



Curriculum Vitae

Chidong Kong

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AFFILIATION

Ph.D. candidate
Computational Reactor Physics and Experiment Laboratory (CORE)
Department of Nuclear Engineering
Ulsan National Institute of Science and Technology (UNIST)
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EDUCATION

- **Bachelor of Engineering**
 - UNIST (2010.03 ~ 2013.08, 3.5 years)
 - Major: Nuclear Science and Engineering

WORK EXPERIENCE

- **UNIST CORE, Ph.D. Candidate (2013.09 ~ Current)**
 - Characteristics analysis of single-crystal diamond detector
 - Gamma transport implementation in MCS Monte Carlo code
 - Characteristics analysis of self-powered neutron detector (SPND)
 - Accuracy improvement of boronometer
 - Application and improvement of noise analysis method
- **EPFL, Switzerland (2018.06 ~ 2018.08)**
 - Modeling, analysis and experiment on EPFL's research reactor CROCUS
- **OECD/NEA, France (2016.08 ~ 2017.01)**
 - Literature survey and review of back-end fuel cycle policies in the world

RESEARCH INTEREST

- Response analysis of neutron/gamma detectors
- Neutron detector signal processing
- Subcriticality estimation using noise analysis methods

CERTIFICATE

- **Award and Scholarship**
 - KNS NET impact factor – Bronze prize, Korean Nuclear Society (October 2015)
 - KNS excellent poster prize, Korean Nuclear Society (October 2015)
- **Membership**
 - Student member, Korean Nuclear Society
- **Training (International)**
 - FJOH summer school (Aix-en-Provence, France, 2018)

- KUCA research reactor experiment (Osaka, Japan, 2017)
- MeV summer school (Idaho, USA, 2014)
- Nuclear fuel cycle education (Tohoku, Japan, 2014)
- KUCA research reactor experiment (Osaka, Japan, 2013)
- Korea-Japan joint summer school (Osaka, Japan, 2012)

■ **Training (Domestic)**

- Visual MCNP6 editor workshop (Daejeon, 2015)
- Long-life in-core instrumentation workshop (Daejeon, 2015)
- Nuclear design education, KAERI (Daejeon, 2015)
- Spent fuel criticality analysis education, KHNP CRI (Daejeon, 2015)
- Simulator education, KAERI (Daejeon, 2015)
- McCARD developer training course (Seoul, 2015)
- Monte Carlo theory and MCNP user training (Seoul, 2014)
- MCNP6 workshop, KAERI NTC (Daejeon, 2014)
- Nuclear design education, KHNP CRI (Daejeon, 2014)
- McCARD user training course (Seoul, 2013)
- Practical shell programming for system administrator, Samsung SDS (Seoul, 2013)
- Signal processing with MATLAB, MathWorks Training Services (Seoul, 2013)
- Whole core transport analysis seminar, KAERI (Muju, 2013)

**ENGLISH
CERTIFICATION**

TOEIC 810

CITATION

- H-index: 2 (Scopus)
- Total citations: 13 (Scopus)

PUBLICATION

■ **SCI journal (7 papers published; 1 paper under review)**

1. **Chidong Kong**, Jiwon Choe, Seongpil Yum, Jaerim Jang, Woonghee Lee, Hanjoo Kim, Wonkyeong Kim, Nguyen Hoang Nhat Khang, Nguyen Dong Cao Tung, Vutheam Dos, Deokjung Lee*, Ho Cheol Shin, Masao Yamanaka, and Cheol Ho Pyeon, "Application of Advanced Rossi-alpha Technique to Reactivity Measurements at Kyoto University Critical Assembly," *Ann. Nucl. Energy*, Vol. 118, pp. 92-98 (2018).
2. **Chidong Kong**, Ho Cheol Shin, and Deokjung Lee*, "Lifetime Extension of In-Core Self-Powered Neutron Detector Using New Emitter Materials," *Int. J. Energ. Res.*, Vol. 41, pp. 2405-2412 (2017).
3. **Chidong Kong**, Hyunsuk Lee, Taewoo Tak, Si Hwan Kim, Seokjean Lyou, Deokjung Lee*, "Accuracy Improvement of Boron Meter Adopting New Fitting Function and Multi-detector," *Nucl. Eng. Technol.*, Vol. 48, pp. 1360-1367 (2016).
4. **Chidong Kong**, Eunki Lee, Deokjung Lee*, "Stability Improvement of Noise Analysis Method in the case of Random Noise Contamination for Subcriticality Measurements," *Ann. Nucl. Energy*, Vol. 71, pp. 245-253 (2014).
5. Peng Zhang, Hyunsuk Lee, **Chidong Kong**, Jiwon Choe, Jiankai Yu, Farrokh Khoshahval, and Deokjung Lee*, "New Preprocessing Method for Generalized

Eigenvalue Problem of Monte Carlo Modified Power Method,” *Computer Methods in Applied Mechanics and Engineering*, under review (2018).

6. Matthieu Lemaire, Hyunsuk Lee, Bamidele Ebiwonjumi, **Chidong Kong**, Wonkyeong Kim, Yunki Jo, Jinsu Park, Deokjung Lee*, “Verification of Photon Transport Capability of UNIST Monte Carlo Code MCS,” *Comput. Phys. Commun.*, accepted for publication (2018).
7. Yunki Jo, **Chidong Kong**, Jiankai Yu, Sihwan Kim, and Deokjung Lee*, “High Accuracy Boronometer Design Developed for Light Water Reactors,” *Ann. Nucl. Energy*, Vol. 110, pp. 25-30 (2017).
8. Sooyoung Choi, **Chidong Kong**, Deokjung Lee*, Mark Williams, “A New Equivalence Theory Method for Treating Doubly Heterogeneous Fuel – II: Verifications,” *Nucl. Sci. Eng.*, Vol. 180, pp. 41-57 (2015).

■ **International and Domestic Conference (33 papers)**

1. **Chidong Kong**, Chang Keun Jo, Deokjung Lee*, “Implementation of Iterative Resonance Integral Table and Subgroup Methods in STREAM for High Temperature Reactor Analysis,” *KNS Spring Meeting*, Jeju, Korea, May 16-18 (2018).
2. **Chidong Kong**, Hyunsuk Lee, Matthieu Lemaire, Wonkyeong Kim, Yunki Jo, Jinsu Park, Jiwon Choe, Bamidele Ebiwonjumi, Deokjung Lee*, “Introduction to UNIST Spent Nuclear Fuel Transportation Package Analysis Code System,” *RPHA17*, Chengdu, China, August 24-25 (2017).
3. **Chidong Kong**, Hyunsuk Lee, Si Hwan Kim, Seokjean Lyou, and Deokjung Lee*, “Development of High Accuracy Boron Meter,” *International Conference on Advanced Technology Innovation 2016 (ICATI 2016)*, Bali, Indonesia, June 30 – July 3 (2016).
4. **Chidong Kong**, Hyunsuk Lee, Ho Cheol Shin, Kyoon-Ho Cha, Deokjung Lee*, “Feasibility Study of Silver as Emitter of In-core Neutron Detector,” *KNS Spring Meeting*, Jeju, Korea, May 11-13 (2016).
5. **Chidong Kong**, Hyunsuk Lee, Si Hwan Kim, Seokjean Lyou, Deokjung Lee*, “Optimization of Boron Meter Model,” *ICAPP2016*, Sun Valley, ID, USA, April 17-20 (2016).
6. **Chidong Kong**, Hyunsuk Lee, Si Hwan Kim, Seokjean Lyou, Deokjung Lee*, “Sensitivity Evaluation of Boron Meter Model,” *KNS Fall Meeting*, Gyeongju, Korea, October 29-30 (2015).
7. **Chidong Kong**, Hyunsuk Lee, Si Hwan Kim, Seokjean Lyou, Deokjung Lee*, “Application of Rational Function for Accuracy Improvement of Boron Meter Model,” *RPHA15*, Jeju, Korea, September 16-18 (2015).
8. **Chidong Kong**, Jiwon Choe, Ho Cheol Shin, Deokjung Lee*, “Impact of Isotope Separation on Burnable Absorber Performance,” *ANS Annual Meeting*, San Antonio, TX, USA, June 7-11 (2015).
9. **Chidong Kong**, Jiwon Choe, Deokjung Lee*, Ho Cheol Shin, “Isotope Separation Effect of Burnable Absorber for Long-cycle Boron-free Reactor Core,” *KNS Spring Meeting*, Jeju, Korea, May 6-8 (2015).
10. **Chidong Kong**, Sooyoung Choi, Minyong Park, Deokjung Lee*, “Application of

- Nuclear Power Plant Simulator for High School Student Training,” *KNS Fall Meeting*, Pyeongchang, Korea, October 30-31 (2014).
11. **Chidong Kong**, Sooyoung Choi, Deokjung Lee*, “Deterministic Lattice Code Development at UNIST,” *PHYSOR2014*, Kyoto, Japan, September 28-October 3 (2014).
 12. **Chidong Kong**, Sooyoung Choi, Deokjung Lee, “Method of Characteristics Code Development at UNIST,” *ANS Annual Meeting*, Reno, NV, USA, June 15-19 (2014).
 13. **Chidong Kong**, Deokjung Lee*, “STREAM Solutions for the Two-Dimensional C5G7 MOX Benchmark Problem,” *KNS Spring Meeting*, Jeju, Korea, May 28-30 (2014).
 14. **Chidong Kong**, Deokjung Lee*, “TICTOC Solutions for the Two-Dimensional C5G7 MOX Benchmark Problem,” *PHYTRA3*, Tetouan, Morocco, May 11-14 (2014).
 15. **Chidong Kong**, Euniki Lee, Deokjung Lee*, “Incorporation of Random Noise into Rossi-alpha Technique,” *ANS Winter Meeting*, Washington D.C., USA, November 10-15 (2013).
 16. **Chidong Kong**, Euniki Lee, Deokjung Lee*, “Performance Evaluation of Power Spectral Density Method for Subcriticality Monitoring of Model Reactor Problem,” *KNS Spring Meeting*, Gwangju, Korea, May 30-31 (2013).
 17. **Chidong Kong**, Euniki Lee, Deokjung Lee*, “Feasibility Study of Noise Analysis Methods on Virtual Thermal Reactor Subcriticality Monitoring,” *M&C2013*, Sun Valley, ID, USA, May 5-9 (2013).
 18. **Chidong Kong**, Euniki Lee, Deokjung Lee*, “Feasibility Study on Continuous Monitoring of Subcriticality by Noise Analysis Methods,” *ICAPP2013*, Jeju, Korea, April 14-18 (2013).
 19. **Chidong Kong**, Euniki Lee, Deokjung Lee*, “Feasibility Study of Recriticality Monitoring by Noise Analysis Method,” *KNS Spring Meeting*, Jeju, Korea, May 17-18 (2012).
 20. Junkyung Jang, **Chidong Kong**, Seunggu Kang, Ho Cheol Shin, Hyun Chul Lee*, “Sensitivity Analysis of SPNDs by Neutron Spectrum Using Monte Carlo Method,” *KNS Spring Meeting*, Jeju, Korea, May 16-18 (2018).
 21. Matthieu Lemaire, Hyunsuk Lee, Bamidele Ebiwonjumi, **Chidong Kong**, Wonkyeong Kim, Yunki Jo, Jinsu Park, Deokjung Lee*, “Development of Photon-Transport Capability in UNIST Monte Carlo Code MCS,” *PHYSOR 2018*, Cancun, Mexico, April 22-26 (2018).
 22. Matthieu Lemaire, Hyunsuk Lee, Bamidele Ebiwonjumi, **Chidong Kong**, Wonkyeong Kim, Yunki Jo, Jinsu Park, Deokjung Lee*, “Recent Work on Photon Transport with UNIST Monte Carlo Code MCS,” *RPHA17*, Chengdu, China, August 24-25 (2017).
 23. Sooyoung Choi, Minyong Park, Youzi Zheng, **Chidong Kong**, Jiwon Choe, Hanjoo Kim, Kiho Kim, Ho Cheol Shin, and Deokjung Lee*, “Development Status of Reactor Physics Code Suite in UNIST,” *Croatian Nuclear Society*, Zadar, Croatia, June 5-8 (2016).
 24. Jiwon Choe, **Chidong Kong**, Sooyoung Choi, Minyong Park, Deokjung Lee*, Ho Cheol Shin, “Preliminary Analysis of New Secondary Shutdown System of Small Modular Pressurized Water Reactor,” *RPHA15*, Jeju, Korea, September 16-18 (2015).

25. Ho Cheol Shin, Jiwon Choe, **Chidong Kong**, Deokjung Lee*, “New Burnable Absorber Design with ¹⁵⁷Gd and ¹⁶⁷Er for PWRs,” *ICAPP2015*, Nice, France, May 3-6 (2015).
26. Minyong Park, **Chidong Kong**, Sooyoung Choi, Deokjung Lee*, Ho Cheol Shin, “Application of Macro-Micro Simulator for High School Student Training,” *Conference on Nuclear Training and Education 2015*, Jacksonville, FL, USA, February 1-4 (2015).
27. Sooyoung Choi, **Chidong Kong**, Azamat Khassenov, Deokjung Lee*, “Methodology and Verification of Neutron Transport Code STREAM for Analysis of Innovative Reactor Core Design,” *International Symposium on NPP Technology and HRD*, Busan, Korea, November (2014).
28. Jiwon Choe, **Chidong Kong**, Deokjung Lee*, Hocheol Shin, “Enriched Burnable Absorbers in PWR Fuel Assembly,” *KNS Fall Meeting*, Pyeongchang, Korea, October 30-31 (2014).
29. Hyunsuk Lee, **Chidong Kong**, Deokjung Lee*, “Status of Monte Carlo Code Development at UNIST,” *PHYSOR2014*, Kyoto, Japan, September 28-October 3 (2014).
30. Hyunsuk Lee, **Chidong Kong**, Deokjung Lee*, “A New Monte Carlo Neutron Transport Code at UNIST,” *KNS Spring Meeting*, Jeju, Korea, May 28-30 (2014).
31. Taewoo Tak, **Chidong Kong**, Jiwon Choe, and Deokjung Lee*, “Reflector Performance Study in Ultra-long Cycle Fast Reactor,” *KNS Fall Meeting*, Kyeongju, Korea, October 23-25 (2013).
32. Sooyoung Choi, **Chidong Kong**, and Deokjung Lee*, “Status of Deterministic Transport Code Development at UNIST,” *KNS Fall Meeting*, Kyeongju, Korea, October 23-25 (2013).
33. Hyunsuk Lee, **Chidong Kong**, Sooyoung Choi, Deokjung Lee*, “Hybrid Method of MOC and MC for Efficient Continuous Energy Neutron Transport Analysis,” *ANS Annual Meeting*, Atlanta, GA, USA, June 16-20 (2013).

INTELLECTUAL PROPERTY

■ Program registered (8 computer codes)

1. Deokjung Lee, Peng Zhang Matthieu Lemaire, Jiankai Yu, Sooyoung Choi, Hyunsuk Lee, **Chidong Kong**, Jiwon Choe, Hanjoo Kim, Bamidele Ebiwonjumi, Wonkyeong Kim, Jinsu Park, Yunki Jo, Kiho Kim, Jaerim Jang, Tung Dong Cao Nguyen, Khang Hoang Nhat Nguyen, Woonghee Lee, Tuan Quoc Tran, Yongmin Jo, Sanggeol Jeong, Eun Jeong, Khassenov Azamat, Vutheam Dos, “XSLINK-Fuel Assembly XS Processing,” C-2018-008346, Korea Copyrights Commission (2018).
2. Deokjung Lee, Peng Zhang, Matthieu Lemaire, Jiankai Yu, Sooyoung Choi, Hyunsuk Lee, **Chidong Kong**, Jiwon Choe, Hanjoo Kim, Bamidele Ebiwonjumi, Wonkyeong Kim, Jinsu Park, Yunki Jo, Kiho Kim, Jaerim Jang, Tung Dong Cao Nguyen, Khang Hoang Nhat Nguyen, Woonghee Lee, Tuan Quoc Tran, Yongmin Jo, Sanggeol Jeong, Eun Jeong, Khassenov Azamat, Vutheam Dos, “MCS-Depletion Calculation,” C-2018-008347, Korea Copyrights Commission (2018).
3. Deokjung Lee, Peng Zhang, Matthieu Lemaire, Jiankai Yu, Sooyoung Choi, Hyunsuk Lee, **Chidong Kong**, Jiwon Choe, Hanjoo Kim, Bamidele Ebiwonjumi, Wonkyeong

- Kim, Jinsu Park, Yunki Jo, Kiho Kim, Jaerim Jang, Tung Dong Cao Nguyen, Khang Hoang Nhat Nguyen, Woonghee Lee, Tuan Quoc Tran, Yongmin Jo, Sanggeol Jeong, Eun Jeong, Khassenov Azamat, Vutheam Dos, “MCS-Multigroup Transport,” C-2018-008345, Korea Copyrights Commission (2018).
4. Deokjung Lee, Peng Zhang, Matthieu Lemaire, Jiankai Yu, Sooyoung Choi, Hyunsuk Lee, **Chidong Kong**, Jiwon Choe, Hanjoo Kim, Bamidele Ebiwonjumi, Wonkyeong Kim, Jinsu Park, Yunki Jo, Kiho Kim, Jaerim Jang, Tung Dong Cao Nguyen, Khang Hoang Nhat Nguyen, Woonghee Lee, Tuan Quoc Tran, Yongmin Jo, Sanggeol Jeong, Eun Jeong, Khassenov Azamat, Vutheam Dos, “MCS-Photon Transport,” C-2018-008350, Korea Copyrights Commission (2018).
 5. Deokjung Lee, Peng Zhang, Matthieu Lemaire, Jiankai Yu, Sooyoung Choi, Hyunsuk Lee, **Chidong Kong**, Jiwon Choe, Hanjoo Kim, Bamidele Ebiwonjumi, Wonkyeong Kim, Jinsu Park, Yunki Jo, Kiho Kim, Jaerim Jang, Tung Dong Cao Nguyen, Khang Hoang Nhat Nguyen, Woonghee Lee, Tuan Quoc Tran, Yongmin Jo, Sanggeol Jeong, Eun Jeong, Khassenov Azamat, Vutheam Dos, “MCS-VHTR calculation,” C-2018-008344, Korea Copyrights Commission (2018).
 6. Deokjung Lee, Peng Zhang, Matthieu Lemaire, Jiankai Yu, Sooyoung Choi, Hyunsuk Lee, **Chidong Kong**, Jiwon Choe, Hanjoo Kim, Bamidele Ebiwonjumi, Wonkyeong Kim, Jinsu Park, Yunki Jo, Kiho Kim, Jaerim Jang, Tung Dong Cao Nguyen, Khang Hoang Nhat Nguyen, Woonghee Lee, Tuan Quoc Tran, Yongmin Jo, Sanggeol Jeong, Eun Jeong, Khassenov Azamat, Vutheam Dos, “MCS-PWR calculation,” C-2018-008348, Korea Copyrights Commission (2018).
 7. Deokjung Lee, Peng Zhang, Matthieu Lemaire, Jiankai Yu, Sooyoung Choi, Hyunsuk Lee, **Chidong Kong**, Jiwon Choe, Hanjoo Kim, Bamidele Ebiwonjumi, Wonkyeong Kim, Jinsu Park, Yunki Jo, Kiho Kim, Jaerim Jang, Tung Dong Cao Nguyen, Khang Hoang Nhat Nguyen, Woonghee Lee, Tuan Quoc Tran, Yongmin Jo, Sanggeol Jeong, Eun Jeong, Khassenov Azamat, Vutheam Dos, “MCS-Time-dependent Simulation,” C-2018-008349, Korea Copyrights Commission (2018).
 8. Deokjung Lee, Peng Zhang, Matthieu Lemaire, Jiankai Yu, Sooyoung Choi, Hyunsuk Lee, **Chidong Kong**, Jiwon Choe, Hanjoo Kim, Bamidele Ebiwonjumi, Wonkyeong Kim, Jinsu Park, Yunki Jo, Kiho Kim, Jaerim Jang, Tung Dong Cao Nguyen, Khang Hoang Nhat Nguyen, Woonghee Lee, Tuan Quoc Tran, Yongmin Jo, Sanggeol Jeong, Eun Jeong, Khassenov Azamat, Vutheam Dos, “U-SNF,” C-2018-008343, Korea Copyrights Commission (2018).