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Professional Preparation

Seoul National University (SNU), S. Korea	Physics, B.S.	1992
Seoul National University (SNU), S. Korea	Physics, M.S.	1994
Univ. of IL. (UIUC), Urbana, IL	Physics, Ph.D.	2003
Univ. of IL. (UIUC), Urbana, IL	Postdoc	2003 – 2004
NIST, Boulder, CO	Postdoc	2004 – 2007

Appointments

Professor	Rutgers University	2018 – present
Co-Director	cQMS	2017 – present
Associate Professor	Rutgers University	2013 – 2018
Assistant Professor	Rutgers University	2007 – 2013
Postdoctoral Researcher	NIST, Boulder, CO	2004 – 2007
Postdoctoral Researcher	UIUC, Urbana, IL	2003 – 2004
Graduate Assistant	UIUC, Urbana, IL	1997 – 2003
Meteorologist (1 st & 2 nd Lieutenant)	Korean Air Force, S. Korea	1994 – 1997
Graduate Assistant	SNU, S. Korea	1992 – 1994

Honors and Recognitions

2017	Rutgers Patent Award
2014	Gordon and Betty Moore Foundation EPiQS Investigator Award
2009	NSF Early CAREER Award
2006	NIST Outstanding Postdoctoral Poster Award
1997	Rotary International Ambassadorial Scholar

Selected Publications (out of >120)

1. "Probing topological phase transitions using high-harmonic generation", C. Heide, ..., **S. Oh**, ..., S. Ghimire, *Nature Photo.* 16, 620–624 (2022),
<https://www.nature.com/articles/s41566-022-01050-7>
2. "Superconducting Fourfold Fe(Te,Se) Film on Sixfold Magnetic MnTe via Hybrid Symmetry Epitaxy", X. Yao, ..., **S. Oh**, *Nano Lett.* 22, 18, 7522–7526(2022),
<https://doi.org/10.1021/acs.nanolett.2c02510>
3. "Hybrid symmetry epitaxy of superconducting Fe(Te,Se) film on a topological insulator", X. Yao, ..., **S. Oh**, *Nano Lett.* 21, 6518–6524 (2021),
<https://pubs.acs.org/doi/10.1021/acs.nanolett.1c01703>
4. "Quantum-Hall to Insulator Transition in Ultra-low-carrier-density Topological Insulator Films and a Hidden Phase of the Zeroth Landau Level", M. Salehi, ..., **S. Oh**, *Adv. Mat.* 31, 1901091 (2019),
<https://doi.org/10.1002/adma.201901091>

5. "Engineering topological superlattices and phase diagrams", P. P. Shibayev, ..., **S. Oh**, *Nano Lett.* 19, 716 (2019),
<https://pubs.acs.org/doi/full/10.1021/acs.nanolett.8b03751>
6. "Quantized Faraday and Kerr rotation and axion electrodynamics of the surface states of three-dimensional topological insulators", L. Wu, ..., **S. Oh**, N. P. Armitage, *Science* 354, 1124 (2016),
<http://dx.doi.org/10.1126/science.aaf5541>
7. "Record Surface State Mobility and Quantum Hall Effect in Topological Insulator Thin Films via Interface Engineering", N. Koirala, ..., **S. Oh**, *Nano Lett.* 15, 8245–8249 (2015),
<http://dx.doi.org/10.1021/acs.nanolett.5b03770>
8. "Observation of Dirac plasmons in a topological insulator", P. Di Pietro, ..., **S. Oh**, ..., S. Lupi, *Nature Nano.* 8, 556-560 (2013),
<http://dx.doi.org/10.1038/nnano.2013.134>
9. "A sudden collapse in the transport lifetime across the topological phase transition in $(\text{Bi}_{1-x}\text{In}_x)_2\text{Se}_3$ ", L. Wu, ..., **S. Oh**, N. P. Armitage, *Nature Phys.* 9, 410–414 (2013),
<http://dx.doi.org/10.1038/nphys2647>
10. "Mapping the orbital wavefunction of the surface states in three-dimensional topological insulators", Y. Cao, ..., **S. Oh**, ..., D. S. Dessau, *Nature Phys.* 9, 499-504 (2013),
<http://dx.doi.org/10.1038/nphys2685>
11. "The Complete Quantum Hall Trio", **S. Oh**, *Science* 340, 153 (2013),
<https://www.science.org/doi/10.1126/science.1237215>
12. "Elimination of two level fluctuators in superconducting quantum bits by an epitaxial tunnel barrier," **S. Oh**, ..., D. P. Pappas, *Phys. Rev. B* 74, 100502(R) (2006),
<http://link.aps.org/doi/10.1103/PhysRevB.74.100502>
13. "Decoherence in Josephson Qubits from Dielectric Loss," J. M. Martinis, ..., **S. Oh**, ..., C. Yu, *Phys. Rev. Lett.* 95, 210503 (2005),
<http://link.aps.org/doi/10.1103/PhysRevLett.95.210503>
14. "Simultaneous state measurement of coupled Josephson phase qubits," R McDermott, ..., **S. Oh**, ..., J. M. Martinis, *Science* 307, 1299 (2005),
<http://dx.doi.org/10.1126/science.1107572>

Synergistic Activities

1. Referee: Science, Nature journals, Advanced Materials series, PRL, PRB, APL, J of Physics, J of Applied Physics, Nano letters, Superconductor Science and Technology, Semiconductor Science and Technology, and New J of Physics, and Grant reviewers for NSF, DOE, and DOD
2. Conference organizers: Symposium on Quantum Materials Synthesis (2016, 2020, 2022) and APS March meeting Focused Sessions (2016, 2020, 2021)
3. Gordon and Betty Moore Foundation's EPiQS Materials Synthesis Investigator (2014-2019)
4. Co-founder of center for Quantum Materials Synthesis, funded by Gordon and Betty Moore Foundation and Rutgers University (2017)
5. Committee member of Materials Task Force for Rutgers University (2016)
6. On-site review panelist for MRSEC at Penn State University (2018)