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半井 健一郎
広島大学大学院先進理工系科学研究科　教授
社会基盤環境工学プログラム　土木構造工学研究室

Kenichiro NAKARAI
Professor, Civil and Environmental Engineering Program,
Graduate School of Advanced Science and Engineering, Hiroshima University
Address: 1-4-1, Kagamiyama, Higashi-Hiroshima, Hiroshima, 739-8527, Japan
Telephone: +81-82-424-7531
E-mail: nakarai@hiroshima-u.ac.jp

Education:

1996.4-2000.3: Department of Civil Engineering, School of Engineering, The University of Tokyo
2000.3: Bachelor of Engineering.
Thesis: "Tensile strength of blast furnace slag mortar and its developing mechanism" supervised by Prof. Toshiharu Kishi

2000.4-2002.3: Master's course, Department of Civil Engineering, Graduate School of Engineering, The University of Tokyo
2002.3: Master of Engineering.
Thesis: "Seismic stability of Pre-Loaded Pre-Stressed reinforced soil structure" supervised by Prof. Fumio Tatsuoka

2002.4-2002.10: Doctor's course, Department of Civil Engineering, Graduate School of Engineering, The University of Tokyo (withdrawal)
2005.9: Doctor of Engineering.
Thesis: "Multi chemo-physical modeling of coupled cementitious composites and geomaterials" supervised by Prof. Koichi Maekawa

Work experience:

2002.4-2002.9: Teaching Assistant, Department of Civil Engineering, The University of Tokyo
2002.4-2002.10: Research Assistant, Department of Civil Engineering, The University of Tokyo
2002.10-2006.8: Assistant Professor, The University of Tokyo
2006.8-2012.3: Associate Professor, Gunma University
2012.4-2018.3: Associate Professor, Hiroshima University
2018.4-present: Professor, Hiroshima University

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Research area:

Concrete Engineering (material durability and structural performance), Geotechnical Engineering (ground improvement), Nuclear Waste Management (engineered barrier)

Organization Membership:

Japan Society of Civil Engineers (JSCE)
Japan Concrete Institute (JCI)
Japan Geotechnical Society (JGS)
Atomic Energy Society of Japan (AESJ)
International Union of Laboratories and Experts in Construction Materials, Systems and Structures (RILEM)

Awards:

2003.11, Best Presentation Award, Japan Society of Civil Engineers
2004.10, Best Presentation Award, Japan Society of Civil Engineers
2004.05, Yoshida Young Researcher Award, Japan Society of Civil Engineers
2005.06, Best Paper Award, Japan Concrete Institute
2005.07, Best Presentation Award, Japan Cement Association
2005.07, Best Presentation Award, Japanese Geotechnical Society
2005.12, Best Presentation Award, Japan Society of Civil Engineers
2006.05, Best Paper Award for Young Researcher, Japan Society of Civil Engineers
2007.05, Best Paper Award for Young Researcher, Japan Concrete Institute
2007.06, Maeda Engineering Award, Maeda Engineering Foundation

2008.05, Best Paper Award for Young Researcher, Japan Geotechnical Engineering
2008.12, Best Presentation Award, Japan Society of Civil Engineers
2009.04, The Young Scientists' Prize, The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology, Ministry of Education, Culture, Sports, Science and Technology
2009.05, Best Teacher Award, Gunma University
2010.02, Yokoyama Science and Technology Award, Yokoyama Science and Technology Award Committee
2010.07, Best Paper Award, Japan Concrete Institute
2011.07, Best Presentation Award, Japan Cement Association
2015.05, Best Paper Award, Japan Cement Association
2015.12, Best Presentation Award, Japan Society of Civil Engineers
2019.07, Paper Selected for Journal, SCMT5
2020.08, Best Paper, ConMat '20
2021.11, Best Teacher Award, Hiroshima University

Publications:

Peer-Reviewed Journal Papers: 117 papers
International Conference/Symposium Papers 84 papers

Representative Peer-Reviewed Papers:
1. Nakarai, K., Ishida, T. and Maekawa, K., **Modeling of Calcium Leaching from Cement Hydrates Coupled with Micro-Pore Formation**, Journal of Advanced Concrete Technology, Vol.4, No.3, pp.395-407, 2006.
2. Nakarai, K., Ishida, T. and Maekawa, K., **Multi-scale Physicochemical Modeling of Soil-Cementitious Material Interaction**, Soils and Foundations, Vol.46, No.5, pp.653-663, 2006.
3. Kenichiro Nakarai, Shigemitsu Morito, Masaki Ehara, and Shota Matsushita: **Shear strength of reinforced concrete beams: concrete volumetric change effects**, Journal of Advanced Concrete Technology, Vol.14, pp.229-244, 2016.
4. Kenichiro Nakarai, Ryoichi Sato, Yuko Ogawa, Kenji Kawai: **Shear strength of reinforced limestone aggregate concrete beams**, ACI Structural Journal, Vol. 114, Issue: 4, pp.1007-1017, 2017.
5. Halwan Alfisa Saifullah, Kenichiro Nakarai, Van Piseth, Nobuhiro Chijiwa, Koichi Maekawa: **Shear creep failures of RC slender beams without shear reinforcement**, ACI Structural Journal, Vol.114, No.6, pp.1581-1590, 2017.
6. Lanh Si Ho, Kenichiro Nakarai, Yuko Ogawa, Takashi Sasaki, Minoru Morioka: **Strength development of cement-treated soils: Effects of water content, carbonation, and pozzolanic reaction under drying curing condition**, Construction and Building Materials, Vol.134, pp.703-712, 2017.
7. Nakarai, K., Shitama, K., Nishio, S., Sakai, Y., Ueda, H., and Kishi, T., **Long-term permeability measurements on site-cast concrete box culverts**. Construction and Building Materials, 198: pp. 777-785, 2019.
8. Hoang Viet Nguyen, Kenichiro Nakarai, Akeru Okazaki, Hideaki Karasawa, Yuji Tadokoro, and Masato Tsujino: **Applicability of a simplified estimation method to steam-cured expansive concrete**, Cement and Concrete Composites, Vol.95, pp. 217-227, 2019.
9. May Huu Nguyen, Kenichiro Nakarai, and Sohei Nishio: **Durability index for quality classification of cover concrete based on water intentional spraying tests**, Cement and Concrete Composites, Vol.104, 103355, 2019.
10. Kenichiro Nakarai, Masahito Shibata, Hiroyuki Sakamoto, Hitoshi Owada and Georg Kosakowski, **Calcite precipitation at cement–bentonite interface. Part 1: Effect of carbonate admixture in bentonite**, Journal of Advanced Concrete Technology, Vol.19, No.5, 433-446, 2021.