



Phuoc Quang PHI

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Date of birth	03 May 1988
Nationality	Vietnam

Education

2015-2018: Master Degree in Ulsan University and Chung-Ang University.

2014-2015: Intensive German Language studying.

2006-2014: Engineering Degree in Advanced Materials from “Programme de Formation d’Ingénieur d’Excellence au Vietnam (PFIEV)”, Bach Khoa University.

Languages

FLUENT	INTERMEDIATE	LEARNING
English: IELTS 7.5	French	Korean
Vietnamese	German	Japanese

Computational skills

_Linux: Compiling and setting up open source packages from source code.

_Large-scale Atomic/Molecular Massively Parallel Simulator (LAMMPS) and OCTA Multiscale Simulation Package.

_Programming: Python, C++, Fortran.

Research experience

1. Build and test MnO₂ electrode for supercapacitor.
2. Build high quality symmetric tilt grain boundary of f.c.c metals and silicon.
3. Extend LAMMPS with python for all-atom mixed-mode crack simulation.
4. Coarse-grained simulation of polymer brushes system using Dissipative Particle Dynamics.

Publications (In preparations)

1. Applications of Conservation Integrals to Atomic Mixed-Mode Fracture of Grain Boundaries in Crystalline Solids.
2. Tribological behaviors of Polymer-brushes (Details will be disclosed after publishing)

Hobbies:

Hiking, football, studying languages and literature.

Dear Sir/Madam,

I would like to express my desire to join TMA Solution as R&D engineer.

During my two and a half years in Korea, I have been exposed very early to research and academic writing thanks to the encouragement of my Advisor, Professor Choi Seung Tae. Although I had been trained in experimental methods during my undergraduate period, my main job here is to develop home-made codes for MD simulation. My research topics were completely new to me, but because of that, I have discovered my passion for programming and algorithms and learned valuable lessons about how to be a successful researcher.

The first lesson is being brave to do new thing, not letting myself be intimidated by jargons. I found that it's much more efficient to focus on the problem and learn relevant skills than to be an expert in everything. Finding out what expertise is required and how to obtain it is a better strategy than to study for the sake of perfection.

The second lesson is putting an interesting question and not to get lost in the literature. "Finding the gap in literature" is the first advice in every book on academic writing. But how to navigate through the endless ocean of publications? I always feel thankful for the citation network. It allows beginner researcher to have a big picture of the field and know where to "aim and shoot".

The third lesson is the hiker's attitude to research. Hiking is arduous and straining but a hiker will keep going, step by step until he gets "up there". Experiments or simulations, researchers may need to hike thousands of small steps and be trialed with daunting failures until he finds something valuable.

One of important tasks I have accomplished is to extend the LAMMPS simulation package with Python for crack simulation. This was a risky move as I was a novice in programing and most of our codes were in Fortran and no one can assist me with the new programming language. But for future, Python is indispensable. After several months of building and testing, the package was finished and used to obtain accurate results in our simulations of fracture in metals. After that, I was encouraged to do simulation with polymers which is also a completely new research area in our lab. Through literature survey and learning the key aspects of such simulation, I developed my own code for simulation of the tribological behavior of polymer brushes and nanoparticle. The results are used for my master thesis and will be further developed for publications.

Apart from my research topics, I enjoy exploring data structures, parallel programming framework (MPI) and machine learning in preparation for their future use. However, I have to wait for an opportunity in the future to dedicate more time to them and apply them more thoroughly.

I believe that the lessons I have learned and applied myself can be applied again and again in the future to overcome challenges no matter what the research field is.

Thank you for your time and consideration.

Sincerely,

Phi Quang Phuoc.