Curriculum Vitae

(2026/04/01)

Moon-Ho Jo

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EDUCATION

- Ph.D. in Materials Science, University of Cambridge, UK, 2001
- M.S. in Materials Science and Engineering, Yonsei University, Korea, 1997
- B.S. in Materials Science and Engineering, Yonsei University, Korea, 1995

ACADEMIC TRAINING

2001–2004 Postdoctoral Research Fellow, Harvard University, US, (Chemistry/Physics)
1997–1998 Visiting Scholar, University of Tokyo, Japan, (Electrical Engineering)

RESEARCH INTERESTS

Epitaxial Growth of Low-Dimensional Materials; Electronic and Photonic Device Physics

POSITIONS

2025–present Managing Director, IBS Institute for Condensed Matter Science, The IBS-POSTECH Campus
2022–present Director, Center for Van der Waals Quantum Solids, Institute for Basic Science (IBS)
2018–present Mueunjae Chair Professor, Pohang University of Science and Technology (POSTECH)
2013–2021 Associate Director, Center for Artificial Low-Dimensional Electronic Systems, IBS
2013–present Professor, Department of Materials Science and Engineering, POSTECH
2012–2013 Associate Professor, Department of Materials Science and Engineering, Yonsei University
2011–2018 Se-Ah Young Chair Professor, POSTECH
2008–2012 Associate Professor, Department of Materials Science and Engineering, POSTECH
2004–2008 Assistant Professor, Department of Materials Science and Engineering, POSTECH

DISTINCTIONS (FOR ACADEMICS AND RESEARCH)

2025 ENGE Award, The Korean Institute of Metals and Materials
2017 LS Academic Award, The Korean Institute of Metals and Materials
2016 Associate Fellow, The Korea Academy of Science and Technology
1998–2001 Fellow of Cambridge Overseas Society
1997–1998 Japanese Government Scholarship
1997 Presidential Thesis Awards, Yonsei University
1996–1997 Seo-Am Academic Foundation Scholarship Award

OTHER SERVICE AND ACTIVITIES

- Editorial Advisory Board, Nano Letters (Americal Chemical Society) (2023–present)
- Division Chair, Convergence Materials Science Division, The Korean Institute of Metals and Materials (2013, 2017–2019)
- Division Chair, Nano-Science and Technology Division, The Korean Conference on Semiconductors (2010–2013)
- Editorial Board, Journal of Semiconductor Technology and Science (2009–present)
- Editorial Board, Electronic Materials Letters (2007–2014)

RECENT KEYNOTE AND PLENARY PRESENTATIONS (*Selective*)

- Plenary, "*Epitaxial lattice defects in van der Waals quantum solids*", ENGE 2026, Jeju, Korea, Nov. 15-18, 2026.
- Plenary, "*Artificial van der Waals lattice by epitaxy*", 2D Transition Metal Dichalcogenides, UTown, NUS, Singapore, June 28-July 2, 2026.
- Keynote, "*Epitaxial van der Waals quantum lattice*", Graphene 2025, San Sebastian, Spain, June 25-28, 2025.
- Plenary, "*Epitaxial molding of atomically thin van der Waals lattice toward new quantum solids*", Advanced Epitaxy for Freestanding Membranes and 2D Materials 2023, COEX, Seoul, Korea, July 10-12, 2023.
- Keynote, "*Epitaxial texturing of atomically thin van der Waals lattice*", 2D Transition Metal Dichalcogenides, U of Cambridge, Cambridge, UK, June 26-29, 2023.

COLLABORATORS AND ACADEMIC Advisees

Collaborators	Hyunyong Choi (Seoul Natl Univ.), Jonghwan Kim (POSTECH), Han Woong Yeom (POSTECH), Jun Sung Kim (POSTECH), Taehwan Kim (POSTECH), Dohun Kim (Seoul Natl Univ.), Hongkun Park (Harvard Univ.), Philip Kim (Harvard Univ.), Hee Cheul Choi (POSTECH), Jae Hoon Park (POSTECH), Si Young Choi (POSTECH), Neil D Mathur (Cambridge Univ.), Chan Ho Yang (KAIST), Jiwoong Park (Univ. of Chicago), Sang-Wook Cheong (Rutgers Univ.), Jongkyu Kim (POSTECH), Jeehwan Kim (MIT)
Graduate Advisor	Mark G, Blamire, University of Cambridge
Postdoctoral Advisor	Hongkun Park, Harvard University
Doctoral Dissertation Advisees	Cheol-Joo Kim (Asso. Prof. of Chem. Eng, POSTECH), Jee-Eun Yang (Tech. Staff of SAIT, Samsung), Kibum Kang (Asso. Prof. of Mater. Sci. KAIST), Chul-Ho Lee (Prof. of EE, Seoul Nat'l Univ.), Yongjun Hong (Prof. of SKKU) Hyun-Seung Lee (Tech. Staff of Samsung Electronics), Donghun Lee (Ass. Prof. of Chem. Eng., Kookmin Univ.), Won-Mo Lee (Tech. Staff of Samsung Electronics), Inchan Hwang (Tech. Staff of Samsung Electronics), Ji Ho Sung (Staff Scientist, Argonne Nat'l Lab.), Hoseok Heo (Tech. Staff of SAIT, Samsung), Juho Kim (Tech. Staff of Samsung Electronics), Seung-Young Seo (Tech. Staff of Samsung Electronics), Chang-Soo Lee (Tech. Staff of Samsung Electronics), Gangtae Jin (Ass. Prof. of EE., Gacheon Univ.), Heon Su Ahn (Tech. Staff of Samsung Electronics), Gunho Moon (SK Hynix), Seok-Ho Lee (IBS-VdWQS), Cheolhee Han (Samsung Display), and Seok Young Min (IBS-VdWQS)
Master thesis Advisees	Chang-Beom Jin (STX Group), Dong An Kim (POSCO), Yong-Jun Cho (SNU), Ru Ri Lee (SK Innovation), Kyungwook Kim (Samsung Electronics), Hyein Hwang (MPI Hamburg), Saerom Si (UCL), Hocheol Shin (TMAX), Donghwi Kim (SK Hynix), Yewon Lee (SK Hynix)
Postdoctoral Trainees	Sangwan Sim (Asso. Prof. of Hanyang Univ.), Ji Hoon Ahn (Assoc. Prof. of Hanyang Univ.), Seung Woo Song (Staff Scientist, KRISS), Myoung Jae Lee (Principal Scientist, DGIST), Geunhee Lee (Staff Scientist, Argonne Natl Lab), Gil-Sung Kim (Research Prof, Chunbuk Natl Univ.), Yun Sung Woo (Prof. Of Dankook Univ.), Sung Kyu Kim (Staff Scientist, NCNT), Cheolmin Park (Postdoc, KAIST), Je-Wook Park (Staff Scientist, Oak Ridge Natl Lab) Soon Young Cha (Asst. Prof. of Sookmyung Women's Univ)
Intern Student Advisees	Kyung-Guk Ryu (Kyung Hee University, School of Medicine), Sungki Lee (Intel), Dongwoo Kim (Cornell Univ.), Hae-Yeon Kim (The Catholic University of Korea, School of Medicine), Hyobin Yoo (Asso. Prof. of Seoul Nat'l Univ.), Minjee Kang (UIUC), Hanbyeol Jung (SK Hynix), Seung-Ae Guk (Yonsei Univ.), Jiafan Yu (Stanford Univ.-Weimo Co), Zhengrong Shang (Stanford Univ. - Apple Co)

RECENT PUBLICATIONS (*Selective*)

1. "Modular van der Waals heterostructures by layer-by-layer ion-exchanges", Seok Young Min, Hyunje Cho, Suk-Ho Lee, Jaeho Choi, Taeho Kim, Jong Yoon Choi, Heewon Park, Jun Soo Yoon, TaeJoon Mo, Chul-Ho Lee, Cheol-Joo Kim, Si-Young Choi, and Moon-Ho Jo*, ***Science,*** Submitted, (2026).

2. "Discovery of a hidden nonequilibrium bosonic Mott phase in WSe_2/WS_2 moiré lattices", Jinjae Kim, Taeho Kim, Kenji Watanabe, Takashi Taniguchi, Moon-Ho Jo*, and Hyunyong Choi*, ***Science Advances,*** Submitted, (2026).

3. "Highly efficient deep-ultraviolet luminescence in hBN moiré quantum wells", Chengyun Hong†, Fangzhou Zhao†, Su-Beom Song, Sangho Yoon, Seongjoon Jeon, M. Ajmal Khan, Dong-hwan Yang, Wanhee Lee, Sera Yang, Hyungsup Jo, Sumin Lee, Seokyoung Min, Kenji Watanabe, Takashi Taniguchi, Changsoon Cho, Si-Young Choi, Hideki Hirayama, Lede Xian, Moon-Ho Jo*, Angel Rubio* and Jonghwan Kim****, Science,*** 391 (6791), eaeb2095 (2026).

4. "Single-crystalline monolayer semiconductors with coherent quantum transport by vicinal van der Waals epitaxy", Gunho Moon,† Suk-Ho Lee,† Hyunje Cho,† Heewon Park, Heonsu AhnChang-Won Choi, Sera Yang, Seung-Hyun Shin, Jinjae Kim, Jong Yun Choi, Seok-Young Min, Sumin Lee, Hyunjin Jung, Jaeyoung Kim, Jewook Park, Han Woong Yeom, Gil-Ho Lee, Myungchul Oh, Jong-Hoon Kang, Hyunyong Choi, Cheol-Joo Kim, Jonghwan Kim, Si-Young Choi and Moon-Ho Jo*, ***Nature Electronics,*** 8, 1181 (2025).

5. "Epitaxially defined Luttinger liquid on a MoS_2 bicrystal", Bingchen Deng, Heonsu Ahn, Jue Wang, Gunho Moon, Chao Lei, Giovanni Scuri, Jiho Sung, Elise Brutschea, Kenji Watanabe, Takashi Taniguchi, Fan Zhang, Moon-Ho Jo†, and Hongkun Park†, ***Physical Review Letters,*** 134, 046391 (2025).

6. "Ultrafast Floquet engineering of Fermi-polaron resonances in charge-tunable monolayer WSe_2 devices", Hyojin Choi, Jinjae Kim, Jiwon Park, Jekwan Lee, Wonhyeok Heo, Jaehyeon Kwon, Sukho Lee, Ahmed Faisal, Kenji Watanabe, Takashi Taniguchi, Zhipei Sun, Moon-Ho Jo*, and Hyunyong Choi*, ***Nature Communications,*** 15, 10852 (2024).

7. "Integrated 1D epitaxial mirror twin boundaries for ultrascaled 2D MoS_2 field-effect transistors", Heonsu Ahn,† Gunho Moon,† Hang-gyo Jung, Bingchen Deng, Dong-Hwan Yang, Chang-Soo Lee, Cheolhee Han, Hyunje Cho, Youngki Yeo, Cheol-Joo Kim, Chan-Ho Yang, Si-Young Choi, Hongkun Park, Jongwook Jeon, Jin-Hong Park, and Moon-Ho Jo*, ***Nature Nanotechnology,*** 19, 955 (2024).

8. "Spinful hinge states in the higher-order topological insulators WTe_2", Jekwan Lee, Jaehyeon Kwon, Eunho Lee, Jiwon Park, Soonyoung Cha, Kenji Watanabe, Takashi Taniguchi, Moon-Ho Jo* and Hyunyong Choi*, ***Nature Communications***, 14, 1801 (2023).

9. "Non-epitaxial single-crystalline 2D material growth by geometrical confinement", Ki Seok Kim, Doyoon Lee, Celesta Chang, Seunghwan Seo, Yaoqiao Hu, Soonyoung Cha, Hyunseok Kim, Jiho Shin, Ju-Hee Lee, Sangho Lee, Justin Kim, Ki Hyun Kim, Jun Min Suh, Yuan Meng, Bo-In Park, Jung-Hoon Lee, Hyung-Sang Park, Hyun Kum, Moon-Ho Jo, Geun Young Yeom, Kyeongjae Cho, Jin-Hong Park, Sang-Hoon Bae and Jeehwan Kim, ***Nature***, 614, 88 (2023).

10. "Gate-tunable quantum pathways of high harmonic generation in graphene", Soonyoung Cha, Minjeong Kim, Youngjae Kim, Shinyoung Choi, Sejong Kang, Hoon Kim, Sangho Yoon, Gunho Moon, Taeho Kim, Ye Won Lee, Gil Young Cho, Moon Jeong Park, Cheol-Joo Kim, B. J. Kim, Jae Dong Lee, Moon-Ho Jo and Jonghwan Kim, ***Nature Communications***,13, 6630 (2022).

11. "Deep-ultraviolet electroluminescence and photocurrent generation in graphene/hBN/graphene heterostructures", Su-Beom Song, Seung-Young Seo, Soonyoung Cha, Kenji Watanabe, Takashi Taniguchi, Moon-Ho Jo*, Jonghwan Kim*, ***Nature Communications****,* 12, 7134 (2021).

12. "Heteroepitaxial van der Waals semiconductor superlattices", Gangtae Jin,† Chang-Soo Lee,† Odongo F. N. Okello, Suk-Ho Lee, Min Yeong Park, Soonyoung Cha, Seung-Young Seo, Gunho Moon, Seok Young Min, Dong Hwan Yang, Cheolhee Han, Hyungju Ahn, Jekwan Lee, Hyunyong Choi, Jonghwan Kim, Si-Young Choi, and Moon-Ho Jo*, ***Nature Nanotechnology****,* 16, 1092 (2021).

13. "Ultrafast non-excitonic valley Hall effect in MoS_2/WTe_2 heterobilayers", Jekwan Lee, Wonhyoek Heo, Myungjun Cha, Kenji Watanabe, Takashi Taniguchi, Jehyun Kim, Dohun Kim, Soonyoung Cha, Moon-Ho Jo*, and Hyunyong Choi*, ***Nature Communications***, 12, 1635 (2021).

14. "Reconfigurable photo-induced doping of two-dimensional van der Waals semiconductors using different photon energy", Seung-Young Seo, Gunho Moon, Odongo Francis Ngome Okello, Min Yeong Park, Cheolhee Han,

Soonyoung Cha, Hyunyong Choi, Han Woong Yeom, Si-Young Choi, Jewook Park, and Moon-Ho Jo*, ***Nature Electronics**,* 4, 38 (2021).

15. "Nearly room temperature ferromagnetism in a magnetic-metal-rich van der Waals metal", Junho Seo, Duck Young Kim, Eun Su An, Kyoo Kim, Gi-Yeop Kim, Soo-Yoon Hwang, Dong Wook Kim, Bo Gyu Jang, Heejung Kim, Gyeongsik Eom, Seung Young Seo, Roland Stania, Matthias Muntwiler, Jinwon Lee, Kenji Watanabe, Takashi Taniguchi, Youn Jung Jo, Jieun Lee, Byung Il Min, Moon Ho Jo, Han Woong Yeom, Si-Young Choi, Ji Hoon Shim, and Jun Sung Kim, ***Science Advances***, 6, aay8912 (2020).

16. "Atomically thin three-dimensional van der Waals membrane semiconductors by wafer scale growth", Gangtae Jin, Chang-Soo Lee, Xing Liao, Juho Kim, Zhen Wang, Odongo Francis Ngome Okello, Bumsu Park, Jaehyun Park, Cheolhee Han, Hoseok Heo, Jonghwan Kim, Sang Ho Oh, Si-Young Choi, Hongkun Park and Moon-Ho Jo*, ***Science Advances***, 5, eaaw3180 (2019).

17. "Writing monolithic integrated circuits on a two-dimensional semiconductor with a scanning light probe", Seung-Young Seo, Jaehyun Park, Jewook Park, Kyung Song, Soonyoung Cha, Sangwan Sim, Si-Young Choi, Han Woong Yeom, Hyunyong Choi, and Moon-Ho Jo*, ***Nature Electronics***, 1, 512 (2018).

18. "Generation, transport, and detection of valley-locked spin photocurrent in WSe_2-graphene–Bi_2Se_3 heterostructures", Soonyoung Cha, Minji Noh, Je-Hyun Kim, Jangyup Son, Hyemin Bae, Doeon Lee, Hoil Kim, Jekwan Lee, Hoseung Shin, Sangwan Sim, Seunghoon Yang, Chul-Ho Lee, Moon-Ho Jo, Jun Sung Kim, Dohun Kim, and Hyunyong Choi*, ***Nature Nanotechnology**,* 13, 910 (2018).

19. "Ultrafast quantum beats of anisotropic excitons in atomically thin ReS_2", Sangwan Sim, Doeon Lee, Taeyoung Kim, Soonyoung Cha, Ji Ho Sung, Sungjun Cho, Wooyoung Shim, Moon-Ho Jo* and Hyunyong Choi*, ***Nature Communications***, 9, 351 (2018). (*co-Corresponding authors)

20. "Coplanar semiconductor-metal circuitry defined on $MoTe_2$ few-layer polymorphs via heteroepitaxy", Ji Ho Sung†, Hoseok Heo†, Saerom Si†, Hyeong Rae Noh, Yong Hyeon Kim, Kyung Song, Juho Kim, Chang-Soo Lee, Seung-Young Seo, Hyoung Kug Kim, Han Woong Yeom, Jun Sung Kim, Si-Young Choi, Tae-Hwan Kim, and Moon-Ho Jo*, ***Nature Nanotechnology***, 12, 1064 (2017).

21. "Selectively tunable optical Stark effect of anisotropic excitons in atomically thin ReS_2", Sangwan Sim, Doeon Lee, Minji Noh, Soonyoung Cha, Chan Ho Soh, Ji Ho Sung, Moon-Ho Jo*, and Hyunyong Choi*, ***Nature Communications***, 7, 13569 (2016).

22. "Thermoelectric materials by utilizing two-dimensional materials with negative correlation between electrical and thermal conductivity", Myoung-Jae Lee, Ji-Hoon Ahn, Ji Ho Sung, Hoseok Heo, Seong Gi Jeon, Woo Lee, Jae Yong Song, Ki-Ha Hong, Byeongdae Choi, Sung-Hoon Lee and Moon-Ho Jo*, ***Nature Communications***, 7, 12011 (2016).

23. "1*s* intraexcitonic dynamics in monolayer MoS_2 probed by ultrafast mid-infrared spectroscopy", Soonyoung Cha, Ji Ho Sung, Sangwan Sim, Jun Park, Hoseok Heo, Moon-Ho Jo*, and Hyunyong Choi* ***Nature Communications**,* 7, 10768 (2016).

24. "Ultra-high modulation depth exceeding 2,400% in the optically-controlled topological surface plasmons", Sangwan Sim, Houk Jang, Nikesh Koirala, Matthew Brahlek, Jisoo Moon, Ji Ho Sung, Jun Park, Soonyoung Cha, Seongshik Oh, Moon-Ho Jo, Jong-Hyun Ahn, and Hyunyong Choi, ***Nature Communications***, 6, 8814 (2015).

25. "Enhancement of the anisotropic photocurrent in ferroelectric oxides by strain gradients", Kanghyun Chu, Byung-Kweon Jang, Ji Ho Sung, Yoon Ah Shin, Eui-Sup Lee, Kyung Song, Jin Hong Lee, Chang-Su Woo, Seung Jin Kim, Si-Young Choi, Tae Yeong Koo, Yong-Hyun Kim, Sang-Ho Oh, Moon-Ho Jo, and Chan-Ho Yang, ***Nature Nanotechnology***, 10, 972 (2015).

26. "Interlayer orientation dependent light absorption and emission in monolayer semiconductor stacks", Hoseok Heo†, Ji Ho Sung†, Soonyoung Cha, Bo-Gyu Jang, Gangtae Jin, Donghun Lee, Ji-Hoon Ahn, Myoung Jae Lee, Ji Hoon Shim, Hyunyong Choi and Moon-Ho Jo*, ***Nature Communications,*** 6, 7372 (2015).

27. "Near-field electrical detection of optical plasmons and signle-plasmon sources", Abram L. Falk, Frank H. L. Koppens, Chun Yu, Kibum Kang, Nathalie de Leon Snapp, Alexey V. Akimov, Moon-Ho Jo, Mikhail D. Lukin, and Hongkun Park, ***Nature Physics***, 5, 475 (2009).

FULL PUBLICATIONS LIST

1. Modular van der Waals heterostructures by layer-by-layer ion-exchanges", Seok Young Min, Hyunje Cho, Suk-Ho Lee, Jaeho Choi, Taeho Kim, Jong Yoon Choi, Heewon Park, Jun Soo Yoon, TaeJoon Mo, Chul-Ho Lee, Cheol-Joo Kim, Si-Young Choi, and Moon-Ho Jo*, ***Science,*** Submitted, (2026).

2. "Discovery of a hidden nonequilibrium bosonic Mott phase in WSe_2/WS_2 moiré lattices", Jinjae Kim, Taeho Kim, Kenji Watanabe, Takashi Taniguchi, Moon-Ho Jo*, and Hyunyong Choi*, ***Science Advances,*** Submitted, (2026).

3. "Active control of anisotropic optics in low-symmetry layered materials", Sangwan Sim, Moon-Ho Jo* and Hyunyong Choi*, ***Nano Letters***, Submitted (2026).

4. "Ultrafast moiré-resolved spectroscopy of interlayer exciton thermalization in twisted WSe_2/WS_2 heterobilayers*, Jinjae Kim, Claudia Gollner, Yannick Pleimling, Sumin Lee, Kenji Watanabe, Takashi Taniguchi, Moon-Ho Jo, Tony Heinz*, and Hyunyong Choi*, ***Physical Review Letters,*** In press, (2026).

5. "Topotactic conversion to high-valent metastable 2D semimetallic W_2N_3 via lateral anion exchange of bilayer WS_2", Jeong-Hwan Park, Je Oh Choi, Hyo Gyeong Shin, Sumin Lee, Jae Hyeok Huh, Seong Ju Hwang, Junhyeong Lee; Donghwa Lee, Moon-Ho Jo* and Jong-Hoon Kang*, ***ACS Nano***, In press (2026).

6. "Highly efficient deep-ultraviolet luminescence in hBN moiré quantum wells", Chengyun Hong†, Fangzhou Zhao†, Su-Beom Song, Sangho Yoon, Seongjoon Jeon, M. Ajmal Khan, Dong-hwan Yang, Wanhee Lee, Sera Yang, Hyungsup Jo, Sumin Lee, Seokyoung Min, Kenji Watanabe, Takashi Taniguchi, Changsoon Cho, Si-Young Choi, Hideki Hirayama, Lede Xian, Moon-Ho Jo*, Angel Rubio* and Jonghwan Kim****, Science,*** 391 (6791), eaeb2095 (2026).

7. "Highly radiative emission of room-temperature localized excitons enabled by charge-neutralized 0D quantum wells in 2D semiconductors", Taeyoung Moon, Hyeongwoo Lee, Jihae Lee, Dong Kyo Oh, Soo Ho Choi, Yeonjeong Koo, Hyunje Cho, Moon-Ho Jo, Ki Kang Kim, Junsuk Rho, Yung Doug Suh and Kyoung-Duck Park, ***Science Advances,*** 12 eady2186 (2026).

8. "Gate-controlled terahertz modulation in graphene-integrated Bi_2Se_3 microstructure", Chihun In, Deepti Jain, Sumin Lee, Seongshik Oh, Moon-Ho Jo* and Hyunyong Choi* , ***Nano Letters***, 25, 17733 (2025).

9. "Terahertz non-Drude conductivity of mirror twin boundary networks on monolayer MoS_2 bicrystals", Cheolhee Han†, Minji Noh†, Heewon Park, Hyunje Cho, Gunho Moon, Seok Young Min, Sumin Lee, Hwanjung Chang, Hyunyong Choi* and Moon-Ho Jo*, ***Nano Letters***, 25, 14473 (2025).

10. "Quantum interference and occupation control in high harmonic generation from monolayer WS_2", Minjeong Kim†, Taeho Kim†, Anna Galler†, Dasol Kim, Alexis Chacon, Kenji Watanabe, Takashi Taniguchi, BJ Kim, Sanghoon Chae, Moon-Ho Jo, Angel Rubio*, Ofer Neufeld*, Jonghwan Kim*, ***Nature Communications***, 16, 9825 (2025)

11. "Single-crystalline monolayer semiconductors with coherent quantum transport by vicinal van der Waals epitaxy", Gunho Moon,† Suk-Ho Lee,† Hyunje Cho,† Heewon Park, Heonsu AhnChang-Won Choi, Sera Yang, Seung-Hyun Shin, Jinjae Kim, Jong Yun Choi, Seok-Young Min, Sumin Lee, Hyunjin Jung, Jaeyoung Kim, Jewook Park, Han Woong Yeom, Gil-Ho Lee, Myungchul Oh, Jong-Hoon Kang, Hyunyong Choi, Cheol-Joo Kim, Jonghwan Kim, Si-Young Choi and Moon-Ho Jo*, ***Nature Electronics,*** 8, 1181 (2025).

12. "Electronics and photonics-related research and education at POSTECH", Junsuk Rho*, Moon-Ho Jo*, Yong-Young Noh*, Unyong Jeong*, Gil-Ho Lee* , ***Nature Reviews Electrical Engineering***, 2, 799 (2025).

13. "Interstitially bridged van der Waals interface enabling stacking-fault-free, layer-by-layer epitaxy", GunWoo Yoo, TaeJoon Mo, Yong-Sung Kim*, Chang-Won Choi, Gunho Moon, Sumin Lee, Chan-Cuk Hwang, Woo-Ju Lee, Min-Yeong Choi, Jongyun Choi, Si-Young Choi*, Moon-Ho Jo* and Cheol-Joo Kim*, ***ACS Nano***, 19, 31, 28491 (2025).

14. "Exciton dynamics in marginally twisted WSe2 homobilayer: role of interlayer coupling, phonons, and intervalley scattering", Hansol Kim, Gyusu Lee, Jinjae Kim, Jiwon Park, Andrew S. Kim, Jongyun Choi, Kenji Watanabe, Takashi Taniguchi, Moon-Ho Jo, and Hyunyong Choi, ***Phys. Rev. B***, 112, 104305 (2025).

15. "Epitaxially defined Luttinger liquid on a MoS_2 bicrystal", Bingchen Deng, Heonsu Ahn, Jue Wang, Gunho Moon, Chao Lei, Giovanni Scuri, Jiho Sung, Elise Brutschea, Kenji Watanabe, Takashi Taniguchi, Fan Zhang, Moon-Ho Jo*, and Hongkun Park*, ***Physical Review Letters,*** 134, 046391 (2025).

16. “Controlled growth of polar altermagnets via chemical vapor transport”, Hiraka Haruhiro, Raktim Datta, Poonam Yadav, Anzar Ali, Suheon Lee, Matthias Gutmann, Duhee Yoon, Dirk Wulferding, Xianghan Xu, Moon-Ho Jo, Sang-Wook Cheong, Sungkyun Choi, ***Cryst. Growth Des***, 25, 4991 (2025).

17. “Ultrafast Floquet engineering of Fermi-polaron resonances in charge-tunable monolayer WSe_2 devices”, Hyojin Choi, Jinjae Kim, Jiwon Park, Jekwan Lee, Wonhyeok Heo, Jaehyeon Kwon, Sukho Lee, Ahmed Faisal, Kenji Watanabe, Takashi Taniguchi, Zhipei Sun, Moon-Ho Jo*, and Hyunyong Choi*, ***Nature Communications***, 15, 10852 (2024).

18. “Ultrafast control over stiffening and softening of coherent interlayer coupling in strongly-correlated WSe_2/WS_2 heterobilayers”, Jinjae Kim, Jeonghyeon Suh, Sukho Lee, Kenji Watanabe, Takashi Taniguchi, Moon-Ho Jo, Hongki Min, and Hyunyong Choi*, ***Nano Letters,*** 24, 16391 (2024).

19. “Narrowband electroluminescence from isolated colour centres in hexagonal boron nitride”, Gyuna Park, Ivan Zhiguli, Hoyoung Jung, Jake Horder, Karin Yamamura, Yerin Han, Hyunje Cho, Hyeon-Woo Jeong, Kenji Watanabe, Takashi Taniguchi, Myungchul Oh, Gil-Ho Lee, Moon-Ho Jo, Igor Aharonovich*, Jonghwan Kim****, Nano Letters,*** 24, 15268, (2024).

20. “Tailoring interlayer coupling in few-layer MoS_2 with stacking configuration”, Jong Hun Kim, Kyung-Hwan Jin, Yeonjoon Jung, Gwan-Hyoung Lee, Moon-Ho Jo, Arthur Baddorf, An-Ping Li, Jewook Park, ***ACS Applied Nano Materials,*** 7, 17214 (2024).

21. “Integrated 1D epitaxial mirror twin boundaries for ultrascaled 2D MoS_2 field-effect transistors”, Heonsu Ahn,† Gunho Moon,† Hang-gyo Jung, Bingchen Deng, Dong-Hwan Yang, Chang-Soo Lee, Cheolhee Han, Hyunje Cho, Youngki Yeo, Cheol-Joo Kim, Chan-Ho Yang, Si-Young Choi, Hongkun Park, Jongwook Jeon, Jin-Hong Park, and Moon-Ho Jo, ***Nature Nanotechnology,*** 19, 955 (2024).

22. “Correlation-driven non-equilibrium exciton site transition in a WSe_2/WS_2 moiré supercell”, Jinjae Kim,† Jiwon Park,† Hyojin Choi, Taeho Kim, Soonyoung Cha, Yewon Lee, Kenji Watanabe, Takashi Taniguchi, Jonghwan Kim, Moon-Ho Jo, and Hyunyong Choi, ***Nature Communications,*** 15, 3312, (2024).

23. “Observation of ultrafast electrons in pendant-embedded conducting two-dimensional polymers”, Yeonsang Lee, Minhyuk Choi, Ina Park, In-Chul Hwang, Sk. Atiur Rahaman, Hee Jun Shin, Pritam Giri, Moon-Ho Jo, Kangkyun Baek, Ilha Hwang, Ji Hoon Shim, Jun Sung Kim and Kimoon Kim, ***Chem,*** 10, 1160 (2024).

24. “Atomistic probing of defect-engineered 2H-$MoTe_2$ monolayers", Odongo Okello, Dong-Hwan Yang, Seung-Young Seo, Jewook Park, Gunho Moon, Dongwon Shin, Yu-Seong Chu, Sejung Yang, Teruyasu Mizoguchi, Moon-Ho Jo† and Si-Young Choi†, ***ACS Nano***, 18, 6927 (2024).

25. "Full automation of point defect detection in transition metal dichalcogenides through dual mode deep learning algorithm”, Dong-Hwan Yang, Yu-Seong Chu, Odongo Francis Ngome Okello, Seung-Young Seo, Gunho Moon, Kwang Ho Kim, Moon-Ho Jo, Dongwon Shin, Sejung Yang and Si-Young Choi, ***Materials Horizons***, 11, 747 (2024).

26. “Dephasing dynamics accessed by high harmonic generation: determination of electron-hole decoherence of Dirac fermions", Youngjae Kim, Min Jeong Kim, Soonyoung Cha, Shinyoung Choi, Cheol-Joo Kim, B. J. Kim, Moon-Ho Jo, Jonghwan Kim†, Jae Dong Lee†, ***Nano Letters***, 24, 1277 (2024).

27. ”Experimental data platform for 2D materials from synthesis to physical properties”, Jin-Hoon Yang, Habin Kang, Hyuk Jin Kim, Taeho Kim, Heonsu Ahn, Tae Gyu Rhee, Yeong Gwang Khim, Byoung Ki Choi, Moon-Ho Jo, Hyunju Chang, Jonghwan Kim*, Young Jun Chang* and Yea-Lee Lee* , ***Digital Discovery***, 3, 573 (2024).

28. "Spinful hinge states in the higher-order topological insulators WTe_2", Jekwan Lee, Jaehyeon Kwon, Eunho Lee, Jiwon Park, Soonyoung Cha, Kenji Watanabe, Takashi Taniguchi, Moon-Ho Jo and Hyunyong Choi, ***Nature Communications***, 14, 1801 (2023).

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