Academic Staffs

Dr. Shinya KITAMURA (Professor)
1978 Graduated from the Dept. of Material Science, Faculty of Eng. Tohoku Univ.
1991 Awarded Dr. of Engineering from Kyushu Univ.
2001 Transferred to Hikari R&D Lab. (General manager)
2003 Joined Nippon Steel & Sumikin Stainless Steel Corp. (Head of R&D center)
2005 Joined Tohoku Univ. Institute of Multi-disciplinary Research for Advanced Materials. (Professor)
Academic Societies: The Iron and Steel Institute of Japan (ISIJ), The Japan Institute of Metals (JIM), The mining and Materials Processing Institute of Japan (MMIJ), Association for Iron & Steel Technology (AIST)

Dr. Hiroyuki SHIBATA (Associate Professor)
1987 Graduated from the Dept. of Material Processing, Faculty of Eng. Tohoku Univ.
1993 Completed Doctoral Degree Program, Graduate School of Engineering, Tohoku Univ., and awarded Doctoral Degree of Engineering (Tohoku University)
1993 Research Associate, Institute of Advanced Materials Processing, Tohoku University
2002 Visiting Researcher, Center for Iron and Steel Research, Carnegie Mellon University
2003 Promoted as a Lecturer, Tohoku University
2006 Promoted as a Associate Professor, Tohoku University
Academic Societies: The Iron and Steel Institute of Japan (ISIJ), The Japan Institute of Metals (JIM)

Dr. Nobuhiro MARUOKA (Assistant Professor)
2001 Graduated from Osaka Prefecture University (Dept. of Chemical Engineering)
2003 Completed Master’s Degree Program, Graduate School of Engineering, Osaka Prefecture University
2006 Completed Doctoral Degree Program, Graduate School of Engineering, Hokkaido University
2006 Awarded Doctoral Degree of Philosophy (Hokkaido University)
2006 Research Associate, Institute of Multidisciplinary Research for Advanced Materials, Tohoku University
Academic Societies: The Iron and Steel Institute of Japan (ISIJ), The Society of Chemical Engineers, Japan (SCEJ), The Japan Institute of Energy (JIE)
Dr. Farshid PAHLEVANI (Assistant Professor (Research))

2001  Graduated from Department of material and metallurgy Faculty of engineering, University of Tehran, Iran.

2003  Completed Master’s Degree Program, Graduate School of Engineering, University of Tehran, Iran.

2007  Completed Doctoral Degree Program, Graduate School of Engineering, Tohoku Univ., and awarded Doctoral Degree of Engineering (Tohoku University), Japan.

2007  Postdoctoral fellow, Graduate School of Engineering, Tohoku University.

2008  Assistant Professor (Research), Institute of Multidisciplinary Research for Advanced Materials, Tohoku University.

Academic Societies: The Iron and Steel Institute of Japan (ISIJ), Japan foundry society (JFS).

Students

Doctor course students
2nd year
  Mr. Duk-yong Song
  Mr. Sun-joong Kim

Master course students
2nd year
  Mr. Akira Ishikawa
  Mr. Kouichi Takahashi
  Mr. Takuya Teradoko
  Ms. Yuka Yokoyama

1st year
  Mr. Koutaro Ishii
  Mr. Jun Takekawa
  Mr. Hiromune Takeuchi
  Mr. Gaku Miyano
Research Articles

Farshid Pahlevani, Shin-ya Kitamura, Hiroyuki Shibata and Nobuhiro Maruoka
Simulation of Steel Refining Process in Converter
Steel Research International, 81(2010), pp.617-622

Shin-ya Kitamura
Importance of Kinetic Model in the Analysis of Steelmaking Reactions

Farshid Pahlevani, Shin-ya Kitamura, Hiroyuki Shibata and Nobuhiro Maruoka
Distribution of P2O5 between Solid Solution of 2CaO·SiO2·3CaO·P2O5 and Liquid Phase
ISIJ International, 50(2010), pp.822-829

Hiroyuki Shibata, Tomoko Tanaka, Koichiro Kimura, Shin-ya Kitamura
Composition Change in Oxide Inclusions of Stainless Steel by Heat Treatment
Ironmaking & Steelmaking, 37(2010), pp.522-528

Nobuhiro Maruoka and Tomohiro Akiyama:
Development of PCM Reactor for Methane Steam Reforming

Nobuhiro Maruoka and Tomohiro Akiyama:
Exergy Analysis of Methane Steam Reformer Utilizing Steelmaking Waste Heat

Hiroyuki Shibata, Tomoko Tanaka, Koichiro Kimura, Shin-ya Kitamura
Composition Change in Oxide Inclusions of Stainless Steel by Heat Treatment
Ironmaking & Steelmaking, 37(2010), pp.522-528

Sergey V. KOMAROV, Hiroyuki SHIBATA, Naohito HAYASHI, Eiki KASAI
Sergey V. KOMAROV, Hiroyuki SHIBATA, Naohito HAYASHI, Eiki KASAI
Numerical and Experimental Investigation on Heat Propagation through Composite Sinter Bed with Non-Uniform Voidage: Part II Prediction of Process Efficiency

Duk-Yong Song, Nobuhiro Maruoka, Toshiaki Maeyama, Hiroyuki Shibata and Shin-ya Kitamura
Influence of Bottom Bubbling Condition on Metal Emulsion Formation in Lead-Salt System
*ISIJ International*, 50(2010), pp.1539-1545

Shin-ya Kitamura
Kinetic model of desulfurization considering the reactions between steel, slag and refractory. (Japanese)
*Bulletin of the Advanced Materials Processing Building*, IMRAM, Tohoku University, 66(2010), pp.1-6

Nobuhiro Maruoka, Shinpei Ono, Hiroyuki Shibata and Shin-ya Kitamura
Equilibrium distribution of impurities between solid iron and molten oxide. (Japanese)
*Bulletin of the Advanced Materials Processing Building*, IMRAM, Tohoku University, 66(2010), pp.15-20

Akifumi Harada, Hiroyuki Shibata and Shin-ya Kitamura
Change in Chemical Composition and Morphology of De-oxidation Products in Fe-Mn-Si-Nb Ally by Heat Treatment. (Japanese)
*Bulletin of the Advanced Materials Processing Building*, IMRAM, Tohoku University, 66(2010), pp.28-32

Nobuhiro Maruoka, Felicia Lazuardi, Toshiaki Maeyama, Kim Sun-joong, Alberto N. Conejo, Hiroyuki Shibata and Shin-ya Kitamura
Evaluation of bubble eye area to improve gas/liquid reaction rates at bath surfaces,

********************************************************************************

Shin-ya Kitamura
Introduction of Refining Process Engineering 1(Japanese)
Shin-ya Kitamura
Introduction of Refining Process Engineering 2(Japanese)

Shin-ya Kitamura
Introduction of Refining Process Engineering 3(Japanese)

Shin-ya Kitamura
Introduction of Refining Process Engineering 4(Japanese)

Shin-ya Kitamura
Introduction of Refining Process Engineering 5(Japanese)

Shin-ya Kitamura
Introduction of Refining Process Engineering 6(Japanese)
*Bulletin of The Iron and Steel Institute of Japan*, 15(2010), pp.605－610

Shin-ya Kitamura
Introduction of Refining Process Engineering 7(Japanese)

Shin-ya Kitamura
Introduction of Refining Process Engineering 8(Japanese)
*Bulletin of The Iron and Steel Institute of Japan*, 16(2011), pp.18－22

Shin-ya Kitamura
Introduction of Refining Process Engineering 9(Japanese)
*Bulletin of The Iron and Steel Institute of Japan*, 16(2011), pp.83－89

Shin-ya Kitamura
Introduction of Refining Process Engineering 10(Japanese)
*Bulletin of The Iron and Steel Institute of Japan*, 16(2011), pp.233－238
Proceedings of International Conferences

N. Maruoka, F. Lazuardi, H. Shibata, S. Kitamura
Influence of Plume Eye Area on Surface Reaction Rate of Oxygen-water System Under Bottom Bubbling Condition

M.K. Mondal, N. Maruoka, S. Kitamura and G.S. Gupta
Enhancement in Bath Mixing and Plume Area in a New Degassing Process – a Computational Fluid Dynamic Study

S. Kitamura
Fundamental researches on the high-speed and high-efficiency steelmaking reaction
Proceedings of Seshadri Seetharaman Conference, KTH, Stockholm, Sweden, (2010.6), to be published

S. Kim, T. Hotta, H. Shibata, S. Kitamura and K. Yamaguchi
Fundamental research to produce ferro-manganese alloy from steelmaking slag

A.N. Conejo, S. Kitamura, N. Maruoka and J.S. Kim
Effect of Top Layer, Nozzle Arrangement and Gas Flow Rate on Mixing Time in Agitated Ladles by Bottom Gas Injection
Proceedings of 15th International Metallurgy and Materials Congress, UCTEA, Istanbul, Turkey, (2010.11), to be published

S. Kitamura, F. Pahlevani, N. Maruoka and H. Shibata
Improvement of Dephosphorization Reaction by Using Multiphase Slag

D. Song, N. Maruoka, H. Shibata, S. Kitamura
Influence of Density Difference on Metal Emulsion Formation by Bottom Bubbling Condition
Proceedings of High Temperature Processing Symposium 2011, Swinburne Univ., Melbourne,
International Session of ISIJ Annual Meeting

N. Maruoka, F. Lazuardi, H. Shibata and S. Kitamura
Influence of Bath Height on Surface Reaction Rate of Oxygen-Water System
CAMP-ISIJ, 23(2010), 807

D.Y. Song, N. Maruoka, T. Maeyama, H. Shibata and S. Kitamura
Investigation on Metal Emulsion Formation in Lead-Salt System
CAMP-ISIJ, 23(2010), 811

Kristofer J. Malmberg, Hirovuki Shibata, Shin-ya Kitamura, Pär G. Jönsson, Seiji Nabeshima and Yasuo Kishimoto
High Temperature In-situ Observations of Agglomerations of Various Oxide Inclusions
CAMP-ISIJ, 24(2011), 465

Anders Tilliander, Keiji Nakajima, Andrey Karasev, Hirovuki Shibata, Shin-ya Kitamura and Pär G Jönsson
A decade of collaboration between KTH and Tohoku University – examples from CSLM studies to increase the metallurgical knowledge
CAMP-ISIJ, 24(2011), 529
Master Theses

Akira Ishikawa
Dissolution Rate of Solid Oxides into Molten Slag

Kouichi Takahashi
Transfer behavior of sulfur between hot metal and multi-phase flux in hot metal desulfurization

Takuya Teradoko
Dissolution behavior of (2CaO•SiO₂-3CaO•P₂O₅) solid solution into aqueous solution