Curriculum Vitae

Kim Ngoc Pham

Department of Thin Film and Nanomaterials, Faculty of Materials Science,
University of Science, Vietnam National University, Ho Chi Minh City (VNUHCM)
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Education

PhD student, Materials Science

University of Science, Ho Chi Minh City, Vietnam

Master, Electronic Physics

University of Science, Ho Chi Minh City, Vietnam.

B.A, Materials Science

University of Science, Ho Chi Minh City, Vietnam.

Experience

Researcher **2006 – 2010**

Faculty of Materials Science, University of Science, Ho Chi Minh City, VietNam.

Advisor: Prof. Nguyen Huu Chi, Assoc. Prof. Vu Thi Hanh Thu

Focus: Develop TiO_2 and N – doped TiO_2 thin films prepared by DC sputtered technique for photocatalytic applications. Other influenced factors and parameters on photocatalytic effects have also investigated.

Intern student **10/2010 – 10/2011**

Toyota Technological Institute, Japan

Advisor: Prof. Yasutake Ohishi

Duties: Study and optimize compositions of tellurite and phosphate glasses for optical fiber applications. Characterization microstructure and analysis techniques of optical properties were also focused.

Lecturer **2012 – present**

Department of Nano and Thin film Materials, Faculty of Materials Science, University of Science, Ho Chi Minh City, Vietnam

Visiting Scholar **10/2014 – 12/2014**

School of Advanced Materials Science & Engineering, Sungkyunkwan University, South Korea

Advisor: Prof. Jaichain Lee

Duties: Study electrical conduction and resistive switching mechanisms of chromium oxide thin films by using conductive – atomic force microscopy (C-AFM) technique. Other microstructure and surface morphology analysis techniques have also been mastered.

Teaching

Undergraduate courses:

Physics of Interface and Surface, Thin film sythesis techniques, Materials Characterization Techniques

Faculty of Materials Science, University of Science - Vietnam National University in HoChiMinh city, Vietnam (VNU-HCM).

Teaching assistant

Fundamental of Materials Science and Engineering, The Defect Chemistry of Metal Oxides

Faculty of Materials Science, University of Science - Vietnam National University in HoChiMinh city, Vietnam (VNU-HCM).

Current Research

- Physical properties and mechanisms of metal oxide thin films for emerging non-volatile semiconductor memories (ReRAM):, ZnO, TiO_2, CrO_x, WO_x…
- Hybrid organic/inorganic nanocomposites for transparent and flexible memristors.
- Modification superhydrophobic surface based on silica nanoparticles.

Research projects

1. Electrical conduction and resistance switching mechanisms of nanostructural Cr-doped $SrTiO_3$ and ZnO, TiO_2 thin films applied in Electronic Memory Device, *Researcher,* The National Foundation for Science and Technology Development – Vietnam (NAFOSTED), 2010-2012.

2. Investigating Electrical conduction and reversible resistance switching mechanisms of Transition Metal Oxides WO_x for fabricating Random Access Memory, *Researcher,* Vietnam National University in HoChiMinh City (Key project VNU-B), 2013-2015

3. Electrical conduction and resistance switching mechanisms of Chromium oxide thin film, *Researcher,* The National Foundation for Science and Technology Development – Vietnam (NAFOSTED), 2013-2015

4. Fabricating and investigating memory resistive properties of TiO_2 films on flexible substrate, *Principal investigator*, Vietnam National University in HoChiMinh City, (VNU-C), 2015 -2016.

5. Investigating of effects of In and Ga co-doping on thermoelectric properties of ZnO thin films for thermoelectric applications, *Researcher,* The National Foundation for Science and Technology Development – Vietnam (NAFOSTED), 2016-2018

International Publications (SCI)

1. **Kim Ngoc Pham,** Trung Do Nguyen, Thi Kieu Hanh Ta, Khanh Linh Dao Thuy, Van Hieu Le, Duy Phong Pham, Cao Vinh Tran, Derrick Mott, Shinya Maenosono, Sang Sub Kim, Jaichan Lee, Duc Thang Pham and Bach Thang Phan**,** *An influence of bottom electrode material on electrical conduction and resistance switching of TiOx thin films*, Eur. Phys. J. Appl. Phys. **64**, 30102 (**2013**).
2. Trung Do Nguyen, **Kim Ngoc Pham**, Vinh cao Tran, Duy Anh Tuan Nguyen, and Bach Thang Phan, *Electrical Conduction and Resistance Switching Mechanisms of Ag/ZnO/Ti Structure*, Journal of Institute of Korean Electrical and Electronics Engineers, **17**,3, 229 – 233 (**2013**).
3. **Kim Ngoc Pham**, Trung Do Nguyen, Thi Bang Tam Dao, Thi Kieu Hanh Ta, Vinh Cao Tran, Van Hieu Nguyen, Sang Sub Kim, Shinya Maenosono and Bach Thang Phan**,** *Different Directions of Switching of Chromium Oxide Thin Films,* Journal of Electronic Materials, **43**, 7, 2747-2753 (**2014**).
4. Thi Bang Tam Dao, **Kim Ngoc Pham**, Yi-Lung Cheng, Sang Sub Kim, Bach Thang Phan, *Correlation between crystallinity and resistive switching behavior of sputtered WO_3 thin films,* Current Applied Physics*,* **14**, 1707 (**2014**).
5. **Kim Ngoc Pham,** Minsu Choi, Cao Vinh Tran, Trung Do Nguyen, Van Hieu Le, Taekjib Choi, Jaichain Lee, and Bach Thang Phan, *Resistive switching effect in chromium oxide thin films probed by conductive atomic force microscopy*, Journal of Electronic Materials. 44, 10, 3395 (**2015**).
6. Thi Kieu Hanh Ta, Bang Tam Thi Dao, **Kim Ngoc Pham**, Dai Lam Tran and Bach Thang Phan, *Understanding electrical conductions in WO3 thin films applied for resistive random access memory*, Journal of Electronic Materials, 45,5, 2423 (**2016**).
7. **Kim Ngoc Pham**, Van Dung Hoang, Cao Vinh Tran and Bach Thang Phan, *TiO_2 thin film based transparent flexible resistive switching random access memory*, Journal of Adv. Nat. Sci.: Nanosci. Nanotechnol, 7, 015017 (**2016**).
8. **Ngoc Kim Pham,** Kieu Hanh Thi Ta, Thi Lien Thuong Nguyen, Vinh Cao Tran, and Bach Thang Phan, *Surface mapping of resistive switching CrOx thin films*, Advances in Materials Physics and Chemistry, Non ISI, DOI: 10.4236/ampc.2016.63003, Vol 3, 3, March (**2016**).
9. Hong Nhat Nguyen Tran, Huu Truong Nguyen, Yi-ren Liu, Masoud Aminzare, Thanh Tuan Anh Pham, Sunglae Cho, Deniz P. Wong, Kuei-Hsien Chen, Tosawat Seetawan, **Ngoc Kim Pham**, Hanh Kieu Thi Ta, Vinh Cao Tran and Bach Thang Phan**,** *Thermoelectric properties of Indium and Gallium dually-doped ZnO thin films,* ACS Appl. Mater. Interfaces*,* 8 (49), 33916–33923 (**2016**).
10. **Ngoc Kim Pham,** Kieu Hanh Thi Ta, Vinh Cao Tran, Van Hieu Le, Bao Thu Le Nguyen, HeongKyu Ju, Tosawat Seetawan and Bach Thang Phan**,** *Effect of post–annealing processes on filamentary–based resistive switching mechanism of chromium oxide thin films,* Journal of Electronic Materials, Accepted (**2017**).
11. Thi Kieu Hanh Ta, Thi Nhu Hoa Tran, Quang Minh Nhat Tran, Duy Phong Pham, **Kim Ngoc Pham,** Thi Thanh Cao, Yong Soo Kim, Dai Lam Tran, Heongkyu Ju, and Bach Thang Phan**,** *Surface Functionalization of WO_3 Thin Films with (3-aminopropyl)triethoxysilane and succinic anhydride applied in memristor biosensor,* Under review (**2017**).