

Shuai Ning (宁帅)

School of Materials Science and Engineering
Nankai University
E-mail: sning@nankai.edu.cn

38 Tong-Yan Road, MSE Building, Room 509
Tianjin 300350, China
Website: <https://mse.nankai.edu.cn/ns/list.htm>

Professional Appointment

2024.01- Present	Professor (tenure-track) Nankai University , School of Materials Science and Engineering
2021.02-2023.12	Associate Professor (tenure-track) Nankai University , School of Materials Science and Engineering
2017.09-2021.01	Postdoctoral Associate Massachusetts Institute of Technology , Department of Materials Science and Engineering Advisor: Prof. Caroline A. Ross

Education

2012.08-2017.06	Ph. D. in Materials Science and Engineering Tsinghua University , Beijing, China Advisor: Prof. Zhengjun Zhang
2008.08-2012.07	B. E. in Materials Science and Engineering Tsinghua University , Beijing, China Excellent Graduate (Class of 2012)

Research Interest

- Novel logic and memory materials and devices (ferroelectric/magnetic/spintronic/multiferroic)
- Functional thin films and Self-assembled nanocomposites
- Ionic engineering for new physics and functionalities (ion defect chemistry/ion migration/ion irradiation)

Representative Publications

- Jingrui Wu, Fengbo Yan, Jianqiao Zhao, Linhui Qian, Tong-Huai Cheng, Jiejun Su, Lei Bi, Yu Huang, Weipeng Wang, Zhengjun Zhang*, Feng Luo*, **Shuai Ning***, Dynamically Tunable Localized Surface Plasmon Resonance in Self-Assembled SrCoO_x-Au Vertically Aligned Nanocomposite Thin Films, *Advanced Functional Materials* 2024, 2411358.
- Fengbo Yan, V. Korostelev, Eunsoo Cho, Kaichuang Yang, Jingrui Wu, Qiyang Lu, Feng Luo, Caroline A. Ross*, Konstantin Klyukin*, **Shuai Ning***, Ionic-Liquid-Gating-Induced Hydrogenation in Epitaxial Strontium Ferrite, *Advanced Functional Materials* 2024, 34, 2316608.
- Jing Zhou, Yue Guan, Miao Meng, Peizhen Hong, **Shuai Ning***, Feng Luo*, Improving the endurance for ferroelectric Hf_{0.5}Zr_{0.5}O₂ thin films by interface and defect engineering, *Applied Physics Letters* 2024, 124, 092904.
- Yue Guan, Jing Zhou, Haodong Zhong, Weipeng Wang, Zhengjun Zhang, Feng Luo, **Shuai Ning***, Thickness dependence of the crystallization and phase transition in ZrO₂ thin films, *Journal of Advanced Ceramics* 2023, 12, 822.
- Tingyu Su, **Shuai Ning***, Eunsoo Cho, Caroline A. Ross*, Magnetism and site occupancy in epitaxial Y-rich yttrium iron garnet films. *Physical Review Materials*, 2021. 5 (9), 094403.
- **Shuai Ning***, Abinash Kumar, Konstantin Klyukin, Jong Heon Kim, Tingyu Su, Hyun-Suk Kim, James M. LeBeau, Bilge Yildiz, Caroline A. Ross*. An antisite defect mechanism for room temperature ferroelectricity in orthoferrites. *Nature Communications*, 2021, 12, 4298.
- **Shuai Ning***, Qiqi Zhang, Connor Occhialini, Riccardo Comin, Xiaoyan Zhong, Caroline A. Ross*. Voltage Control of Magnetism above Room Temperature in Epitaxial SrCo_{1-x}Fe_xO_{3-δ}. *ACS Nano*, 2020, 14, 8949-8957.

- **Shuai Ning**, Samuel C. Huberman, Zhiwei Ding, Ho-Hyun Nahm, Yong-Hyun Kim, Hyun-Suk Kim, Gang Chen and Caroline A. Ross. Anomalous Defect Dependence of Thermal Conductivity in Epitaxial WO₃ Thin Films. *Advanced Materials*, 2019, 31, 1903738.
- **Shuai Ning**, Samuel C. Huberman, Chen Zhang, Zhengjun Zhang, Gang Chen, and Caroline A. Ross. Dependence of the Thermal Conductivity of BiFeO₃ Thin Films on Polarization and Structure, *Physical Review Applied*, 2017, 8, 054049.
- **Shuai Ning**, Peng Zhan, Qian Xie, Weipeng Wang, Zhengjun Zhang. Defects-driven ferromagnetism in undoped dilute magnetic oxides: a review, *Journal of Materials Science & Technology*, 2015, 31, 969-978

Invited Seminars and Conference Talks

- “Designing the chemical composition and microstructure of oxide thin films by codeposition using PLD”. Neocera PLD Users Workshop. Sep. 2024. (Virtual)
- “Defect Mechanism for Ferroelectricity in Orthoferrites”. 13th Asian Meeting on Ferroelectricity. Macao SAR, China. Nov. 2023.
- “Defect Mechanisms for exotic magnetic and electronic properties in Rare-earth Iron Oxide Thin Films”. 18th National Young Scholar Workshop on Materials Science and Technology. Kunming, China. May 2023.
- “Defect Mechanism for Ferroelectricity in Magnetic Orthoferrite”. 12th International Conference on High-Performance Ceramics. Suzhou, China. Aug. 2022
- “Defect mechanism for ferroelectricity in orthoferrites”. Joint MMM-Intermag Conference, Jan. 2022. (Virtual)
- “Voltage-driven ion migration in epitaxial oxides for functionalities”. South China Normal University. Guangzhou, China. Jan. 2020.
- “Voltage-driven ion migration in epitaxial oxides for functionalities”. Southern University of Science and Technology. Shenzhen, China. Jan. 2020.
- “Room-Temperature Voltage Control of Magnetism in Sr(Co,Fe)O_x Thin Films”. MMM Conference. Las Vegas NV, US. Nov. 2019.
- “Exotic ferroelectricity in YFeO₃ thin films and YFeO₃-CoFe₂O₄ nanocomposites”. APS March Meeting. Boston MA, US. Mar. 2019.
- “Strain-mediated ferroelectricity and ferromagnetism in self-assembled BiFeO₃-CoFe₂O₄ nanocomposites”. Joint MMM-Intermag Conference, Washington DC, US. Jan. 2019.
- “Reversible thermal conductivity in WO₃ thin film mediated by lattice volume”. MRS Fall Meeting, Boston MA, US. Dec. 2018.

Grants

- National Science Foundation of China (NSFC), Young Scientists Fund. 1/1/2022-12/31/2024.
- National Science Foundation of China (NSFC), General Program. 1/1/2023-12/31/2026.
- China Association for Science and Technology (CAST), Young Elite Scientists Sponsorship Program. 10/1/2022-9/30/2025.
- National Key Research and Development Program of China, Sub-Project. 1/1/2022-12/31/2026.
- National Key Research and Development Program of China, Young Scientists Program, Sub-Project. 11/1/2022-10/31/2025.