Hyo-Suk Kim, Hyun Ji Oh, Myoung Soo Lah, Dong Ju Jeon, Bo Keun Park, Jeong Hwan Han, Chang Gyoung Kim* and Taek-Mo Chung* “Heteroleptic strontium complexes stabilized by donor-functionalized alkoxide and β -diketonate ligands” *Dalton Trans.*, (2015)
56. **Jeong Hwan Han (1st author)**, Annelies Delabie, Alexis Franquet, Thierry Conard, Sven Van Elshocht, and Christoph Adelmann “Ozone-Based Atomic Layer Deposition of Gd₂O₃ from Tris(isopropylcyclopentadienyl)gadolinium: Growth Characteristics and Surface Chemistry” *Chem. Vap. Deposition* 2015, 21, 352
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59. Hyo Jun Jung,[†] **Jeong Hwan Han (co-1st author)**, Eun Ae Jung, Bo Keun Park, Jin-Ha Hwang, Seung Uk Son, Chang Gyoung Kim, Taek-Mo Chung, and Ki-Seok An “Atomic Layer Deposition of Ruthenium and Ruthenium Oxide Thin Films from a Zero-valent (1,5-hexadiene)(1-isopropyl-4-methylbenzene)ruthenium Complex and O₂” *Chem. Mater.* (2014)
60. **Jeong Hwan Han (1st author)**, Yoon Jang Chung, Bo Keun Park, Seong Keun Kim, Hyo-Suk Kim, Chang Gyoung Kim, and Taek-Mo Chung “Growth of p-Type Tin(II) Monoxide Thin Films by Atomic Layer Deposition from Bis(1-dimethylamino-2-methyl-2-propoxy)tin and H₂O” *Chem. Mater.* 26, 6088–6091, (2014)
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62. Min-Jung Choi, Cheol Jin Cho, Kwang-Chon Kim, Jung Joon Pyeon, Hyung-Ho Park, Hyo-Suk Kim, Jeong Hwan Han, Chang Gyoung Kim, Taek-Mo Chung, Tae Joo Park, Beomjin Kwon, Doo Seok Jeong, Seung-Hyub Baek, Chong-Yun Kang, Jin-Sang Kim, Seong Keun Kim “SnO₂ thin films grown by atomic layer deposition using a novel Sn precursor” *Appl. Surf. Sci.* 320, 188-194, (2014)
63. Yoon Jang Chung, Dae-Chul Moon, Jeong Hwan Han, Mira Park, JungWoo Park, Taek-Mo Chung, Young Kuk Lee, Ki Seok An “Trimethylsilylcyclopentadienyl tris(dimethylamino)zirconium as a single-source metal precursor for the atomic layer deposition of Zr_xSi_{1-x}O₄” *Thin Solid Films* 564, 140-145, (2014)
64. Katsuhisa Murakami, Mathias Rommel, Boris Hudec, Alica Rosová, Kristína Hušková, Edmund Dobročka, Raul Rammula, Aarne Kasikov, Jeong Hwan Han, Woongkyu Lee, Seul Ji Song, Albena Paskaleva, Anton J. Bauer, Lothar Frey, Karol Fröhlich, Jaan Aarik, and Cheol Seong Hwang “Nanoscale Characterization of TiO₂ Films Grown by Atomic Layer Deposition on RuO₂ Electrodes” *Appl. Mater. Interfaces*, 6, 2486, (2014)
65. **Jeong Hwan Han (1st author)**, Laura Nyns, Annelies Delabie, Alexis Franquet, Sven Van Elshocht, and Christoph Adelmann “Reaction Chemistry during the Atomic Layer Deposition of Sc₂O₃ and Gd₂O₃ from Sc(MeCp)₃, Gd(iPrCp)₃, and H₂O” *Chem. Mater.*, 26, 3 (2014)
66. **Jeong Hwan Han (1st author)**, Elisaveta Ungur, Alexis Franquet, Karl Opsomer, Thierry Conard, Alain

Moussa, Stefan De Gendt, Sven Van Elshocht and Christoph Adelmann "Atomic layer deposition of tantalum oxide and tantalum silicate from TaCl₅, SiCl₄, and O₃: growth behaviour and film characteristics" J. Mater. C., 1, 5981-5989, (2013)

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BOOK CHAPTER

1. Atomic layer deposition for Semiconductors_(2014)_Springer
: Chapter 7 Front End of the Line Process, **Jeong Hwan Han (1st author)**, Moonju Cho, Annelies Delabie, Tae Joo Park, and Cheol Seong Hwang

PROFESSIONAL ACTIVITIES

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- Committee, Atomic Layer Deposition International Conference 2018
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- Reviewer, Applied Surface Science
- Reviewer, Journal of Alloy and Compounds
- Reviewer, Small
- Reviewer, The Journal of Physical Chemistry Letters
- Reviewer, Inorganic Chemistry Communications
- Reviewer, Transactions on Electron Devices