

Vu Binh Nam

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Education

- 2006–2010 **Bachelor in Physics,**
Hanoi University of Science.
- 2013–2015 **Master in Physics,**
Hankuk University of Foreign Studies.
- 2015–2019 **Ph.D. in Mechanical Engineering,**
Gachon University.

Research Area

- Laser digital patterning process for flexible-stretchable devices.
- Nanomaterial-based synthesis.
- Transparent electronics.
- Micro-Nanomanufacturing based on metal assisted chemical etching.
- MEMS/NEMS.

Publications

1. **Vu Binh Nam**, Jaeho Shin, Yeosang Yoon, Trinh Thi Giang, Jinhyong Kwon, Young D. Suh, Junyeob Yeo, Sukjoon Hong, Seung Hwan Ko*, Daeho Lee*. "Highly Stable Ni-Based Flexible Transparent Conducting Panels Fabricated by Laser Digital Patterning" ***Advanced Functional Materials*** 29(8), 1806895, 2019. Highlighted in: 언론사 기사 링크: YTN사이언스, 동아사이언스, 연합뉴스, 파이낸셜뉴스. 뉴스 링크: 아리랑TV(00:32 00:40, 06:52 08:12, 머니몬스터 프로그램 Ep. 48 'Folding Technology'), YTN사이언스.
2. **Vu Binh Nam**, Jaeho Shin, Ahyoung Choi, Hoimyung Choi, Seung Hwan Ko, Daeho Lee*. "High-temperature, thin, flexible and transparent Ni-based heaters patterned by laser-induced reductive sintering on colorless polyimide" ***Journal of Materials Chemistry C*** 9 (17), 5652-5661, 2021. selected as J. Mater. Chem. C Lunar New Year collection 2022 (collection of the top 50 most popular articles published in Journal of Materials Chemistry C in 2021 by corresponding authors based in Asia).
3. Jaeho Shin, Buseong Jeong, Jinmo Kim, **Vu Binh Nam**, Yeosang Yoon, Jinwook Jung, Sukjoon Hong, Habeom Lee, Hyeonjin Eom, Daeho Lee*, Seung Hwan Ko*. "Sensitive wearable temperature sensor with seamless monolithic integration" ***Advanced Materials*** 32(2), 1905527, 2020.

4. **Vu Binh Nam**, Trinh Thi Giang, Daeho Lee*. "Laser digital patterning of finely-structured flexible copper electrodes using copper oxide nanoparticle ink produced by a scalable synthesis method" *Applied Surface Science* 570, 151179, 2021.
5. **Vu Binh Nam**, Hojiun Kim, Daeho Lee*. "Recycling of Nanomaterial Ink Waste for Laser Digital Patterning Process" *ACS Sustainable Chemistry Engineering* 12.6, 2252-2261, 2024.
6. **Vu Binh Nam**, Daeho Lee*. "Highly transparent and low-voltage-driven soft actuators fabricated by laser digital patterning" *Optics Laser Technol* 168: 109853, 2024.
7. **Vu Binh Nam**, Trinh Thi Giang, Sangmo Koo, Junsuk Rho, Daeho Lee*. "Laser digital patterning of conductive electrodes using metal oxide nanomaterials" *Nano Convergence* 7 (1), 1-17, 2020.
8. **Vu Binh Nam**, Daeho Lee*. "Evaluation of Ni-Based Flexible Resistance Temperature Detectors Fabricated by Laser Digital Patterning" *Nanomaterials* 11(3), 576, 2021.
9. **Vu Binh Nam**, Le Duc-Anh Ho, Daeho Lee*. "Flexible Ni/NiOx-Based Sensor for Human Breath Detection" *Materials* 15(1), 47, 2022.
10. Dohyung Kim, Hyeonsu Bang, Hyoung Won Baac, Jongmin Lee, Phuoc Loc Truong, Bum Ho Jeong, Tamilselvan Appadurai, Kyu Kwan Park, Donghyeok Heo, **Vu Binh Nam**, Hocheon Yoo, Kyeounghak Kim, Daeho Lee, Jong Hwan Ko, Hui Joon Park. "Room-Temperature-Processable Highly Reliable Resistive Switching Memory with Reconfigurability for Neuromorphic Computing and Ultrasonic Tissue Classification" *Advanced Functional Materials* , 33.14: 2213064, 2023.
11. **Vu Binh Nam**, Daeho Lee*. "Copper Nanowires and Their Applications for Flexible, Transparent Conducting Films: A Review" *Nanomaterials* 6(3), 47, 2016.
12. Pham Van Tuan, Chu Anh Tuan, Tran Thanh Thuy, **Vu Binh Nam**, Pham Toan Thang, Pham Hong Duong, Pham Thanh Huy. "Layered structure in core-shell silicon nanowires" *Journal of Luminescence* 154, 46-50, 2014.
13. Bo Wha Lee, Pil Sun Yoo, **Vu Binh Nam**, Kirstie Raquel Natalia Toreh, and Chang Uk Jung, . "Magnetic and electric properties of stoichiometric BiMnO3 thin films" *Nanoscale Research Letters* 10 (1), 47, 2015.

Patent Registration

1. Daeho Lee, **Vu Binh Nam** "Metal oxide nanoparticle ink composition, method of producing same, and method of forming conductive layer patterns using same", United States Patent registered, US10999934B2, May, 2021.
2. Domestic Patent Registered: 이대호 (Daeho Lee), **부빈남 (Vu Binh Nam)**, "금속산화물 나노입자 잉크 조성물, 금속산화물 나노입자 잉크 조성물의 제조 방법 및 금속산화물 나노입자 잉크 조성물을 이용한 도전층 패턴 형성 방법", Domestic Patent, Registration No.:10-2092163 (date: 2020.03.17).

Awards

- 1 Odon Vallet Scholarship for Excellent Vietnamese Students, 2011.
- 2 Best Paper Award at KSME conference, South Korea, 2019.
- 3 First Prize, Hanoi University of Science Chess Championship, 2008.
- 4 Second Prize, Sn La Provincial Chess Championship (Student Category), Vietnam, 2006.
- 5 Third Prize, Vietnamese Student Chess Tournament in South Korea, 2022.