
BUI NGUYEN QUOC TRINH

CURRICULUM VITAE

Associate Professor, Dr.
(Senior Lecturer: Giảng viên cao cấp)

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1-PERSONAL INFORMATION

- Nationality: Vietnam
- Place of Birth: Bac Giang, Vietnam

2-LANGUAGES: English and Vietnamese

3-EDUCATION BACKGROUND

- 1995-1998** Special High School for Gifted Students in Physics, University of Science, VNU, Hanoi.
- 1998-2002** Department of Solid States, Faculty of Physics, University of Science, VNU, Hanoi. (Bachelor of Science)
- 2002-2004** Department of Solid States, Faculty of Physics, University of Science, VNU, Hanoi. (Master of Science)
- Excellent graduation, and honor to enter directly PhD course of VNU without any exams.
- 2004-2007** Semiconductor Laboratory, School of Materials Science, Japan Advanced Institute of Science and Technology (JAIST) (Doctor of Philosophy)

4-AWARDS AND SCHOLARSHIPS

1. First Prize of Vietnam Physics Olympiad for Undergraduate Students, in 1999.
2. First Prize of Vietnam Physics Olympiad for Undergraduate Students, in 2000.

3. Toyota Scholarship for Excellent Students selected from all universities of Vietnam, in 2002.
4. Third Prize for Excellent Students Research, awarded by rector of University of Science, VNU, Hanoi, in 2002.
5. Japanese Government Scholarship for Graduate Students (Monbukugakusho), in 2004.
6. Third-Prize in Science and Technology Development, awarded by the rector of VNU University of Engineering and Technology, in 2013.

5-TEACHING AND RESEARCHING EXPERIENCES

12/2020-present	Associate Professor Dr., at VNU Vietnam Japan University
03/2019-11/2020	Tenure-track Lecturer Dr., at VNU Vietnam Japan University
05/2012-02/2019	Tenure-track Lecturer Dr., at VNU University of Engineering and Technology, Faculty of Engineering Physics and Nanotechnology
10/2008-04/2012	Full-time Post-doc Researcher, at Japan Science and Technology Agency, Japan
10/2007-09/2008	Post-doc Researcher, at School of Materials Science, Japan Advanced Institute of Science and Technology, Japan
<i>12/2020-present</i>	<i>Invited Associate Professor, at VNU University of Engineering and Technology, Key Laboratory for Micro-Nano Technology</i>
<i>08/2018</i>	<i>Visiting Assistant Professor, at National Cheng Kung University, Taiwan</i>
<i>06-07/2017;11-12/2017</i>	<i>Visiting Lecturer, at Kwansei Gakuin University, Hyogo, Japan</i>
<i>11/2015-06/2016</i>	<i>Visiting Lecturer, at Vietnam-France University (USTH), Hanoi, Vietnam</i>
<i>03-05/2014</i>	<i>Visiting Scholar, at Lunghwa University of Science and Technology, Taiwan</i>

Teaching experiences

Undergraduate Courses

- Fundamental of Physics
- Semiconductor Materials and Devices
- Nano-structured Semiconductor Materials
- Electromagnetism
- Optics and Introduction to Quantum Physics
- Introduction to Physics

Graduate Courses

- Semiconductor Physics and Nano-structured Semiconductor Materials
- Semiconductor Nano-materials and Nano-devices
- Nanostructure Analysis
- Advanced Solid State Physics
- Thin Film Engineering (teaching in Taiwan)

- Physics 1
- Physics 2
- General Physics
- Thermodynamics and Statistical Mechanics
- Practices in Nanoscience and Nanotechnology
- Nanotech Seminar
- Micro and Nano Fabrication

6-RESEARCH INTERESTS

Nano-scaled devices technology, nano-imprinting lithography, thin-film transistors, ferroelectric memory devices, solution-processed thin films and electronic devices, and Si-based CMOS technology; atmospheric pressure plasma research and application.

7-EXPERIMENTAL ABILITIES

- Samples preparation: sol-gel, thermal evaporation, and sputtering.
- Crystal structure analysis: XRD.
- Surface observation: SEM (fluency in high-resolution S-5200 model), AFM.
- Nano-scaled devices fabrication: e-beam lithography, nano-imprinting lithography.
- Samples treatment: rapid thermal annealing (RTA), ashing, dry-etching.
- Electrical measurement: transistors, memories and circuit characterizations.
- Thin film thickness: DEKTAK profile, alpha-step profile, elipsometry.
- Others: ion implantation, photo lithography, focus ion beam, TEM, XPS, FT-IR, etc.
- Cold and hot atmospheric pressure plasma technologies.

8-OTHER ACTIVITIES

8.1. Scientific society

- Member of Vietnam Physics Society.
- Organizing committee of International Symposium on Frontiers of Materials Science 2013 (ISFMS-2013), Hanoi, Vietnam.
- Organizing committee of International Symposium on Nano-materials, Technology and Applications 2014 (Nanomata-2014), Hanoi, Vietnam.
- Scientific and Program Committee of International Conference on Micro/Nano Optical Engineering (ICOME-T2015) 2015, NCKU, Tainan, Taiwan.
- Scientific and Program Committee of International Conference on Micro/Nano Optical Engineering (ICOME-T2016) 15 - 19 August 2016, NCKU, Tainan, Taiwan.
<http://icomet2016.wix.com/icome-t-2016#!blank/axfeq>
- Symposium chair at International Thin Film Conference TACT 2017, 15-18 October 2017, National Dong Hwa University, Taiwan.
<http://tact2017.conf.tw/site/page.aspx?pid=86&sid=1130&lang=en>
- Symposium chair at International Thin Film Conference TACT 2019, 17-20 November 2019, Taipei, Taiwan.
<https://tact2019.conf.tw/site/page.aspx?pid=86&sid=1245&lang=en>
- Organizing committee of The 2019 Hanoi International Symposium on Advanced Materials and Devices (HISAMD-2019), Hanoi, Vietnam, 10-12th January, 2019.
<http://physics.hus.edu.vn:8008/wordpress/>
- Symposium chair at International Thin Film Conference TACT 2021, 15-18 November 2021, Taipei, Taiwan.

- <https://tact2021.conf.tw/site/page.aspx?pid=86&sid=1365&lang=en>
- Symposium chair at International Thin Film Conference TACT 2023, 12-15 November 2023, Taipei, Taiwan.
<https://tact2023.conf.tw/site/page.aspx?pid=86&sid=1481&lang=en>
 - Symposium chair at MRM2023/IUMRS-ICA2023 Materials Innovation for Sustainable Development Goals, 2023 Dec 11-16, Kyoto, Japan.
<https://mrm2023.jmru.org/program/symposium/G/G-4>
 - Program chair at The 4th International Workshop on Advanced Materials and Devices 2023, August 10-13, 2023, Thai Nguyen, Vietnam.
<https://nec-hus.edu.vn/iwamd2023/>
 - Symposium chair at International Thin Film Conference TACT 2025, Taipei, Taiwan (coming soon).

8.2. Scientific Journal Reviewer

- Scientific Report (Nature), United Kingdom
- Applied Physics Letter, USA
- Transactions on Materials, Japan
- Microelectronics Journal, Netherland
- Journal of Science: Advanced Materials and Devices, Netherland and Vietnam

8.3. Academic Supervisor

- **Doctor students:**
 1. Do Hong Minh (graduated 2019)
 2. Nguyen Quang Hoa (graduated 2020)
 3. Nguyen Van Loi (on-going 2023-2026)
- **Master students:**
 1. Nguyen Huy Tiep (VNU-UET, graduated 2013, Singapore government scholarship @NTU)
 2. Vu Thi Huyen Trang (VNU-HUS, graduated 2016)
 3. Tran Van Dung (VNU-UET, graduated 2017)
 4. Nguyen Van Loi (VNU-HUS, graduated 2018)
 5. Nguyen Van Dung (VNU-VJU, graduated 2018, iCAMP scholarship at NCKU)
 6. Le Thi Hien (VNU-VJU, graduated 2019)
 7. Vu Tien Dung (VNU-VJU, graduated 2020)
 8. La Thi Ngoc Mai (VNU-VJU graduated, 2021) MEXT scholarship
 9. Pham Nhat Minh (USTH, graduated 2021)
 10. Bui Xuan Son Hai (VAST-GUST, graduated 2022)
 11. Dang Thi My Nga (VNU-VJU, graduated 2022)
 12. Vu Dinh Hong Phuc (VNU-VJU, graduated 2023) MEXT scholarship
 13. Nguyen Dieu Thao (VNU-VJU, graduated 2024)
- **Undergraduate students:**
 1. Tran Xuan Chung (graduated 2013)
 2. Tran Van Dung (graduated 2014)
 3. Vuong Quoc Viet (graduated 2014, Korea government scholarship @UNIST)
 4. Nguyen Thi Xuyen (graduated 2014, iCAMP scholarship at NCKU)

5. Duong Thi Sang (graduated 2015, Panasonic scholarship @NAIST)
6. Nguyen The Tri (graduated 2015)
7. Nguyen Thi Binh (graduated 2015)
8. Tran Quang Dieu (graduated 2015)
9. Hoang Ha (graduated 2016, Japanese government scholarship @KGU)
10. Nguyen Van Dung (graduated 2016)
11. Nguyen Thi Thu Thuy (graduated 2016)
12. Nguyen Thi Binh (graduated with a second degree, 2016)
13. Nguyen Thi Thuong (graduated 2017)
14. Le Thi Hien (graduated 2017)
15. Hoang Thi Thanh Tam (graduated 2017, Japanese government scholarship @TIT)
16. Vu Thi Dung (graduated 2017, Japanese government scholarship @TIT)
17. Bui Quoc Huy Hoang (graduated 2018)
18. Vu Van Loi (graduated 2018)
19. Truong Dinh Chien (graduated 2019)
20. Tran Minh Hieu (graduated 2021)
21. Nguyen Khanh Ly (graduated 2022)
22. Pham Van Nam (graduated 2022)
23. Dinh The Nam (graduated 2023, Japanese government scholarship @TIT)
24. Pham Duc Anh (graduated 2023)
25. Phan Quoc Minh (graduated 2024)
26. Nguyen Hoang Lam (graduated 2024)

(NTU: Nanyang Technological University, NCKU: National Cheng Kung University, UNIST: Ulsan National Institute of Science and Technology, NAIST: Nara Institute of Science and Technology, KGU: Kwansei Gakuin University, TIT: Tokyo Institute of Technology)

9-PUBLICATIONS

A-SELECTED CONTRIBUTIONS IN RECENT 5 YEARS

1. D.T. Nam and **B.N.Q. Trinh***, Structural, optical, and electrical properties of multi-component P-type oxide-semiconductor Cu-Mn-Sn-O thin films, *Thin Solid Films*, 802 (2024) 140441. DOI: <https://doi.org/10.1016/j.tsf.2024.140441>
2. L.T.N. Mai, N.V. Loi, D.H. Minh, D.V. Thanh, **B.N.Q. Trinh***, Structural, Morphological, Optical Properties and Impedance Analysis of Solution Processable Ni-Doped CuO Thin Films on ITO/Glass Substrates, *Materials Transactions*, (Received March 1, 2023; Accepted March 14, 2023; Published online: April 28, 2023; Print version: 1 August, 2023). DOI: <https://doi.org/10.2320/matertrans.MT-MG2022027>
3. **B.N.Q. Trinh***, E.K. Palupi, and A. Fujiwara, “Chapter 9: Solution-Processed Oxide-Semiconductor Films and Devices”, in the Book entitled “Functional Thin Films Technology”, CRC Press (Taylor & Francis Group), pp. 225-252, 2021. ISBN 9780367541774; (336 Pages); Published August 9, 2021. DOI: [10.1201/9781003088080-9](https://doi.org/10.1201/9781003088080-9)
4. **B.N.Q. Trinh***, T.D. Chien, N.Q. Hoa, D.H. Minh, Solution-processable zinc oxide based thin films with different aluminum doping concentrations, *Journal of Science: Advanced Materials and Devices* 5 (2020) 497-501. DOI: <https://doi.org/10.1016/j.jsamd.2020.08.006>

5. **B.N.Q. Trinh***, N.V. Dung, N.Q. Hoa, N.H. Duc, D.H. Minh, A. Fujiwara, Solution-Processed Cupric Oxide P-type Channel Thin-Film Transistors, *Thin Solid Films* 704 (2020) 137991. DOI: <https://doi.org/10.1016/j.tsf.2020.137991>

B-FULL LIST OF CONTRIBUTIONS

(Elsevier format; * means “main/corresponding author”)

Book Chapter

1. **B.N.Q. Trinh***, E.K. Palupi, and A. Fujiwara, “Chapter 9: Solution-Processed Oxide-Semiconductor Films and Devices”, in the Book entitled “Functional Thin Films Technology”, CRC Press (Taylor & Francis Group), pp. 225-252, 2021. ISBN 9780367541774; (336 Pages); Published August 9, 2021. DOI: [10.1201/9781003088080-9](https://doi.org/10.1201/9781003088080-9)

ISI/Scopus journals

2. D.T. Nam and **B.N.Q. Trinh***, Structural, optical, and electrical properties of multi-component P-type oxide-semiconductor Cu-Mn-Sn-O thin films, *Thin Solid Films*, 802 (2024) 140441. DOI: <https://doi.org/10.1016/j.tsf.2024.140441>
3. N.V. Loi, L.T.N. Mai, N.H. Luong, **B.N.Q. Trinh***, Enhancing the absorption figure of merit on solution-based CuO thin films by Ni doping, *Optical Materials: X*, 19 (2023) 100246. DOI: <https://doi.org/10.1016/j.omx.2023.100246>
4. L.T.N. Mai, N.V. Loi, D.H. Minh, D.V. Thanh, **B.N.Q. Trinh***, Structural, Morphological, Optical Properties and Impedance Analysis of Solution Processable Ni-Doped CuO Thin Films on ITO/Glass Substrates, *Materials Transactions*, 64 (2023) 2151-2157. DOI: <https://doi.org/10.2320/matertrans.MT-MG2022027>
5. V.T. Tran, T.H. Tran, M.P. Le, N.H. Pham, V.T. Nguyen, D.B. Do, X.T. Nguyen, **B.N.Q. Trinh**, T.T.V. Nguyen, V.T. Pham, M.Q. Luu, A.B. Ngac, Highly efficient photo-induced surface enhanced Raman spectroscopy from ZnO/Au nanorods, *Optical Materials* 134 (2022) 113069. DOI: <https://doi.org/10.1016/j.optmat.2022.113069>
6. **B.N.Q. Trinh***, T.D. Chien, N.Q. Hoa, D.H. Minh, Solution-processable zinc oxide based thin films with different aluminum doping concentrations, *Journal of Science: Advanced Materials and Devices* 5 (2020) 497-501. DOI: <https://doi.org/10.1016/j.jsamd.2020.08.006>
7. **B.N.Q. Trinh***, N.V. Dung, N.Q. Hoa, N.H. Duc, D.H. Minh, A. Fujiwara, Solution-Processed Cupric Oxide P-type Channel Thin-Film Transistors, *Thin Solid Films* 704 (2020) 137991. DOI: <https://doi.org/10.1016/j.tsf.2020.137991>
8. H. Hoang, Y. Ueta, K. Tsukagoshi, T. Nabatame, **B.N.Q. Trinh**, A. Fujiwara, Solution processed In-Si-O thin film transistors on hydrophilic and hydrophobic substrates, *Thin Solid Films* 698 (2020) 137860. DOI: <https://doi.org/10.1016/j.tsf.2020.137860>
9. H. Hoang, K. Sasaki, T. Hori, T. Yasuda, K. Tsukagoshi, T. Nabatame, **B.N.Q. Trinh**, and A. Fujiwara, Silicon-doped indium oxide – a promising amorphous oxide semiconductor material for thin-film transistor fabricated by spin coating method, *IOP Conference Series: Materials Science and Engineering* 625 (2019) 012002. DOI: <https://doi.org/10.1088/1757-899X/625/1/012002>

10. H. Hoang, T. Hori, T. Yasuda, T. Kizu, K. Tsukagoshi, T. Nabatame, **B.N.Q. Trinh**, A. Fujiwara, Si-doping effect on solution-processed In-O thin-film transistors, *Materials Research Express* 6 (2019) 026410. DOI: <https://doi.org/10.1088/2053-1591/aecf9>
11. H. Q. Nguyen, D.V. Nguyen, A. Fujiwara, **B.N.Q. Trinh***, Solution-processed CuO thin films with various Cu²⁺ ion concentrations, *Thin Solid Films* 660 (2018) 819-823. DOI: <https://doi.org/10.1016/j.tsf.2018.03.036>
12. D.H. Minh, N.V. Loi, N.H. Duc, **B.N.Q. Trinh***, Low-temperature PZT thin-film ferroelectric memories fabricated on SiO₂/Si and glass substrates, *Journal of Science: Advanced Materials and Devices* 1 (2016) 75-79. DOI: <https://doi.org/10.1016/j.jsamd.2016.03.004>
13. D.H. Minh and **B.N.Q. Trinh***, Sub-100 nm Ferroelectric-Gate Thin-Film Transistor with Low-Temperature PZT Fabricated on SiO₂/Si Substrate, *Ferroelectrics Letters Section* 42 (2015) 65–74. DOI: <https://doi.org/10.1080/07315171.2015.1026215>
14. K. Nagahara, **B.N.Q. Trinh**, E. Tokumitsu, S. Inoue and T. Shimoda, 120 nm Channel Length Ferroelectric Gate Thin-Film Transistor by Nano-imprinting Lithography, *Japanese Journal of Applied Physics* 53 (2014) 02BC14-1. DOI: [10.7567/JJAP.53.02BC14](https://doi.org/10.7567/JJAP.53.02BC14)
15. P.V.Thanh, **B.N.Q. Trinh**, T. Miyasako, P. T. Tue, E. Tokumitsu, and T. Shimoda, Interface Charge Trap Density of Solution Processed Ferroelectric Gate Thin Film Transistor Using ITO/PZT/Pt Structure, *Ferroelectrics Letters* 40 (2013) 17–29. DOI: [10.1080/07315171.2013.813823](https://doi.org/10.1080/07315171.2013.813823)
16. N.T.M. Hong, N.B. Doan, N.H. Tiep, L.V. Cuong, **B.N.Q. Trinh**, P.D. Thang, D.H. Kim, Switchable Voltage Control of the Magnetic Anisotropy in Heterostructured Nanocomposites of CoFe/NiFe/PZT, *Journal of the Korean Physical Society* 63 (2013) 812-816. DOI: <https://doi.org/10.3938/jkps.63.812>
17. P.V.Thanh, **B.N.Q. Trinh***, T. Miyasako, P. T. Tue, E. Tokumitsu, and T. Shimoda, Electric Properties and Interface Charge Trap Density of Ferroelectric Gate Thin Film Transistor Using (Bi,La)₄Ti₃O₁₂/Pb(Zr,Ti)O₃ Stacked Gate Insulator, *Japanese Journal of Applied Physics* 51 (2012) 09LA09. DOI: [10.1143/JJAP.51.09LA09](https://doi.org/10.1143/JJAP.51.09LA09)
18. T. Miyasako, **B.N.Q. Trinh**, M. Onoue, T. Kaneda, P.T. Tue, E. Tokumitsu, and T. Shimoda, Ferroelectric-Gate Thin-Film Transistor Fabricated by Total Solution Deposition Process, *Japanese Journal of Applied Physics*, 50 (2011) 04DD09. DOI: [10.1143/JJAP.50.04DD09](https://doi.org/10.1143/JJAP.50.04DD09)
19. P.T. Tue, T. Miyasako, **B.N.Q. Trinh**, J. Li, E. Tokumitsu, T. Shimoda, Optimization of Pt and PZT Films for Ferroelectric-Gate Thin Film Transistors, *Ferroelectrics* 405 (2010) 281–291. DOI: [10.1143/JJAP.51.09LA09](https://doi.org/10.1143/JJAP.51.09LA09)
20. T. Miyasako, **B.N.Q. Trinh***, M. Onoue, T. Kaneda, P. T. Tue, E. Tokumitsu, T. Shimoda, Totally solution-processed ferroelectric-gate thin-film transistor, *Applied Physics Letters* 97 (2010) 173509. DOI: [10.1063/1.3508958](https://doi.org/10.1063/1.3508958)
21. J. Li, H. Kameda, **B.N.Q. Trinh**, T. Miyasako, P.T. Tue, E. Tokumitsu, T. Mitani, and T. Shimoda, A low-temperature crystallization path for device-quality ferroelectric films *Applied Physics Letters* 97 (2010) 102905. DOI: [10.1063/1.3486462](https://doi.org/10.1063/1.3486462)
22. N.V. Tuyen, T.D. Canh, N.N. Long, N.X. Nghia, **B.N.Q. Trinh**, Z. Shen, Synthesis of undoped and M-doped ZnO (M = Co, Mn) nanopowder in water using microwave irradiation, *Journal of Physics: Conference Series* 187 (2009) 012020. DOI: [10.1088/1742-6596/187/1/012020](https://doi.org/10.1088/1742-6596/187/1/012020)

23. S. Horita and **B.N.Q. Trinh**, Disturb-Free Writing Operation for Ferroelectric-Gate Field-Effect Transistor Memories With Intermediate Electrodes, *IEEE Transactions on Electron Devices* 56 (2009) 3090-3096. DOI: [10.1109/TED.2009.2032744](https://doi.org/10.1109/TED.2009.2032744)
24. S. Horita and **B.N.Q. Trinh***, Nondestructive Readout of Ferroelectric-Gate Field-Effect Transistor Memory With an Intermediate Electrode by Using an Improved Operation Method *IEEE Transactions on Electron Devices*, 55 (2008) 3200-3207. DOI: [10.1109/TED.2008.2003329](https://doi.org/10.1109/TED.2008.2003329)
25. **B.N.Q. Trinh*** and S. Horita, Operation of Ferroelectric Gate Field-Effect Transistor Memory with Intermediate Electrode using Polycrystalline Capacitor and Metal–Oxide–Semiconductor Field-Effect Transistor, *Japanese Journal of Applied Physics* 45 (2006) 7341–7344. DOI: [10.1143/JJAP.45.7341](https://doi.org/10.1143/JJAP.45.7341)
26. **B.N.Q. Trinh*** and S. Horita, Control of Preferential Orientation of Platinum Films on RuO₂/SiO₂/Si Substrates by Sputtering, *Japanese Journal of Applied Physics* 45 (2006) 8810-8816. DOI: [10.1143/JJAP.45.8810](https://doi.org/10.1143/JJAP.45.8810)
27. N. H. Luong, N. Chau, N. D. Dung and **B.N.Q. Trinh**, Spin Reorientation in ErCo_{10-x}Fe_xMo₂ Compounds, *Physica B* 327 (2003) 262-265. DOI: [https://doi.org/10.1016/S0921-4526\(02\)01756-8](https://doi.org/10.1016/S0921-4526(02)01756-8)

Non-ISI journals

28. **B.N.Q. Trinh*** and P.N. Minh, Influence of Wrinkle Structure on Properties of Na-doped ZnO Films, *VNU Journal of Science: Mathematics-Physics*, 40 (2024) 1-10. DOI: <https://doi.org/10.25073/2588-1124/vnumap.4937>
29. **B.N.Q. Trinh***, Direct Control of Pt Film Orientation for Growth of (100)-oriented PZT Film, *VNU Journal of Science: Mathematics-Physics*, 39 (2013) 68-77. DOI: <https://doi.org/10.25073/2588-1124/vnumap.4838>
30. **B.N.Q. Trinh***, Demonstration on Ferroelectric-gate Thin Film Transistor NAND-type Array with Disturbance-free Operation, *VNU Journal of Science: Mathematics-Physics* 35 (2019) 94-100. DOI: <https://doi.org/10.25073/2588-124/vnumap.4351>
31. N.Q. Hoa and **B.N.Q. Trinh***, “Conductive-perovskite LaNiO₃ thin films prepared by using solution process for electrode application”, *VNU Journal of Science: Mathematics-Physics* 34 (2018) 29-35. ISSN 0866-8612. DOI: <https://doi.org/10.25073/2588-1124/vnumap.4265>
32. H. Hoang and **B.N.Q. Trinh***, “Epitaxial-like growth of solution-processed PbZr_{0.4}Ti_{0.6}O₃ thin film on single-crystal Nb-doped SrTiO₃ substrate”, *VNU Journal of Science: Mathematics-Physics* 33 (2017) 36-44. ISSN 0866-8612.
33. T.V. Dung, H. Ha, H.T.T. Tam, V.T. Dung, N.V. Dung, D.H. Minh, V.T.H. Trang, N.Q. Hoa, **B.N.Q. Trinh***, “Investigation of structural and ferroelectric properties of Bi_{3.25}La_{0.75}Ti₃O₁₂ thin film”, *Journal of Science and Technology* 54 (1A) (2016) 80-87. ISSN 0866-708X. DOI: <https://doi.org/10.15625/2525-2518/54/1A/11809>
34. N.Q. Hoa, N.T.Xuyen, V.Q. Viet, V.T.H. Trang, H. Ha, H.T.T. Tam, V.T. Dung, T.V. Dung, **B.N.Q. Trinh***, “Study on ITO thin films prepared by multi-annealing technique”, *Journal of Science and Technology* 54 (1A) (2016) 136-142. ISSN 0866-708X. DOI: <https://doi.org/10.15625/2525-2518/54/1A/11818>

35. D.H. Minh, V.T.H. Trang, and **B.N.Q. Trinh***, Huge on-current ferroelectric-gate thin film transistor with solution-processed indium tin oxide channel, *VNU Journal of Science: Mathematics-Physics* 30 (2014) 16-23.
36. L.V. Vu, **B.N.Q. Trinh**, D.T. Nam, Platinum Magneto-sputtered Films used as Electrodes to Measuring Conductivity of Solutions, *VNU Journal of Science: Mathematics-Physics*, 14 (2003) 90-94.
37. L.V. Vu, **B.N.Q. Trinh**, D.T. Nam, Preparing and Studying Thermo-electric Properties of the Flash-evaporated P-type $\text{Bi}_{0.4}\text{Sb}_{1.6}\text{Te}_3$ Thin Films, *VNU Journal of Science: Mathematics-Physics*, 14 (2003) 95-100.

IEEE/MRS Proceedings with DOI:

38. H. Hoang, T. Hori, T. Yasuda, T. Kizu, K. Tsukagoshi, T. Nabatame, **B.N.Q. Trinh**, A. Fujiwara, Investigation on solution-processed In-Si-O thin-film transistor via spin-coating method, *IEEE proceeding of 2018 25th International Workshop on Active-Matrix Flat panel Displays and Devices (AM-FPD)*, pp 119-122. DOI: [10.23919/AM-FPD.2018.8437420](https://doi.org/10.23919/AM-FPD.2018.8437420)
39. P.V. Thanh, **B.N.Q. Trinh**, P.T. Tue, T. Miyasako, E. Tokumitsu, T. Shimoda, Analysis on interface layer between Pt electrode and ferroelectric layer of solution-processed PZT capacitor, *MRS Symposium Proceedings*, 1368, ww 08-11, 2011. DOI: [10.1557/opl.2011.1086](https://doi.org/10.1557/opl.2011.1086)
40. P.T. Tue, **B. N. Q. Trinh**, T. Miyasako, P.V. Thanh, E. Tokumitsu, T. Shimoda, Lanthanum oxide capping layer for solution-processed ferroelectric-gate thin-film transistors, *MRS Symposium Proceedings*, Q02-05, 1337, 2011. DOI: [10.1557/opl.2011.1029](https://doi.org/10.1557/opl.2011.1029)
41. P.T. Tue, **B.N.Q. Trinh**, T. Miyasako, E. Tokumitsu, T. Shimoda, *IEEE Proceedings of 22nd International Conference of Microelectronics*, Cairo, Egypt, 32-35, 2010. DOI: [10.1109/ICM.2010.5696152](https://doi.org/10.1109/ICM.2010.5696152)
42. **B.N.Q. Trinh** and S. Horita, Improvement of Nondestructive Readout of Ferroelectric Gate FET Memory with an Intermediate Electrode by using New Data Writing and Reading Methods, *IEEE Proceedings of 16th International Symposium on the Applications of Ferroelectrics*, Nara, Japan, 58-61, 2007. DOI: [10.1109/ISAF.2007.4393167](https://doi.org/10.1109/ISAF.2007.4393167)
43. **B.N.Q. Trinh** and S. Horita, Fabrication of Polycrystalline Ferroelectric Gate FET Memory with an Intermediate Electrode, *IEEE Proceedings of 15th International Symposium on the Applications of Ferroelectrics*, North Carolina, United States, 77-80, 2006. DOI: [10.1109/ISAF.2006.4387837](https://doi.org/10.1109/ISAF.2006.4387837)

Presentations

1. **[Invited talk] B.N.Q. Trinh***, N.V. Loi, N.N. Dinh, “P-type Oxide-Semiconductor Thin Films: From Simulation and Experiment Correlations to Electronic Device Applications”, *IWAMSN-2024 The 11th International Workshop on Advanced Materials Science and Nanotechnology*, September 22-25, 2024, Da Nang, Vietnam.

2. **[Invited talk] B.N.Q. Trinh***, N.V. Loi, L.T.N. Mai “Pure and Doped CuO P-type Oxide-Semiconductor Thin Films and Applications”, *MRM2023/IUMRS-ICA2023 Grand Meeting*, December 11-16, 2023, Kyoto, Japan.
3. **[Invited talk] B.N.Q. Trinh***, V.D.H. Phuc, N.D. Thao, N.V. Loi, “Cupric Oxide Based Thin Films: Simulation, Experiment and Application Approaches”, *TACT-2023 International Thin Films Conference*, November 12-15, 2023, Taipei, Taiwan.
4. N.V. Loi, D.T. Nam, N.N. Dinh, **B.N.Q. Trinh***, “Structural, Optical, and Electrical Properties of Multi-component P-type Oxide-semiconductor Cu-Mn-Sn-O Thin Films”, *TACT-2023 International Thin Films Conference*, November 12-15, 2023, Taipei, Taiwan.
5. Đ.H. Minh, N.T. Long, N.Q. Hoà, **B.N.Q. Trinh***, “Khảo sát tính chất màng mỏng MoOx được chế tạo bằng phương pháp phún xạ cathode”, Kỷ yếu Hội nghị Vật lý Chất rắn và Khoa học Vật liệu Toàn quốc – SPMS 2023, Tp Hồ Chí Minh, Việt Nam, pp. 278-281
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8. D.T. Nam, N.V. Loi, D.H. Minh, N.N. Dinh, and **B.N.Q. Trinh***, “Blueshift of absorption edge in p-type oxide-semiconductor thin films with three metallic elements Cu, Mn, and Sn”, The Proceedings of The 4th International Workshop on Advanced Materials and Devices – IWAMD 2023, Thai Nguyen, Vietnam, pp. 98-102
9. **[Invited talk] B.N.Q. Trinh**, N.V. Loi, D.H. Minh, N.Q. Hoa, N.N. Dinh, “Friendly Environmental P-type and N-type Oxide Semiconductor Thin Films: Overview and Research”, *International Conference on Optics in Materials, Energy, and Technology (ICOMET-2023)*, 8-11 January 2023, Tainan, Taiwan.
10. L.T.N. Mai, N.V. Loi, D.H. Minh, N.N. Dinh, **B.N.Q. Trinh**, Enhancing the Absorption Figure of Merit on Solution-Based CuO Thin Films by Ni Doping, *The 6th International Symposium on Frontiers in Materials Science (FMS-2022)*, November 21-23, 2022, Phu Quoc, Vietnam, p. 183.
11. D.T.M. Nga, L.T.N. Mai, N.V. Loi, N.D. Phuong, **B.N.Q. Trinh**, Cu-doped effect on structural and optical properties of ZnO nanoparticles towards the application of maize growth, *The 6th International Symposium on Frontiers in Materials Science (FMS-2022)*, November 21-23, 2022, Phu Quoc, Vietnam, p. 142.

12. L.T.N. Mai, N.V. Loi, N.Q. Hòa, N.B. Hung, **B.N.Q. Trinh***, “KHẢO SÁT ĐẶC TRƯNG CỦA MÀNG MỎNG CuO PHA TẠP Ni ĐƯỢC CHẾ TẠO BẰNG PHƯƠNG PHÁP SOL-GEL”, C59, *Kỷ yếu Hội nghị Vật lý Chất rắn và Khoa học Vật liệu Toàn quốc - SPMS 2021*, pp. 493-497.
13. Đ.H. Minh, T.M. Hiếu, N.N. Đình, N.Q. Hoà, N.D. Phương, **B.N.Q. Trinh***, “Màng mỏng bán dẫn loại p Cu₂O được chế tạo bằng phương pháp phun xạ và ủ nhiệt trong môi trường tự nhiên”, *Kỷ yếu Hội nghị Vật lý Chất rắn và Khoa học Vật liệu Toàn quốc - SPMS 2021*, pp. 498-502.
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15. L.T.N. Mai, N.V. Loi, **B.N.Q. Trinh**, “Effects of Ni Doping on CuO-Based Thin Films Prepared on Glass Substrates via Solution Processing”, TACT-2021 International Thin Films Conference, November 15-18, 2021, Taipei, Taiwan.
16. P.N. Minh, N.V. Loi, D.H. Minh, N.Q. Hoa, N.B. Hung, **B.N.Q. Trinh**, “P-type Oxide-semiconducting Na-doped ZnO Thin Films Prepared by Solution-based Process”, The 10th International Workshop on Advanced Materials Science and Nanotechnology (IWAMSN-2021), November 4-6, 2021, Hanoi, Vietnam.
17. L.T.N. Mai, N.V. Loi, D.V. Thanh, **B.N.Q. Trinh**, “Formation of Ni-doped CuO Thin Film onto ITO/glass Substrate as Single-junction Solar Cell by using Solution-processed Technique”, The 10th International Workshop on Advanced Materials Science and Nanotechnology (IWAMSN-2021), November 4-6, 2021, Hanoi, Vietnam. (*Oral presentation*)
18. **[Invited talk] B.N.Q. Trinh**, N.V. Dung, N.Q. Hoa, N.H. Duc, A. Fujiwara, Solution-Processed Cupric Oxide P-type Channel Thin-Film Transistor, *International Thin Films Conference* (TACT-2019), 17-20 November 2019, Taipei, Taiwan.
19. **B.N.Q. Trinh**, L.T. Hien, N.Q. Hoa, N.H. Luong, Undoped and Doped ZnO-based Thin Films by a Solution Process: Preparation and Characterization, *International Thin Films Conference* (TACT-2019), 17-20 November 2019, Taipei, Taiwan.
20. T.Đ. Chiến, N.Q. Hoà, Đ.H. Minh, **B.N.Q. Trinh**, Khảo sát các tính chất màng mỏng ô-xít bán dẫn ZnO pha tạp Al được chế tạo bằng phương pháp dung dịch, *Hội nghị Vật lý Chất rắn và Khoa học Vật liệu Toàn quốc Lần thứ 11* (SPMS-2019), 2-4/11/2019, Quy Nhơn, Bình Định.

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23. **[Invited talk]** V.L. Nguyen, V.L. Vu, Q.H.H. Bui, H.M. Do, **B.N.Q. Trinh***, *Nanoimprinting Lithography Patterned Thin-Film Transistors with Sn-Doped Indium Oxide Channel*. In: International Thin Films Conference (TACT2017), 15-18 October 2017, Hualien, Taiwan.
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Patents

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| <ol style="list-style-type: none"> 1. LAMINATED STRUCTURE, FERROELECTRIC GATE THIN FILM TRANSISTOR, AND FERROELECTRIC THIN FILM CAPACITOR
<u>B.N.Q. Trinh (60% contribution)</u>, T. Miyasako, E. Tokumitsu and T. Shimoda, US2014/0339550, <i>United States Patent</i>, May 19, 2014.

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http://appft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=PG01&p=1&u=%2Fmetahtml%2FPTO%2Fsrchnum.html&r=1&f=G&l=50&s1=%2220140339550%22.PG NR.&OS=DN/20140339550&RS=DN/20140339550 |
| <ol style="list-style-type: none"> 2. メモリーセルブロック及びその製造方法、メモリー装置並びにメモリー装置の駆動方法 (MEMORY CELL BLOCK, MANUFACTURING METHOD THEREFOR, MEMORY DEVICE, AND METHOD FOR DRIVING A MEMORY DEVICE)
<u>B.N.Q. Trinh</u>, T. Shimoda, T. Miyasako and E. Tokumitsu, WO/2012/033106, <i>Japan Patent</i>, March 15, 2012.

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https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2012033106 |
| <p>Research Projects</p> <ol style="list-style-type: none"> 1. A RESEARCH ON LOW TEMPERATURE SOLUTION-PROCESSED FERROELECTRIC MEMORY
<u>B.N.Q. Trinh (Principle Investigator)</u>, NAFOSTED foundation from the Ministry of Science and Technology, 2013-2015. (Budget ~ 35,000 USD) |
| <ol style="list-style-type: none"> 2. Study on LaTaO/PZT Hybrid Structure used for Gate Insulator of Solution-processed Thin-Film Transistor
<u>B.N.Q. Trinh (Principle Investigator)</u>, B-typed Project Foundation from Vietnam National University, 2014-2016. (Budget ~ 10,000 USD) |

3. Conductive Oxide-semiconductor Thin Films towards Electronic Devices Applications

B.N.Q. Trinh (Principle Investigator), Japan International Cooperation Agency (JICA), 2019-2020. (**Budget ~ 30,000 USD**)

4. Nanotechnology towards Sustainable and Green Growths

B.N.Q. Trinh (Principle Investigator), Japan International Cooperation Agency (JICA), 2021-2023. (**Budget ~ 50,000 USD**)