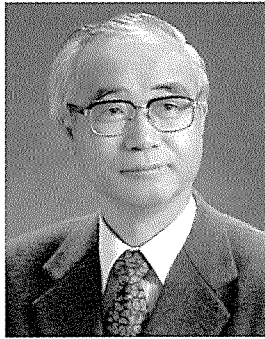


石田清仁教授業績目録

平成22年3月
東北大学史料館
(著作目録第1124号)



石田 清仁教授略歴

生年月日 昭和21年11月1日生
本籍地 宮城県
職名 教授
所 属 工学研究科

学 歴

昭和44年3月 東北大学工学部金属材料工学科卒業
昭和49年3月 東北大学大学院工学研究科金属材料工学専攻博士課程修了

職 歴

昭和49年4月 大同製鋼株式会社（現：大同特殊鋼株式会社）研究開発本部
昭和54年5月 大同特殊鋼株式会社 星崎工場 副主査
昭和57年4月 東北大学工学部金属材料工学科助教授
平成2年2月 英国 サレー大学客員教授（～11月）
平成5年4月 東北大学工学部材料物性学科教授
平成9年4月 東北大学大学院工学研究科材料物性学専攻教授
平成10年4月 東北大学未来科学技術共同研究センター教授
平成17年4月 東北大学大学院工学研究科金属フロンティア工学教授
平成22年3月 東北大学を定年退職

学 位

昭和49年3月 工学博士（東北大学）

受 賞

平成21年11月 銅及び銅合金技術研究会 論文賞
平成21年10月 (財)発明協会

	東北地区文部科学大臣発明奨励賞
平成20年 5月	日本材料学会 技術賞
平成19年 5月	第4回本多フロンティア賞
平成18年 9月	日本金属学会 功労賞 (学術部門)
平成18年 9月	Cooper '06 Best Paper Award
平成18年 4月	文部科学省 科学技術賞 (研究部門)
平成18年 3月	日本機械学会東北支部技術研究賞
平成17年11月	銅及び銅合金技術研究会・論文賞
平成17年 7月	(財)発明協会 21世紀発明奨励賞
平成17年 5月	APDIC Best Paper Award
平成15年10月	International Metallographic Contest, Light Microscopy- Honorable Mention
平成15年 3月	日本鉄鋼協会 学術功績賞
平成14年11月	銅及び銅合金技術研究会 論文賞
平成14年 3月	日本金属学会 谷川ハリス賞
平成13年 9月	日本金属学会 技術開発賞
平成11年11月	日本金属学会 技術開発賞
平成10年 9月	日本金属学会 論文賞
平成 7年11月	伸銅技術研究会誌 論文賞
平成 4年 3月	日本金属学会 功績賞
平成 3年10月	日本鉄鋼協会 西山記念賞
昭和61年 3月	日本鉄鋼協会 俵論文賞

学会等における活動 (役職等)

CALPHAD Associate Editor (平成16年 5月～)

Alloy Phase Diagram Committee Member, ASM International (平成12年 9月～)

International Symposium on User Aspects of Phase Diagrams, 仙台 実行委員長 (平成12年 9月)

Journal of Phase Equilibria (現: Journal of Phase Equilibria & Diffusion), ASM, Associate Editor (平成 9年 1月～)

APDIC (Alloy Phase Diagram International Commission) Vice Chairman (平成 7年 5月～平成12年 6月)

CALPHAD XXIV, 京都, 組織委員長 (平成 7年)

日本金属学会会長 (平成19年 4月～平成20年 3月)

日本金属学会副会長 (平成13年 4月～平成14年 3月)

日本鉄鋼協会理事 (平成15年 4月～平成17年 3月)

日本鉄鋼協会東北支部長 (平成 8年 3月～平成10年 2月)

日本学術振興会産学協力委員会「合金状態図第172委員会」委員長 (平成13年 4月～)

伸銅技術研究会 (現: 銅及び銅合金技術研究会) 理事 (平成13年 6月～)

日本中小企業技術振興協会理事 (平成 5年 6月～)

(財)金属系材料研究開発センター評議員 (平成14年 4月～)

業 績 目 録

I. 著書・編書（共著書等含む）

1. 2相拡散対における異相界面の形態，結晶界面 — 基礎から応用まで —
西澤泰二，石田清仁，貝沼亮介，一瀬雅文
日本鉄鋼協会（1990）
2. CD 浸炭法による超微細粒高速度鋼の組織・機械的性質に及ぼす添加元素の影響，鉄鋼の結晶粒微細化
西澤泰二，石田清仁，貝沼亮介，国分照彦，張沢国
日本鉄鋼協会（1991）
3. Phase Equilibria and Microstructural Control of Iron-base Alloys, in Computational Materials Design, Springer Series in materials Science
K. Ishida
Springer-Verlag（1999）
4. 組織の設計と制御
貝沼亮介，石田清仁
金属便覧，丸善（2000）
5. 鉄鋼材料
石田清仁，大沼郁雄
金属便覧，丸善（2000）
6. Effect of the Interaction between the Chemical and the Magnetic Ordering on the Phase Equilibria of Iron-base Alloys
I. Ohnuma, R. Kainuma and K. Ishida
CALPHAD and Alloy Thermodynamics, Eds. by P. Turchi, A-Gonis and R. Shull. TMS,（2002）
7. Superelastic Biomedical Guidewire, functionally graded.
Y. Sutou, Y. Yamauchi, T. Omori, R. Kainuma, and K. Ishida
Encyclopedia of Mater., Sci & Tech Updates, Elsevier,（2005）
8. 未来型アクチュエーター材料・デバイス
（第5章-2 新しい金属系マルチフェロイック材料 — メタ磁性形状記憶合金 —）
貝沼亮介，伊東 航，須藤祐司，及川勝成，石田清仁
シーエムシー出版，（2006）
9. DETERMINATION OF PHASE DIAGRAMS INVOLVING ORDER-DISORDER TRANSITIONS
Chapter 11, 361-382
Ryosuke Kainuma, Ikuo Ohnuma and Kiyohito Ishida
Method of Phase Diagram Determination, J.-C. Zhao, Ed., ELSEVIER,（2007）

II. 調査報告書（科研費報告書など）

1. 平成4年度～平成5年度 科学研究費補助金
一般研究（B）「反応拡散層における異相界面の形状安定性とその制御に関する研究」成果報告書
研究代表者：石田清仁 平成6年3月
2. 平成3年度～平成5年度 科学研究費補助金 試験研究（B）「高加工性・高靱性を有するホイスラー型強力銅合金の開発」成果報告書
研究代表者：石田清仁 平成6年3月
3. 平成4年度～平成6年度 科学研究費補助金 国際学術研究「新しい型のNi-Al-Ti 基超耐熱合金の開発に関する共同研究」成果報告書
研究代表者：石田清仁 平成7年3月
4. 平成5年度～平成6年度 科学研究費補助金 重点領域研究（2）「組織制御によるB2型Ni-Al 基合金の延性改善」成果報告書
研究代表者：石田清仁 平成7年3月
5. 平成6年度～平成8年度 科学研究費補助金 基盤研究（A）「新しい機能を有するNi-Al 基合金の開発」成果報告書
研究代表者：石田清仁 平成9年3月
6. 平成7年度～平成8年度 科学研究費補助金 一般研究（B）「超微細粒結晶組織における不純物元素の粒界および異相界面への偏析挙動」成果報告書
研究代表者：石田清仁 平成9年3月
7. 平成7年度～平成8年度 新エネルギー・産業技術総合開発機構（NEDO）
提案公募型・最先端分野／重点分野研究開発事業委託「先端材料の組織設計・制御のための計算機支援システムの開発」成果報告書
研究代表者：石田清仁 平成9年3月
8. 平成8年度 科学研究費補助金 重点領域研究「微細結晶粒超塑性材料の組織安定性と界面への偏析挙動」成果報告書
研究代表者：石田清仁 平成9年3月
9. 平成8年度～平成9年度 科学研究費補助金 基盤研究（A）「鉄鋼材料の組織設計・制御のための計算機支援システムの開発」成果報告書
研究代表者：石田清仁 平成10年3月
10. 平成9年度 科学研究費補助金 重点領域研究「超微細多相組織を有する超塑性材料の組織安定性に関する研究」成果報告書
研究代表者：石田清仁 平成10年3月
11. 平成9年度～平成10年度 科学研究費補助金 国際学術研究「化合物半導体の状態図と熱力学データベース構築」成果報告書
研究代表者：石田清仁 平成11年3月

12. 平成9年度～平成11年度 科学研究費補助金 特定領域研究（A）「異相界面の形態と拡散挙動」成果報告書
研究代表者：石田清仁 平成12年3月
13. 平成9年度～平成11年度 科学研究費補助金 基盤研究（A）「規則化と相分離を制御した新しいタイプのCu合金の開発」成果報告書
研究代表者：石田清仁 平成12年3月
14. 平成9年度～平成11年度 インテリジェントコスモス研究機構（NEDO）
地域コンソーシアム「省エネルギー型新プロセスによる金属成形技術の開発」
成果報告書
研究代表者：石田清仁 平成12年3月
15. 平成10年度 科学研究費補助金 特定領域研究（A）（2）「液相分散型超塑性材料の組織安定性に関する研究」成果報告書
研究代表者：石田清仁 平成11年3月
16. 平成11年度～平成12年度 日本学術振興会
マッチングファンド方式による産学連携研究開発事業「複合硫化物制御によるPbフリーステンレス鋼の開発」成果報告書
研究代表者：石田清仁 平成13年3月
17. 平成11年度～平成13年度 科学研究費補助金 基盤研究（B）（国際学術研究）
「計算状態図データベース構築のための熱力学モデルの開発」成果報告書
研究代表者：石田清仁 平成14年3月
18. 平成12年度～平成13年度 科学研究費補助金 基盤研究（A）「Cu基超弾性合金の電子機器および医療機器材料への新しい展開」成果報告書
研究代表者：石田清仁 平成14年3月
19. 平成13年度～平成14年度 日本学術振興会
ベンチャー・中小企業支援型共同研究推進事業「真空浸炭法による高硬度長寿命刃物の実用化研究」成果報告書
研究代表者：石田清仁 平成15年3月
20. 平成13年度～平成16年度 文部科学省
革新的技術開発研究推進費「卵型コア構造粒子の作製とその電子材料分野への応用」成果報告書
研究代表者：石田清仁 平成17年3月
21. 平成13年度～平成17年度（財）金属系材料研究開発センターとの共同研究
「実用銅合金のナノ析出制御技術及び粒界・界面構造制御技術に関する研究」
成果報告書
研究代表者：石田清仁 平成18年5月

22. 平成14年度～平成16年度 科学研究費補助金 基盤研究 (S)「応力誘起変態制御によるインバー合金の開発と工業材料への展開」成果報告書
研究代表者：石田清仁 平成17年 5月
23. 平成15年～平成21年 (独)科学技術振興機構
戦略的創造研究推進事業費 CREST「材料の組織・特性設計統合化システムの開発」成果報告書
研究代表者：石田清仁 平成21年 3月

Ⅲ. 研究論文 (単独執筆・共同執筆)

1. “Fe-Mn-V, Fe-Mn-Mo 並びに Fe-Mn-Si 系の γ -Loop”, 石田清仁, 渋谷 洸, 西沢泰二, 日本金属学会誌 37, 1305-1313 (1973).
2. “Ferrite/Austenite Stabilizing Parameter of Alloying Elements in Steel at 200~500°C”, K. Ishida and T. Nishizawa, Trans. JIM 15, 217-224 (1974).
3. “Effect of Alloying Elements on Stability of Epsilon Iron”, K. Ishida and T. Nishizawa, Trans. JIM 15, 225-231 (1974).
4. “Effect of Manganese and Nitrogen on the Mechanical Properties of Fe-18%Cr-10%Ni Stainless Steels”, T. Kato, M. Fujikura, K. Takada and K. Ishida, Trans. ISIJ 15, 464-469 (1975).
5. “Effect of Magnetic Transformation on Stacking Fault Energy of Nickel Binary Alloys”, K. Ishida, Philos. Mag. 32, 663-669 (1975).
6. “Direct Estimation of Stacking Fault Energy by Thermodynamic Analysis”, K. Ishida, Phys. Stat. Sol. (a) 36, 717-728 (1976).
7. “Structural Stability and Mechanical Properties of Fe-Mn-Cr Alloys”, T. Kato, S. Fukui, M. Fujikura and K. Ishida, Trans. ISIJ 16, 673-679 (1976).
8. “Effect of Alloying Elements on the Critical Driving Force of Martensitic Transformation in Iron Alloys”, K. Ishida, Scripta Metall. 11, 237-242 (1977).
9. “Effect of Composition and Heat Treatment on the Mechanical Properties on Fe-Mn-C Austenitic Steels”, T. Kato, M. Fujikura, S. Yahagi and K. Ishida, Trans. ISIJ 67, 587-595 (1981).
10. “Effect of Chemical Compositions on the Properties of Austenitic Manganese Steels for Nonmagnetic Applications”, T. Kato, M. Fujikura, A. Kumura, Y. Takeuchi, N. Kawasaki, S. Yahagi and K. Ishida, Trans. ISIJ 21, 852-861 (1981).

11. “Fe-Mn-C 系オーステナイト合金の機械的性質に及ぼす鋼組成、熱処理条件の影響”, 加藤哲雄, 藤倉正国, 矢萩慎一郎, 石田清仁, 鉄と鋼 67, 587-595 (1981).
12. “Thermodynamic Analysis of Miscibility Gap Due to Ordering in Ternary System”, T. Nishizawa, S.M. Hao, M. Hasebe and K. Ishida, *Acta Metall.* 31, 1403-1416 (1983).
13. “Miscibility Gap in Fe-Ni-Al and Fe-Ni-Co System”, S.M. Hao, T. Takayama, K. Ishida and T. Nishizawa, *Metall. Trans.* 15, 1819-1828 (1984).
14. “2 相ステンレス鋼の結晶粒成長”, 阿部雅之, 日裏 昭, 石田清仁, 西澤泰二, 鉄と鋼 70, 2025-2032 (1984).
15. “Role of Alloying Elements in Phase Decomposition in Alnico Magnet Alloys”, S.M. Hao, K. Ishida and T. Nishizawa, *Metall. Trans.* 16A, 179-185 (1985).
16. “Grain Boundary Segregation in Ferromagnetic Alloys”, K. Ishida, S. Yokoyama and T. Nishizawa, *Acta Metall.* 33, 255-264 (1985).
17. “Solubility of Antimony in Cobalt, Nickel and Co-Ni Alloys”, K. Ishida, M. Hasebe, N. Ohnishi and T. Nishizawa, *J. Less-Common Met.* 114, 361-373 (1985).
18. “Discussion of Miscibility Gap in Fe-Ni-Al and Fe-Ni-Co Systems and Role of Alloying Elements in Phase Decomposition in Alnico Magnet Alloy”, S.M. Hao, T. Takayama, K. Ishida and T. Nishizawa, *Metall. Trans.* 17, 1629-1632 (1986).
19. “Computation of Dual Phase Region in Low Alloy Steels”, K. Ishida, H. Wakakuwa and T. Nishizawa, *HSLA Steels: Metallurgy and Applications*, TMS, 851-859 (1987).
20. “Miscibility Gap Due to Ordering in the Bcc Fe-Ge System”, H. Enoki, K. Ishida and T. Nishizawa, *Metall. Trans.* 18A (6), 949-955 (1987).
21. “Phase Diagram of the Ga-As-Sb System”, K. Ishida, T. Shumiya, T. Nomura, H. Ohtani and T. Nishizawa, *J. Less-Common Met.*, 142 (1988) 135-144.
22. “層状パーライトの球状化の速度式”, 石田清仁, 大久保誠人, 魏 明, 西澤泰二, 日本金属学会誌 52, 388-394 (1988).
23. “Phase Diagram of the Al-In-Sb System”, K. Ishida, T. Shumiya, H. Ohtani, M. Hasebe and T. Nishizawa, *J. Less-Common Met.* 143, 279-289 (1988).

24. "Calculation of the Fe-C-B Ternary Phase Diagram", H. Ohtani, M. Hasebe, K. Ishida and T. Nishizawa, *Trans. ISIJ* 28, 1043-1050 (1988).
25. "Database for Calculating Phase Diagrams of III-V Alloy Semiconductors", K. Ishida, H. Tokunaga, H. Ohtani and T. Nishizawa, *J. Cryst. Growth* 98, 140-147 (1989).
26. "Miscibility Gaps in the GaP-InP, GaP-GaSb, InP-InSb and InAs-InSb Systems", K. Ishida, T. Nomura, H. Tokunaga, H. Ohtani and T. Nishizawa, *J. Less-Common Met.* 155, 193-206 (1989).
27. "Phase Equilibria in Cobalt-rich Portions of the Co-Si and Co-Ge Systems", H. Enoki, K. Ishida and T. Nishizawa, *J. Less-Common Met.* 160, 153-160 (1990).
28. "Phase Equilibria in Fe-Mn-Al-C Alloys", K. Ishida, H. Ohtani, N. Satoh, R. Kainuma and T. Nishizawa, *ISIJ Intl.* 30, 680-686 (1990).
29. "Ductility Enhancement in NiAl(B2)-Base Alloys by Microstructural Control", K. Ishida, R. Kainuma, N. Ueno and T. Nishizawa, *Metall. Trans.* 22A, 441-446 (1991).
30. "Pseudo-Interface in B2 Phase Region in Diffusion Couples of Ni-Al and Co-Al Base Systems", R. Kainuma, H. Ikenoya, K. Ishida and T. Nishizawa, *Proc. of the 6th JIM International Symposium on Intermetallic Compound*, 99-103 (1991).
31. "Experimental Study on Interaction Parameter for Carbon and Alloying Elements in Austenite and Ferrite", T. Nishizawa, K. Ishida, H. Ohtani, C. Kami and M. Suwa, *Scan. J. Metall* 20, (1991).
32. "Role of Miscibility Gap in Magnetic Alloys: Alnico, Fe-Cr-Co and Co-Cr", K. Ishida and T. Nishizawa, *User Aspects of Phase Diagrams*, F.H. Hayes, ed., The Institute of Metals, 185-198 (1991).
33. "Miscibility Gap in II-VI Alloy Semiconductor Systems", H. Ohtani, K. Kojima, K. Ishida and T. Nishizawa, *J. Alloys & Compd.* 182, 103-114 (1992).
34. "High Temperature Shape Memory Alloys of Ni-Al Base Systems", R. Kainuma, H. Nakano, K. Oikawa, K. Ishida and T. Nishizawa, *MRS Sympo. Proc.* 246, 403-408 (1992).
35. "Thermoelastic Martensite and Shape Memory Effect in B2 Base Ni-Al-Fe Alloy with Enhanced Ductility", R. Kainuma, K. Ishida and T. Nishizawa, *Metall. Trans.* 23A, 1147-1153 (1992).

36. "Thermodynamic Database for Alloy Phase Diagrams", H. Ohtani, K. Ishida and T. Nishizawa, Trans. MRS Japan, 9, 199-204 (1992).
37. "Phase Equilibria in III-V Quaternary Alloy Semiconductors, Part I: III-III-III-V and III-V-V-V Systems", H. Ohtani, K. Ishida and T. Nishizawa, Computer Aided Innovation of New Materials II, M. Doyama, J. Kihara, M. Tanaka and R. Yamamoto editors, Elsevier Sci. Pub., 749-752 (1993).
38. "Phase Equilibria in III-V Quaternary Alloy Semiconductors, Part II: III-III-V-V-V Systems", H. Ohtani, K. Ishida and T. Nishizawa, Computer Aided Innovation of New Materials II, M. Doyama, J. Kihara, M. Tanaka and R. Yamamoto editors, Elsevier Sci. Pub., 753-757 (1993).
39. "Microstructure, Hot-workability and Mechanical Properties of $\beta + \gamma$ Co-Ni-Al-Cr Base Alloys", R. Kainuma, S. Imano, K. Ishida and T. Nishizawa, Proc. of 3rd Japan International SAMPE Symposium, 1410-1415 (1993).
40. "High Speed Steel of Ultra-fine Grains Produced by CDC Process", K. Ishida, Zhang Ze-Gue, T. Kokubun, R. Kainuma and T. Nishizawa, Proc. of 13th International Plansee Seminar, 2, 343-352 (1993).
41. "粒子分散組織における結晶粒成長のコンピュータ・シミュレーション", 大沼郁雄, 大谷博司, 石田清仁, 西沢泰二, 日本金属学会誌 58, 1133-1140 (1994).
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