CURRICULUM VITAE

Associate Professor Dr. Natt Makul

1. Personal Information

Name: Natt Family name: Makul Gent: Male
Race: Thai Nationality: Thai Date of birth: 7 September 1977

2. Education Profile

Degree	Major	Institute	Year of Graduation
B. Eng.	Civil Engineering	Thammasat University	2000
M. Eng.	Structural Engineering (TRF Grant)	Thammasat University	2005
Ph.D.	Civil Engineering (RGJ-TRF Grant)	Thammasat University	2010

3. Field of Interest

- Microwave Heating in cement-based materials;
- Utilization of waste materials (Fly Ash, Rice Husk Ash, Limestone Powder, Steel Powder, Foundry Sand, Dry Powder Sludge Ash etc.) as concrete materials ;
- Behaviors of Portland cement-based materials;
- Microstructure characteristics of concretes
- Special testing and analysis of concretes

4. Professional Activities

- International committee, American Society for Testing and Materials (ASTM)
- Member, American Concrete Institute (ACI)
- Member, Thai Concrete Association
- Member, Council of Engineering

5. Work Experience

1. Lecturer: Special lecturer (Statics, Solid mechanics, Structure analysis)
   Phranakhon Rajabhat University (2004-2005)
2. Quality control and assurance engineer
   Asia Cement Products Co.,Ltd. (3 years)
3. Research assistant
   Materials research Institute, The Pennsylvania State University (7 months)
4. Consultant
   Civil serv Engineering and consultant Co, Ltd. (2008)
   Sihaseikai Tech Co, Ltd. (2009)
5. Lecturer: Phranakhon Rajabhat University (2010-present)

6. Consultant: Kaennakorn Concrete (2001) Co., Ltd. (2013-2017)
7. Assistant Professor (Building Technology) (2014-2018)
8. Associate Professor (Building Technology) (2018-present)

6. Research Activities

6.1 Grant and/or Funding

1. Mechanical Properties and Durability of Portland cement Containing Slag, Supplementary Curriculum Grant of Thammasat University, 2001. (Research Assistant).
2. Properties of Concrete Mixed with Recycling Water from Ready-Mixed Concrete Plant, Siam City Cement Company LTD., 2002. (Research Assistant).
3. Utilization of Wasted Sand from Engine Factory as A Concrete Component, The Thailand Research Fund; Contact No. RDG4650019, 2003. (Researcher).
4. The Use of Sludge Water from Ready - mixed Concrete Plant as Mixing Concrete, The Thailand Research Fund; Contact No. RDG4650032, 2003. (Researcher)
5. Development of Lightweight Masonry Cement Products, The Ministry of Energy; Contact No. 83/2547, 2004. (Researcher).
6. Utilization of Microwave Energy for Improving Mechanical Properties of Concrete, National Metal and Materials Technology Center, Thailand; 2004. (Researcher)
7. Development of Reactive Powder Concrete, The Thailand Research Fund; Contact No. RDG4850044, 2004. (Researcher)
8. The Royal Golden Jubilee PhD Program Contact No. PHD/0030/2549, 2006. (Research Student)
9. Research assistant partial fund From The Pennsylvania State University, 2009. (Research Assistant).
10. TRF-CHE Research Grant for New Scholar, Contact No. MRG5580041, 2012.
11. TRF Research Grant for New Researcher, Contact No. MRG5780255, 2014.
12. Tailor-made Recycled Aggregate Concrete (TRAC) is funded by the European Union's Horizon 2020 research and innovation programme under grant agreement Nº777823.

6.2 Research Articles

6.2.1 International Journal

1. Chatveera, B., Lertwattanaruk, P. & **Makul, N**. (2006). Effect of Sludge Water from Ready-mixed Concrete Plant on Properties and Durability of Concrete. Cement and Concrete Composites, Vol. 28, No. 5, Elsevier Ltd., England, 441-450. Impact Factor: 0.70
2. Rattanadecho, P., Suwannapum, N., Chatveera, B., Atong, D. & **Makul, N.** (2008). Development of Compressive Strength of Cement Paste under Accelerated Curing by Using A Continuous Microwave Thermal Processor. Materials Science and Engineering A, Vol. 472, Elsevier Ltd., England, 299-307. Impact factor 1.40
3. **Makul N.***, Chatveera B. & Rattanadecho P. (2008). Use of microwave energy for accelerated curing of concrete: a review. Songklanakarin J. Sci. Technol, Vol. 31 (1), Thailand. 1-13. Impact factor 1.0

*** Corresponding author**

4. **Natt Makul*** & Agrawal D.K. (2009). Microwave (2.45 GHz)-assisted rapid sintering of SiO_2-rich rice husk ash, Materials Letters, Impact Factor 1.743

*** Corresponding author**

5. **Makul N.** & Rattanadecho P. (2010). Microwave pre-curing of natural rubber-compounding using a rectangular wave guide, International Communications in Heat and Mass Transfer 2010, 914 - 923, Impact Factor 1.189.
6. **Makul N. ***, Keangin P., Rattanadecho P., Chatveera B., & Agrawal D.K. (2010). Microwave-assisted heating of cementitious materials: relative dielectric properties, mechanical property, and experimental and numerical heat transfer characteristics, International Communications in Heat and Mass Transfer 2010, 1096 - 1105, Impact Factor 1.189

*** Corresponding author**

7. **Makul N.***, Rattanadecho P. & Agrawal D.K. (2010). Microwave curing at an operating frequency of 2.45 GHz of Portland cement paste at early-stage using a multi-modes cavity: Experimental and numerical analysis on microstructural and heat transfer characteristics, International Communications in Heat and Mass Transfer, 1487-1495, Impact Factor 1.189

*** Corresponding author**

8. **Makul N.***, Rattanadecho P., Chatveera B., & Agrawal D.K. (2010). Microstructures and mechanical properties of Portland cement pastes at early age subjected to microwave accelerated-curing with a multi-mode cavity, Journal of ceramics processing research, 12(1), pp. 62-69, Impact Factor 0.402

*** Corresponding author**

9. **Makul N.*** & Agrawal D.K., (2011). Influences of microwave-accelerated curing procedures on microstructure and strength characterization of Type I-Portland cement pastes Journal of ceramics processing research, pp. 376-381, Impact Factor 0.402

*** Corresponding author**

10. **Makul N.*** & Agrawal D.K. (2011), "Microwave-accelerated curing of cement-based materials: compressive strength and maturity modeling," Key Engineering Materials, 484, 210-221, Impact Factor 0.224

*** Corresponding author**

11. **Makul N.*** & Agrawal D.K., (2012). Comparison of the microstructure and compressive strength of Type 1 Portland cement paste between accelerated curing methods by microwave energy and autoclaving, and a saturated-lime deionized water curing method, Journal of Ceramic Processing Research, 13(2),pp. 174-177, Impact Factor 0.481

*** Corresponding author**

12. Lertwattanaruk, P., **Makul, N.** & Siripattarapravat. C. (2012). Utilization of ground waste seashells in cement mortars for masonry and plastering, Journal of Environmental Management, Vol. 111, pp. 133-141. Impact Factor: 3.131

13. Sua-iam, G. & **Makul, N.*** (2013). Use of limestone powder during incorporation of Pb-containing cathode ray tube waste in self-compacting concrete, Journal of Environmental Management, Vol. 128, pp. 931-940. Impact Factor: 3.131

*** Corresponding author**

14. Sua-iam, G. & **Makul, N.*** (2013).Use of Unprocessed Rice Husk Ash and Pulverized Fuel Ash in the Production of Self-compacting Concrete, IERI Procedia, Vol. 5, pp. 298-303. Impact Factor: -

*** Corresponding author**

15. Sua-iam, G. & **Makul, N.*** (2013). Utilization of limestone powder to improve the properties of self-compacting concrete incorporating high volumes of untreated rice husk ash as fine aggregate, Construction and Building Materials, Vol. 38, pp. 455-464. Impact Factor 2.421.

*** Corresponding author**

16. Sua-iam, G. & **Makul, N.*** (2013). Use of recycled alumina as fine aggregate replacement in self-compacting concrete. Construction and Building Materials, Vol. 47, pp. 701-710. Impact Factor 2.421.

*** Corresponding author**

17. Sua-iam, G.& **Makul, N.*** (2013). Use of increasing amounts of bagasse ash waste to produce self-compacting concrete by adding limestone powder waste, Journal of Cleaner Production, Vol. 57, pp. 308-319. Impact Factor 4.959

*** Corresponding author**

18. Lairaksa, N., Moon, A. & **Makul N.*** (2013). Utilization of cathode ray tube waste: Encapsulation of PbO-containing funnel glass in Portland cement clinker, Journal of Environmental Management, Vol. 117, pp. 180-186. (Impact Factor: 3.131)

*** Corresponding author**

19. **Makul, N.*,** Rattanadecho, P. & Agrawal, D. (2014). Applications of microwave energy in cement and concrete – A review, Renewable & Sustainable Energy Reviews, Vol.37, pp. 715-733. Impact Factor 5.901

*** Corresponding author**

20. Sua-iam, G. & **Makul, N.* (**2014). Utilization of high volumes of unprocessed lignite-coal fly ash and rice husk ash in self-consolidating concrete, Journal of Cleaner Production, Vol. 78, pp. 184-194. Impact Factor 4.959

*** Corresponding author**

21. Sua-iam, G.& **Makul, N.*** (2015). Utilization of coal- and biomass-fired ash in the production of self-consolidating concrete: a literature review, Journal of Cleaner Production, Vol. 100, pp. 59-76. Impact Factor 4.959

*** Corresponding author**

22. Sua-iam, G.& **Makul, N.*** (2015). Rheological and mechanical properties of cement–fly ash self-consolidating concrete incorporating high volumes of alumina-based material as fine aggregate, Construction and Building Materials, Vol. 95, pp. 736-747. Impact Factor 2.421.

*** Corresponding author**

23. Sua-iam, G.& **Makul, N.*** (2016). Characteristics and utilization of sugarcane filter cake waste in the production of lightweight foamed concrete, Journal of Cleaner Production, Vol. 126, pp. 118-133. Impact Factor 4.959

*** Corresponding author**

24. Rattanadecho, P., **Makul, N.**, Pichaicherd, A., Chanamai C., Rungroungdouyboon B. (2016). A novel rapid microwave-thermal process for accelerated curing of concrete: Prototype design, optimal process and experimental investigations, Construction and Building Materials, Vol. 123, pp. 768-784. Impact Factor 2.421.

25. **Makul, N.*** (2016). Innovative hybrid curing method for accelerating the strength of high-performance cement paste using microwave heating coupling with low-pressure processing. Construction and Building Materials, Vol. 105, pp. 245-252. Impact Factor 2.421.

*** Corresponding author**

26. Sua-iam, G., Sokrai, P. & **Makul, N.*** (2017). Novel ternary blends of Type 1 Portland cement, residual rice husk ash, and limestone powder to improve the properties of self-compacting concrete, construction and Building Materials, Vol. 125, pp. 1028-1034. Impact Factor 2.421.

*** Corresponding author**

27. Sua-iam, G.& **Makul, N.*** (2017). Effect of incinerated sugarcane filter cake on the properties of self-compacting concrete, Construction and Building Materials, Vol. 130, pp. 32-40. Impact Factor 2.421.

*** Corresponding author**

28. Sua-iam, G.& **Makul, N.*** (2017). Incorporation of high-volume fly ash waste and high-volume recycled alumina waste in the production of self-consolidating concrete. Journal of Cleaner Production, Volume 159, 15 August 2017, Pages 194-206.

*** Corresponding author**

29. **N. Makul*,** P. Rattanadecho, A. Pichaicherd (2017). Accelerated microwave curing of concrete: A design and performance-related experiments. Cement and Concrete Composites, Volume 83, October 2017, Pages 415-426.

*** Corresponding author**

30. Gritsada Sua-Iam, **Natt Makul*** (2017). Effect of incinerated sugarcane filter cake on the properties of self-compacting concrete. Construction and Building Materials, Volume 130, 15 January 2017, Pages 32-40.

31. **Natt Makul***, Phadungsak Rattanadecho, Amphol Pichaicherd. (2017). Accelerated microwave curing of concrete: A design and performance-related experiments. Cement and Concrete Composites, Volume 83, October 2017, Pages 415-426.

32. Pusit Lertwattanaruk, Gritsada Sua-iam, **Natt Makul**. (2018). Effects of calcium carbonate powder on the fresh and hardened properties of self-consolidating concrete

incorporating untreated rice husk ash. Journal of Cleaner Production, Volume 172, 20 January 2018, Pages 3265-3278.

33. **Natt Makul***, Gritsada Sua-iam (2018). Effect of granular urea on the properties of self-consolidating concrete incorporating untreated rice husk ash: Flowability, compressive strength and temperature rise. Construction and Building Materials, Volume 162, Pages 489-502.

*** Corresponding author**

34. Natt Makul, Gritsada Sua-Iam* (2018). Innovative utilization of foundry sand waste obtained from the manufacture of automobile engine parts as a cement replacement material in concrete production. Journal of Cleaner Production, Volume 199, Pages 305-320.

*** Corresponding author**

35. **Natt Makul***, Prakasit Sokrai (2018). Influences of fine waste foundry sand from the automobile engine-part casting process and water-cementitious ratio on the properties of concrete: A new approach to use of a partial cement replacement material. Journal of Building Engineering, Volume 20, Pages 544-558.

*** Corresponding author**

36. **Natt Makul**, Somsak Vongpradubchai, Phadungsak Rattanadecho. 2018. An experimental study of microwave drying under low pressure to accelerate the curing of Portland cement pastes using a combined unsymmetrical double-fed microwave and vacuum system. International Journal of Heat and Mass Transfer, Volume 127, Part A, Pages 179-192.

37. **Natt Makul** and Gritsada Sua-Iam. (2018). Properties of Self-Consolidating Concrete with Rice Husk Ash and Calcium Carbonate Powder. ACI Materials Journal, V. 115, No. 5, September 2018. MS No. M-2017-268.R4, doi: 10.14359/51702344.

6.2.2 International Journal Reviewer

1. International Journal of Physical Sciences (2009-present)
   http://www.academicjournals.org/IJPS
2. Editorial team: Journal of Chemical Engineering and Materials Science
   http://www.academicjournals.org/jcems
3. Journal of Alloys and Compounds
   http://ees.elsevier.com/jalcom/
4. International of heat and mass transfer
   http://ees.elsevier.com/inthandmass/
5. Journal of Environmental Management
   http://ees.elsevier.com/jema/l.asp?i=216703&l=TQ1C5Z1V
6. Construction and Building Materials
   http://www.journals.elsevier.com/construction-and-building-materials/
7. Journal of Cleaner Production
   http://www.journals.elsevier.com/journal-of-cleaner-production/
8. Renewable & Sustainable Energy Reviews
   http://www.journals.elsevier.com/renewable-and-sustainable-energy-reviews/
9. Waste Management
   https://ees.elsevier.com/wm/
10. Journal of Microwave Power and Electromagnetic Energy
    http://tpee.edmgr.com/
11. Resources, Conservation & Recycling
    https://eeslive.elsevier.com/recycl/

6.2.3 National Journal

1. Chatveera, B. and **Makul, N.** (2001), Effect of Lignite Bottom Ash on Cement Paste Properties. Research and Development Journal of The Engineering Institute of Thailand, Vol. 12, No. 4, Bangkok, Thailand, 1-8.

2. Chatveera, B. and **Makul, N.** (2003), Durability of Fly Ash Cement Containing Limestone Powder. Research and Development Journal of The Engineering Institute of Thailand, Vol. 14, No. 3, Bangkok, Thailand, 8-16.

3. Chatveera, B. and **Makul, N.** (2004), Effect of Curing Temperature on Mechanical Properties of Cement Mixed with White Rice Husk Ash Paste. KMUTT Research and Development Journal, Vol. 27, No. 1, Bangkok, Thailand, 49-61.

4. Chatveera, B. and **Makul, N.** (2004), Mechanical Properties and Durability of Portland Cement Containing Ground Slag by Los Angeles Machine. KMUTT Research and Development Journal, Vol. 27, No. 2, Bangkok, Thailand, 157-174.

5. Chatveera, B., **Makul, N**. and Nuchprayool, N. (2004), Mechanical Properties of Concrete Containing Sludge Water from Ready-mixed Concrete Plant. Research and Development Journal of The Engineering Institute of Thailand, Vol. 15, No. 2, Bangkok, Thailand, 17-23.

6. Chatveera, B. and **Makul, N.** (2004), Effect of Very Fine Ground White RHA on Mechanical Properties of Concrete. Research and Development Journal of The Engineering Institute of Thailand, Vol. 15, No. 3, Bangkok, Thailand, 1-7.

7. Chatveera, B., **Makul, N.** and Ruxsadee, B. (2004) Use of Unground Rice Husk Ash in Concrete Block Production. KMUTT Research and Development Journal, Vol. 27, No. 4, Bangkok, Thailand, 483-496.

8. Chatveera, B. and **Makul, N.** (2004), Influence of PFA and Limestone Powder on Mechanical Properties of Concrete. Research and Development Journal of The Engineering Institute of Thailand, Vol. 15, No. 4, Bangkok, Thailand, 16-28.

9. Chatveera, B., Lertwattanaruk, P. and **Makul, N.** (2005) Effect of Sludge Water from Ready-mixed Concrete Plant on Properties and Durability of Concrete. Research and Development Journal of The Engineering Institute of Thailand, Vol. 16, No. 2, Bangkok, Thailand, 9-20.

10. **Makul, N**. and Chatveera, B. (2005) Influence of Foundry Sand Powder from Automobile Engine Casting on Properties of Ready-mixed Concrete. Research and Development Journal of The Engineering Institute of Thailand, Vol. 16, No. 4, Bangkok, Thailand, 1-10.

11. Chatveera, B., Ratanadecho, P., Atong, D., **Makul, N.** and Suwannapum, N. (2005) Development of Compressive Strength of Cement Paste with Microwave Energy by Using A Continuous Belt Furnace. Research and Development Journal of The Engineering Institute of Thailand, Vol. 16, No. 4, Bangkok, Thailand, 11-17.

12. Chatveera, B., **Makul, N.** and Rodanan, A. (2006) Durability of Cement Mortar Containing Black Rice Husk Ash under Sodium Sulfate and Magnesium Sulfate Attack. KMUTT Research and Development Journal, Vol. 29, No. 1, Bangkok, Thailand, 55-71.

13. **Makul, N.** and Chatveera, B. (2006) Effects of Foundry Sand Powder from Engine Parts Casting on Ready-mixed Concrete Properties. KMUTT Research and Development Journal, Vol. 29, No. 2, Bangkok, Thailand, 215-228.

14. Chatveera, B. and **Makul, N.** (2007) Effect of Diatomite on Properties of Lightweight Masonry. Research and Development Journal of The Engineering Institute of Thailand, Vol. 18, No. 1, Bangkok, Thailand, 1-7.

15. Chatveera, B. and **Makul, N.** (2007) Performance of Mortar Cement Containing Black Rice Husk Ash upon Nitric and Acetic Acids Corrosion. Research and Development Journal of The Engineering Institute of Thailand, Vol. 18, No. 2, Bangkok, Thailand, 17-26.

16. **Makul, N.** and Chatveera, B. (2008) Effects of Foundry Sand Powder (Green Sand Molding Waste (GSW)) from Engine Parts Casting Upon Mechanical Properties of Concrete. KMUTT Research and Development Journal, Vol. 31, No. 1, Bangkok, Thailand, 157-175. (in Thai)

17. Chatveera, B., Kongsaktrakoon, T. and **Makul, N.** (2008) Basic Properties of Reactive Powder Concrete. KMUTT Research and Development Journal, Vol. 31, No. 1, Bangkok, Thailand, 177-189. (in Thai)

18. **Makul, N.,** Suwannapum, N., Chatveera, B., Ratanadecho, P. and Kaokeaw, W. (2008) Physical Properties of Hardened Cement-based Materials under Curing with

Microwave Energy Cooperating with Continuous Belt Thermal Processor. Research and Development Journal of The Engineering Institute of Thailand, Vol. 19, No. 2, Bangkok, Thailand, 50-58. (in Thai)

19. **Makul, N.** and Chatveera, B. (2008) Effects of Foundry Sand Powder upon Durability of Concrete. Research and Development Journal of The Engineering Institute of Thailand, Vol. 19, No. 3, Bangkok, Thailand, 1-13. (in Thai)

20. **Makul, N.** (2010), Characteristics of Cement Pastes subjected to Microwave Energy with a Multi-mode Cavity, Research and Development Journal of The Engineering Institute of Thailand (Submitted).

21. Chatveera, B. and **Makul, N.** (2012). Effect of the Particle Size of Limestone Powder on Portland Cement Mortar Mixed with Rice Husk Ash. Research and Development Journal of The Engineering Institute of Thailand, Vol. 23, No. 1, Bangkok, Thailand, 10-17.

22. Chatveera, B. and **Makul, N**. (2012). Effect of Calcium Carbonate Powder upon Compressive Strength Of Portland Cement Mortar Mixed with Rice Husk Ash from Electric Power Plant. Research and Development Journal of The Engineering Institute of Thailand, Vol. 23, No. 1, Bangkok, Thailand, 18-25.

23. Chatveera, B. and **Makul, N**. (2012). Properties of Fly Ash-based Geopolymer Mortar: Influences of Fly Ash Sources and Na_2SiO_3/NaOH Ratios. Research and Development Journal of The Engineering Institute of Thailand, Vol. 35, No. 3, Bangkok, Thailand. (in Thai)

24. Jitrada, P., Chatveera, B. and **Makul, N**. (2012). Effect of combined coal-biomass ash on the chloride penetration resistance of mortar cement: A case study of different anthracite, bituminous, rice husk and eucalyptus ash exposed to synthetic seawater. KMUTT Research and Development Journal, Vol. 35, No. 4, Bangkok, Thailand. (in Thai)

25. Sua-iam, G. and **Makul, N**. (2012). Study of mechanical properties of self-compacting concrete incorporating pozzolan materials when subjected to microwave curing. KMUTT Research and Development Journal, Vol. 35, No. 4, Bangkok, Thailand. 417-432.

26. Sua-iam, G. and **Makul, N**. (2012). Influence of Limestone Powder on the Properties of Self-flowable Cement Paste containing Rice Husk Ash. Research and Development Journal of The Engineering Institute of Thailand, Vol. 23, No. 3, Bangkok, Thailand. 65-73. (in Thai)

27. Sua-iam, G. and **Makul, N**. (2012). Effect of limestone filler to enhance the properties of self–compacting concrete incorporating untreated rice husk ash as fine aggregate. Research and Development Journal of The Engineering Institute of Thailand, Vol. 23, No. 4, Bangkok, Thailand. 18-29.

28. Sua-iam, G. and **Makul, N**. (2012). Effects of Ternary of Blends Cementitious Materials to Enhance Fresh and Hardened Properties of Self-compacting Concretes **.** KMUTT Research and Development Journal, Vol. 36, No. 1, Bangkok, Thailand. 127-147. (in Thai)

29. Gritsada Sua-iam and **Natt Makul**. (2013), Self-Compacting Concretes Incorporating Various Ratio of Rice Husk Ash in Portland Cement**.** Chiang Mai University Journal of Natural Sciences, Vol. 12, No. 2 Bangkok, Thailand. 111-120**.**

30. Gritsada Sua-iam and **Natt Makul**. (2013), Incorporation of agricultural and industrial by-products in self-compacting concrete: A review. KMUTT Research and Development Journal, Vol. 36, No. 4, Bangkok, Thailand. 519-554. (in Thai)

31. Gritsada Sua-iam and **Natt Makul**. (2013), Use of high volume, untreated bagasse ash as a fine aggregate substitute for preparing self-compacting concrete. Research and Development Journal of The Engineering Institute of Thailand. Vol. 24, No. 3, Bangkok, Thailand. 8-15.

32. **Natt Makul** and Gritsada Sua-iam (2013), Microwave-assisted Curing of Cellular Lightweight Concrete A Preliminary Study. Research and Development Journal of The Engineering Institute of Thailand. Vol. 23, No. 3, Bangkok, Thailand. 16-22.

33. Gritsada Sua-iam and **Natt Makul**. (2013), Properties of Self-compacting Concrete incorporating High Volume Unground Rice Husk Ash. Research and Development Journal of The Engineering Institute of Thailand. Vol. 24, No. 4, Bangkok, Thailand. 20-27.

34. Pusit Lertwattanaruk and **Natt Makul***.* (2013), Sound absorption property of cement block containing rice husk ash. KMUTT Research and Development Journal, Vol. 37, No. 1, Bangkok, Thailand. (Accepted).

35. Gritsada Sua-iam and **Natt Makul***.* (2013), Self-compacting concrete containing untreated-mixed fly ash and rice husk ash, Part I: Fresh concrete characteristics. Research and Development Journal of The Engineering Institute of Thailand (Accepted).

36. Gritsada Sua-iam and **Natt Makul***.* (2013), Self-compacting concrete containing untreated-mixed fly ash and rice husk ash, Part II: Hardened concrete characteristics. Research and Development Journal of The Engineering Institute of Thailand (Accepted).

6.2.4 International Conference

1. Chatveera, B., Seramethakun, P. and **Makul, N.** (2003), Burability of Fly ash Cement Containing Limestone Powder, Proceedings in the Ninth East Asia-Pacific Conference on Structural Engineering & Construction, Indonesia, 296-326.

2. Chatveera, B., **Makul, N**. and Lertwattanaruk, P. (2004) Mechanical Properties of Concrete Containing Sludge Water from Ready-mixed Concrete Plant. Proceedings of the First International Conference of Asian Concrete Federation, Vol. 2, Chiang Mai, Thailand, 839-849.

3. Chatveera, B., Lertwattanaruk, P. and **Makul, N.** (2005) The Effects of Sludge Water on Mechanical Properties and Durability of Concrete. Proceedings of the Third International Conference on Construction Materials: Performance, Innovations and Structural Implications, Vancouver, Canada, 407.

4. **Natt MAKUL,** Burachat CHATVEERA and Phadungsak RATTANADECHO, Improving Early-age Strength of Type I cement Paste by Dewatering with Microwave Energy. The 6th Asia-Pacific Drying Conference (ADC2009) October 19-21, 2009, Bangkok, Thailand.

5. **Natt Makul** and Burachat Chatveera, (2010), Accelerated curing in early-age of cement-based materials by using microwave energy: constant powers processes and phenomenological modeling, 3rd International Congress on Ceramics (ICC3), Osaka, Japan.

6. Sua-Iam, G., and **Makul, N**. (2011), The Use of Residual Rice Husk Ash from Thermal Power Plant as Cement Replacement Material for Producing Self-Compacting Concrete. The 2nd International Conference on Advances in Materials and Manufacturing Processes (ICAMM 2011), December 16-18, Guilin, China.

7. Sua-Iam, G., and **Makul, N**. (2012), Self-compacting Concrete Prepared Using Rice Husk Ash Waste from Electric Power Plants, The 2nd International Conference on Key Engineering Materials (ICKEM 2012), February 26-28, Singapore

8. Sua-Iam, G., and **Makul, N**. (2012), Effect of Superplasticizer Type and Dosage on Early-age Shrinkage of Ordinary Portland Cement-Rice Husk Ash Paste. 2nd International Conference on Structures and Building Materials (ICSBM 2012), March 10-11, Hangzhou, China.

9. Sua-Iam, G., and **Makul, N**. (2012), Self-compacting Concrete Incorporating Various Ratios of Rice Husk Ash in Portland Cement, The First ASEAN Plus Three Graduate Research Congress (AGRC2012) March 1-2, Chiang Mai, Thailand.

10. Lairaksa, N., Asavapisit, S., **Makul, N**. and Moon, T. (2012), Encapsulation Pb from Cathode Ray Tube (CRT) Funnel Glass in Cement Clinker, The First ASEAN Plus Three Graduate Research Congress (AGRC2012) March 1-2, Chiang Mai, Thailand.

11. Krajangyao, A., and **Makul, N**. (2012), Feasibility Study of Making Fired-clay Brick by Replacing Clay with Coal-biomass Ash in High Weight Ratio: Formability and Microstructure Characteristics, The First ASEAN Plus Three Graduate Research Congress (AGRC2012) March 1-2, Chiang Mai, Thailand.

12. Sua-Iam, and **Makul, N**. (2012), Use of Limestone Powder to Improve the Properties of Self-compacting Concrete Produced using Cathode Ray Tube Waste as Fine Aggregate, The Second International Conference on green building, materials and civil engineering (GBMCE 2012), August 22-23, SanYa, China.

13. **Makul, N**. (2012), Microwave heating on cement-pozzolan pastes: Dielectric permittivity, physical properties and numerical heat transfer characteristics, The 3rd TSME International Conference on Mechanical Engineering (TSME-ICoME2012), October 24-27, Chiang Rai, Thailand.

14. Sua-Iam, G., and **Makul, N**. (2012), Microwave-accelerated Curing to Enhance Early-age Compressive Strength Development of Self-compacting Concrete, The 3rd TSME International Conference on Mechanical Engineering (TSME-ICoME2012), October 24-27, Chiang Rai, Thailand.

15. Sua-Iam, G., and **Makul, N**. (2012), Ternary of Blends Cementitious Materials to Enhance Fresh and Hardened Properties of Self-compacting Concretes , The 5th ACF Asian Concrete Federation International Conference (ACF2012), October 24-26, Pattaya, Thailand.

16. Sua-iam, G., and **Makul**, N. (2013), Use of Unprocessed Rice Husk Ash and Pulverized Fuel Ash in the Production of Self-Compacting Concrete, International Conference on Agricultural and Natural Resources Engineering (ICANRE 2013), May 1-2, Singapore.

17. Makul, N., Sangsirimongkolying, R., Soottitantawat, S., and Mathurasa, L. (2013), Influence of Calcium Carbonate Powder on Water Requirement and Flowability of Self-Compacting Mortar Incorporating Bagasse Ash. The 4th International Conference on Advances in Materials and Manufacturing Processes (ICAMMP 2013), December 18-19, Kunming, China (Accepted).

6.2.5 National Conference

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6.3 Book