DUONG NGOC THANH, PH.D.

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EDUCATION

Ph.D.

Advanced Semiconductor Device for Energy Science

Sungkyunkwan University

February 2020 - Suwon, Korea

Bachelor of Science

Material Science & Engineering

University of Science, Vietnam National University

Jun 2014 - Hanoi, Vietnam

PROFESSIONAL SUMMARY

- Nanodevice Research Fellow with 8+ years in designing, conducting, and sharing results of 2D nanodevice research complex.
- Proficient in conducting laboratory and field experiments while informing new hires on research methods and data collection procedures.
- Skilled in conceptualization and implementation of intelligent 2D device research projects: Artificial Visual Systems, In-sensor Computing, In-memory Computing.

SKILLs

- Independent Research on Nanodevice Fab. e.g., E-beam & Photo lithography, Deposition methods, ALD, 2D material transfer techniques, and etc.
- Experimental Development and Material Analysis: e.g., Raman & PL mapping, XRD, EDS, SEM and AFM-based MFM, PFM, KPFM.
- Device Characterization Skills: DC & AC current-voltage measurement using Keithley or Keysight equipment under illumination, and low-temp.
- Data processing with Python environment (e.g., NumPy, Matplotlib), Machine Learning (e.g., Sk-learn, TensorFlow, Keras), and Image & Video processing (e.g., OpenCV).
- Intermediate MATLAB & SIMULINK.
- Research Procedures of very large scale BEOL compatible array.
- Development Skills: Scientific manuscript, Proposal, Conference Presentation.

WORK HISTORY

October 2021 – Current

Department of Electrical & Computer Engineering, National University of Singapore – Research Fellow, Singapore

- Performed scientific research on multiple projects: ***In-sensor Computing, In-memory Computing with advanced 2D Ferroelectric and Semiconductors.***
- Applied ***Machine Learning*** tasks for collected data from **smart chip & sensor** in **Python** environment.
- Supported and supervised Ph.D. students in their programs for potential research through publishing papers on completed projects.
- Developed unique research into **Large Scale Nanodevice Integration.**

April 2020 – August 2021

Department of Physics & Semiconductor Science, Dongguk University – Research Assistant Professor, Seoul, Korea

- Collaborated with faculty and community stakeholders for program improvement.
- Incorporated **Nanoelectronics** technologies in **Perovskite materials** research of Image Sensor and LED

February 2020 – April 2021

Department of Energy Science, Sungkyunkwan University – Postdoctoral Researcher , Suwon, Korea

- Contributed to and actively participated in device fabrication & research.
- Leveraged interpersonal and communication skills to mentor PhD, graduate and undergraduate students.
- Published research results in peer-reviewed journals and presented at seminars and meetings.

PUBLICATIONS & CONFERENCES

1st author

- N.T. Duong et.al. **ACS nano** 2019, 13 (4), 4478-4485.
- N.T. Duong et.al. **Nano Lett**. 2020, 20, 4, 2370–2377
- N.T. Duong et.al. **Nanoscale**, 2018,10, 12322-12329
- N.T. Duong et.al**. Nano Today,** 2020 40, 101263
- N.T. Duong et.al. **Adv. Intell. Syst**.2023, 23000039

Co-author

- **Advanced Materials** 35 (2), 2204949
- **Advanced Functional Materials** 33, 2304657
- **Chemical Engineering Journal** 433, 133809
- **Nano letters** 18 (4), 2316-2323
- **ACS applied materials & interfaces** 10 (12), 10322-10329
- **Nanoscale** 10 (43), 20306-20312
- **Nano Energy** 86, 106049
- **ACS applied materials & interfaces** 11 (22), 20257-20264
- **Advanced Functional Materials** 30 (16), 2000250
- **Applied Materials Today** 26, 101285
- **Small Methods** 5 (11), 2100558
- **Advanced Electronic Materials** 5 (2), 1800608
- **Applied Surface Science** 542, 148499
- **Applied Surface Science** 558, 149870
- **ACS Applied Materials & Interfaces** 13 (46), 55489-55497

International Conference Oral Contribution

- MRS Fall Meeting 2019, Boston, MA
- Graphene 2018, Dresden, Germany
- ISPSA 2018, Jeju, South Korea