

Chaowalit Limmaneevichitr, Ph.D.

Current Position:

Associate Professor of Metallurgical Engineering and
Vice President for Student Development,
King Mongkut's University of Technology Thonburi, Bangkok, Thailand

Educational Background:

Ph.D. Metallurgical Engineering (2000) under supervision of Professor Sindo Kou
University of Wisconsin Madison, USA.

Research Topic: Physical Simulation of Marangoni Convection in Weld Pools

B.Eng. with honors. Production Engineering (1993)

King Mongkut's University of Technology Thonburi, Thailand

Research Topic: The Study of Hard Anodizing in Aluminum at Room Temperature

Working Experience:

1993	Lecturer, Foundry and Metallurgical Engineering Section, KMUTT
2002	Assistant Professor, Foundry and Metallurgical Engineering Section
2005	Associate Professor, Foundry and Metallurgical Engineering Section
2004-2008	Associate Dean for Planning and Development, Faculty of Engineering
2009-2010	Assistant to the President for Academic and Research Affairs
2010-present	Vice President for Student Development, KMUTT
2015-2016	Secretary to the Minister, Ministry of Science and Technology
2016-2019	Secretary to the Minister, Ministry of Digital Economy and Society

Scholarship and Award:

1993	Royal Thai Government Scholarship from Ministry of Science, Technology, and Environment
2001	Charles H. Jennings Memorial Award from The American Welding Society
2011	Warren F. Savage Memorial Award from The American Welding Society

Reviewers:

Materials Science & Engineering A
Journal of Alloys and Compounds
Materials & Design
Materials Chemistry and Physics
Acta Materialia
Materials Letters
Results in Physics
Crystals
Journal of Materials Science
Journal of Energy Storage
Materials Characterization

Selected Publications:

Suwanpreecha, C., Rakhmonov, J.U., Chankitmunkong, S., Pandee, P., Dunand, D.C., Limmaneevichitr, C. Ambient- and elevated temperature properties of Sc- and Zr-modified Al–6Ni alloys strengthened by Al₃Ni microfibers and Al₃(Sc,Zr) nanoprecipitates (2022) *Materials Science and Engineering A*, 841, art. no. 142963, . DOI: 10.1016/j.msea.2022.142963

Panthglin, C., Boontein, S., Kajornchaiyakul, J., Limmaneevichitr, C. Microstructure and Impression Creep Characteristics of A356–SiC Composites Containing Zr (2022) *International Journal of Metalcasting*, 16 (2), pp. 783-797. DOI: 10.1007/s40962-021-00620-9

Chokemorh, P., Pandee, P., Chankitmunkong, S., Patakham, U., Limmaneevichitr, C. Primary Si refinement and eutectic Si modification in Al-20Si via P-Ce addition (2022) *Materials Research Express*, 9 (3), art. no. 036501, . DOI: 10.1088/2053-1591/ac58e9

Peeratatsuwan, C., Pandee, P., Patakham, U., Limmaneevichitr, C. Microstructure and rheological properties of a semisolid A356 alloy with erbium addition (2022) *Journal of Rare Earths*, . DOI: 10.1016/j.jre.2021.06.011

Chankitmunkong, S., Eskin, D.G., Limmaneevichitr, C., Pandee, P., Kengkla, N., Athchasiri, J., Tanawansombat, T., Parnlasarn, N., Diewwanit, O. Effect of Homogenization on Anodic Film and Electrochemical Behavior of an A535 Alloy After Sealing with Stearic Sealant (2022) *Minerals, Metals and Materials Series*, pp. 221-227. DOI: 10.1007/978-3-030-92529-1_30

Chankitmunkong, S., Eskin, D.G., Limmaneevichitr, C. Microstructure Evolution of an Al–Fe–Ni Alloy with Zr and Sc Additions Upon Different Cooling Rates During Solidification for Improving the Mechanical and Electrical Conductivity Properties (2021) *Minerals, Metals and Materials Series*, 6, pp. 232-238. DOI: 10.1007/978-3-030-65396-5_34

Chankitmunkong, S., Eskin, D.G., Limmaneevichitr, C. Effects of Ultrasonic Melt Processing on Microstructure, Mechanical Properties, and Electrical Conductivity of Hypereutectic Al–Si, Al–Fe, and Al–Ni Alloys with Zr Additions (2021) *Minerals, Metals and Materials Series*, 6, pp. 192-197. DOI: 10.1007/978-3-030-65396-5_28

Peeratatsuwan, C., Pandee, P., Patakham, U., Limmaneevichitr, C. Effect of erbium on the rheocast quality index of A356 semisolid feedstock (2021) *Materials Science and Technology (United Kingdom)*, 37 (4), pp. 424-438. DOI: 10.1080/02670836.2021.1908727

Panthglin, C., Boontein, S., Kajornchaiyakul, J., Limmaneevichitr, C. The Effects of Zr Addition on the Microstructure and Mechanical Properties of A356–SiC Composites (2021) *International Journal of Metalcasting*, 15 (1), pp. 169-181. DOI: 10.1007/s40962-020-00439-w

Chankitmunkong, S., Eskin, D.G., Limmaneevichitr, C. Structure refinement, mechanical properties and feasibility of deformation of hypereutectic Al–Fe–Zr and Al–Ni–Zr alloys subjected to ultrasonic melt processing (2020) *Materials Science and Engineering A*, 788, art. no. 139567, . DOI: 10.1016/j.msea.2020.139567

Chankitmunkong, S., Eskin, D.G., Limmaneevichitr, C. Structure Modification upon Ultrasonic Processing of an AA4032 Piston Alloy: Comparison of Permanent Mold and Direct-Chill Casting (2020) *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, 51 (2), pp. 818-829. DOI: 10.1007/s11661-019-05575-5

- Chankitmunkong, S., Eskin, D.G., Limmaneevichitr, C. Constitutive Behavior of an AA4032 Piston Alloy with Cu and Er Additions upon High-Temperature Compressive Deformation (2020) *Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science*, 51 (1), pp. 467-481. DOI: 10.1007/s11661-019-05482-9
- Sirichaivetakul, R., Wongpinij, T., Euaruksakul, C., Limmaneevichitr, C., Kajornchaiyakul, J. In-situ study of microstructural evolution during thermal treatment of 6063 aluminum alloy (2019) *Materials Letters*, 250, pp. 42-45. DOI: 10.1016/j.matlet.2019.04.120
- Chankitmunkong, S., Eskin, D.G., Limmaneevichitr, C. Microstructure evolution in an Al-Si piston alloy under ultrasonic melt processing (2019) *IOP Conference Series: Materials Science and Engineering*, 529 (1), art. no. 012060, . DOI: 10.1088/1757-899X/529/1/012060
- Chankitmunkong, S., Eskin, D.G., Patakham, U., Limmaneevichitr, C. Microstructure and elevated temperature mechanical properties of a direct-chill cast AA4032 alloy with copper and erbium additions (2019) *Journal of Alloys and Compounds*, 782, pp. 865-874. DOI: 10.1016/j.jallcom.2018.12.195
- Suwanpreecha, C., Toinin, J.P., Michi, R.A., Pandee, P., Dunand, D.C., Limmaneevichitr, C. Strengthening mechanisms in Al-Ni-Sc alloys containing Al₃Ni microfibers and Al₃Sc nanoprecipitates (2019) *Acta Materialia*, 164, pp. 334-346. DOI: 10.1016/j.actamat.2018.10.059
- Suwanpreecha, C., Toinin, J.P., Pandee, P., Dunand, D.C., Limmaneevichitr, C. Isothermal aging of Al-Ni-Sc alloy containing Al₃Ni microfibers and Al₃Sc nanoprecipitates (2019) *Journal of Metals, Materials and Minerals*, 29 (2), pp. 37-41. DOI: 10.14456/jmmm.2019.16
- Chankitmunkong, S., Eskin, D.G., Limmaneevichitr, C. Effect of Cu addition on the microstructure, mechanical and thermal properties of a piston Al-Si alloy (2019) *Minerals, Metals and Materials Series*, pp. 463-469. DOI: 10.1007/978-3-030-05864-7_59
- Suwanpreecha, C., Pandee, P., Patakham, U., Dunand, D.C., Limmaneevichitr, C. Effects of Zr additions on structure and microhardness evolution of eutectic Al-6Ni alloy (2019) *Minerals, Metals and Materials Series*, pp. 373-377. DOI: 10.1007/978-3-030-05864-7_47
- Chokemorh, P., Pandee, P., Limmaneevichitr, C. Role of scandium additions in primary silicon refinement of hypereutectic Al-20Si alloys (2018) *International Journal of Cast Metals Research*, 31 (5), pp. 269-278. DOI: 10.1080/13640461.2018.1436214
- Chanyathunyaraj, K., Patakham, U., Kou, S., Limmaneevichitr, C. Mechanical properties of squeeze-cast Al-7Si-0.3Mg alloys with Sc-modified Fe-rich intermetallic compounds (2018) *Rare Metals*, 37 (9), pp. 769-777. DOI: 10.1007/s12598-017-0970-1
- Puparattanapong, K., Pandee, P., Boontein, S., Limmaneevichitr, C. Fluidity and Hot Cracking Susceptibility of A356 Alloys with Sc Additions (2018) *Transactions of the Indian Institute of Metals*, 71 (7), pp. 1583-1593. DOI: 10.1007/s12666-018-1293-0
- Pandee, P., Gourlay, C.M., Belyakov, S.A., Patakham, U., Zeng, G., Limmaneevichitr, C. AlSi₂Sc₂ intermetallic formation in Al-7Si-0.3Mg-xSc alloys and their effects on as-cast properties (2018) *Journal of Alloys and Compounds*, 731, pp. 1159-1170. DOI: 10.1016/j.jallcom.2017.10.125

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Patakham, U., Kajornchaiyakul, J., Limmaneevichitr, C. Grain refinement mechanism in an Al-Si-Mg alloy with scandium (2012) *Journal of Alloys and Compounds*, 542, pp. 177-186. DOI: 10.1016/j.jallcom.2012.07.018

Kou, S., Limmaneevichitr, C., Wei, P.S. Oscillatory Marangoni flow: A fundamental study by conduction-mode laser spot welding (2011) *Welding Journal*, 90 (12), pp. 229s-240s.

Boontein, S., Srisukhumbornchai, N., Kajornchaiyakul, J., Limmaneevichitr, C. Reduction in secondary dendrite arm spacing in cast aluminium alloy A356 by Sb addition (2011) *International Journal of Cast Metals Research*, 24 (2), pp. 108-112. DOI: 10.1179/1743133610Y.0000000007

Prukkanon, W., Srisukhumbowornchai, N., Limmaneevichitr, C. Influence of Sc modification on the fluidity of an A356 aluminum alloy (2009) *Journal of Alloys and Compounds*, 487 (1-2), pp. 453-457. DOI: 10.1016/j.jallcom.2009.07.169

Limmaneevichitr, C., Pongananpanya, S., Kajornchaiyakul, J. Metallurgical structure of A356 aluminum alloy solidified under mechanical vibration: An investigation of alternative semi-solid casting routes (2009) *Materials and Design*, 30 (9), pp. 3925-3930. DOI: 10.1016/j.matdes.2009.01.036

Prukkanon, W., Srisukhumbowornchai, N., Limmaneevichitr, C. Modification of hypoeutectic Al-Si alloys with scandium (2009) *Journal of Alloys and Compounds*, 477 (1-2), pp. 454-460.
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Boontein, S., Kajornchaiyakul, J., Limmaneevichitr, C. Effect of alloying element antimony on macrostructural and microstructural development in A356 alloy directionally solidified under unsteady-state conditions (2008) *Journal of Materials Science and Technology*, 24 (1), pp. 25-28.

Kunnam, P., Limmaneevichitr, C. Effect of process parameters on morphology and grain refinement efficiency of TiAl₃ and TiB₂ in aluminium casting (2008) *Journal of Materials Science and Technology*, 24 (1), pp. 54-56.

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Limmaneevichitr, C., Eidhed, W. Effect of flux compositions on grain refinement in Al-Si-Mg alloy (2005) *TMS Light Metals*, pp. 1107-1110.

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Limmaneevichitr, C., Sirichaiyvetkul, R., Puparatanapong, K. Effects of decoating on the fluidity and aluminum recovery in UBCs recycling (2003) *Proceedings of the Australian Asian Pacific Conference on Aluminium Cast House Technology*, pp. 127-135.

Limmaneevichitr, C., Kou, S. Visualization of marangoni convection in simulated weld pools containing a surface-active agent (2000) *Welding Journal (Miami, Fla)*, 79 (11), pp. 324-s.

Limmaneevichitr, C., Kou, S. Experiments to simulate effect of Marangoni convection on weld pool shape (2000) *Welding Journal (Miami, Fla)*, 79 (8), pp. 231s-237s.

Limmaneevichitr, C., Kou, S. Visualization of Marangoni convection in simulated weld pools (2000) *Welding Journal (Miami, Fla)*, 79 (5), pp. 126-s.