

# 早稲田嘉夫教授業績目録

平成 21 年 3 月  
東北大学史料館  
(著作目録第 1113 号)



## 早稲田 嘉 夫 教授 略 歴

生年月日	1945年10月22日
本 籍 地	宮城県
職 名	教授
所 属	多元物質科学研究所

### 最終学歴

昭和39年 3 月	愛知県立岡崎高等学校卒業
昭和43年 3 月	名古屋工業大学金属工学科卒業
昭和48年 3 月	東北大学大学院工学研究科博士課程 金属材料工学専攻修了

### 職 歴

昭和48年 4 月	東北大学助手 選鉱製錬研究所
昭和52年 2 月	Toronto 大学 (カナダ) シニア研究員
昭和52年 5 月	Toronto 大学 (カナダ) 冶金学科客員教授 (昭和54年 1 月まで)
昭和55年 1 月	東北大学講師 選鉱製錬研究所
昭和56年 6 月	東北大学助教授 選鉱製錬研究所
昭和57年 5 月	Pennsylvania 大学 (米国) 材料学科客員教授 (昭和58年 4 月まで)
昭和61年 7 月	東北大学教授 選鉱製錬研究所
平成 2 年11月	東北大学選鉱製錬研究所長併任 (平成 7 年10月まで)
平成 4 年 4 月	東北大学素材工学研究所所長 (改組により配置換え)
平成 8 年 5 月	東北大学素材研究所素材再生プロセス研究センター長
平成10年11月	東北大学素材工学研究所長
平成11年 4 月	京都大学大学院エネルギー科学研究科教授併任 (平成12年 3 月まで)
平成12年 4 月	京都大学大学院エネルギー科学研究科教授併任 (平成13年 3 月まで)
平成13年 4 月	東北大学多元物質科学研究所所長 (改組により配置換え)
	(平成14年10月まで所長併任)

平成14年11月	東北大学副総長（総務担当）多元物質科学研究所教授併任	
平成16年4月	国立大学法人東北大学理事（副総長）就任	
平成18年11月	東北大学教授フェロー 多元物質科学研究所	現在に至る

## 受賞

昭和58年10月	日本金属学会論文賞
昭和59年5月	村上記念会村上奨励賞
昭和60年1月	科学計測振興会賞
昭和61年4月	日本金属学会功績賞
昭和61年10月	日本金属学会論文賞
平成元年9月	日本金属学会論文賞
平成3年	インド材料学会論文賞
平成5年4月	日本金属学会金属組織写真賞
平成5年10月	日本金属学会技術開発賞
平成7年4月	日本鉄鋼協会西山記念賞
平成7年5月	高温学会論文賞
平成9年9月	日本金属学会論文賞
平成10年3月	資源・素材学会論文賞
平成11年11月	日本金属学会論文賞
平成12年2月	表面技術協会論文賞
平成12年3月	TMS Leadership Award 賞
平成12年3月	資源・素材学会論文賞
平成12年3月	日本金属学会学術功労賞
平成13年3月	資源・素材学会論文賞
平成13年9月	日本金属学会論文賞
平成15年3月	資源・素材学会論文賞
平成15年10月	日本金属学会論文賞
平成16年9月	日本金属学会村上記念賞
平成17年4月	紫綬褒章
平成18年3月	資源・素材学会論文賞
平成18年9月	日本金属学会論文賞
平成19年3月	インド材料学会名誉会員

## 学会ならびに社会における活動

### （審議会・委員等歴）

平成2年4月	無機材料研究所客員研究官（平成3年3月まで）
平成2年12月	新技術事業団木村融液動態プロジェクト研究顧問（平成3年10月まで）
平成3年2月	通商産業省産業技術審議会専門委員（平成4年2月まで）
平成4年2月	通商産業省産業技術審議会専門委員（平成6年2月まで）
平成5年12月	新技術事業団木村融液動態プロジェクト研究顧問（平成6年9月まで）
平成6年10月	新技術事業団木村融液動態プロジェクト研究顧問（平成7年9月まで）
平成6年10月	日本学術会議金属工学研究連絡委員会委員（平成9年10月まで）
平成9年10月	日本学術会議物質創製工学研究連絡委員会委員（平成12年10月まで）
平成9年10月	日本学術会議材料評価専門委員会委員長（平成12年10月まで）
平成10年6月	工業技術院北海道工業技術研究所研究員（非常勤職員）（極限環境材料部） （平成10年6月まで）
平成10年10月	科学技術振興事業団井上過冷金属プロジェクト研究顧問 （平成14年9月まで）

平成10年10月	大阪大学産業科学研究所ワーキンググループ外部評価委員会委員 (平成11年3月まで)
平成11年3月	通商産業省産業技術審議会専門委員 (平成13年3月まで)
平成11年5月	財団法人宇宙環境利用推進センター物性値測定分化学会委員会委員 (平成12年3月まで)
平成13年5月	産業技術総合研究所東北工業技術研究所懇談会委員 (平成13年3月まで)
平成13年6月	科学技術学術審議会 (研究計画・評価分科会) 専門委員 (平成15年1月まで)
平成15年5月	日本技術者教育認定機構理事 (平成16年3月まで)
平成16年4月	放射光利用研究促進機構諮問委員会委員 (平成16年8月まで)
平成16年4月	財団法人金属系・材料研究開発センター評議員 (平成18年3月)
平成17年6月	独立行政法人日本学術振興会国際事業委員会委員 (平成20年3月)
平成17年10月	日本学術会議第20期会員第三部 (平成23年9月まで)
平成18年1月	日本学術会議材料工学委員会副委員長 (平成20年9月まで)
平成18年1月	独立行政法人日本学術振興会科学研究費委員会委員 (平成18年12月まで)
平成18年4月	財団法人金属系・材料研究開発センター評議員 (平成20年3月まで)
平成19年1月	独立行政法人日本学術振興会科学研究費委員会委員 (平成19年12月まで)
平成19年7月	日本学術会議化学委員会 IUCr 委員会委員 (平成20年8月まで)
平成20年4月	財団法人金属系・材料研究開発センター評議員 (平成22年3月まで)
(地方公共団体	会議・委員等役員歴)
平成2年12月	社団法人みやぎ工業会特別委員
平成11年9月	社団法人みやぎ工業会特別委員
平成13年7月	社団法人みやぎ工業会特別委員
(学会等民間役員歴)	
平成4年4月	日本金属学会理事・副会長 (平成6年3月まで)
平成8年3月	日本金属学会理事 (平成10年3月まで)
平成9年4月	資源・素材学会評議員 (平成16年3月まで)
平成10年4月	資源・素材学会副会長 (平成11年3月まで)
平成12年3月	日本金属学会理事 (平成14年3月まで)
平成14年4月	資源・素材学会副会長 (平成15年3月まで)
平成15年4月	資源・素材学会会長 (平成16年3月まで)
平成16年3月	日本金属学会理事 (平成18年3月まで)
平成17年3月	日本金属学会会長 (平成18年3月まで)
平成17年5月	日本高温学会評議員 (平成19年5月まで)
平成19年5月	日本高温学会評議員 (平成21年5月30日まで)

## 業 績 目 録

## I. 学術論文 (Scientific Papers)

1969

1. On the Structure of Liquid Mercury.  
Y. Waseda, T. Iida, K. Suzuki and S. Takeuchi: Phys. Lett. , 29A(1969), p. 227-228.
2. Some Further Comments on the paper "On the Structure of Liquid Mercury".  
Y. Waseda, T. Iida, K. Suzuki and S. Takeuchi: Phys. Lett. 30A(1969), p. 121-122.

1970

3. Temperature Dependence of the Structure Factor of Liquid Mercury.  
Y. Waseda and K. Suzuki: Phys. Lett. , 31A(1970), p. 573-574.
4. Neutron Diffraction Study of Nickel in the Liquid State.  
Y. Waseda, K. Suzuki, S. Tamaki and S. Takeuchi: Phys. Stat. Sol. , 39(1970), p. 181-188.
5. Atomic Distribution and Magnetic Moment in Liquid Iron by Neutron Diffraction.  
Y. Waseda and K. Suzuki: Phys. Stat. Sol. , 39(1970), p. 669-678.
6. Temperature Dependence of the Structure of Liquid Mercury.  
Y. Waseda and K. Suzuki: Phys. Stat. Sol. , 40(1970), p. 183-191.

1971

7. Pair Potentials in Liquid Cs and Ar by the Born-Green Equation.  
Y. Waseda and K. Suzuki: Phys. Lett. , 34A(1971), p. 69-70.
8. Structure Factor of Liquid Antimony at Two Temperatures.  
Y. Waseda and K. Suzuki: Phys. Lett. , 35A(1971), p. 315-316.
9. Numerical Solution of the Born-Green Equation for the Pair Potential.  
Y. Waseda and K. Suzuki: Phys. Stat. Sol. (b), 47(1971), p. 203-210.
10. Structure of Liquid Antimony by Neutron Diffraction.  
Y. Waseda and K. Suzuki: Phys. Stat. Sol. , (b), 47(1971), p. 581-590.

11. Partial Structure Factors of Liquid Na-K and Al-Mg Alloys.  
Y. Waseda and M. Ohtani: Phys. Stat. Sol. , (b), 48(1971), p. K77-K81.
12. Structure and Effective Ion-Ion Interaction in Liquid Iron and Nickel.  
Y. Waseda and K. Suzuki: Proc. Inter. Conf. on the Science and Technology of Iron and Steel, Suppl. Trans. Iron and Steel Japan, 11(1971), p. 392-395.
13. A Linearized Simultaneous Equation Method on Solving the Born-Green Equation for the Pair Potential.  
Y. Waseda and K. Suzuki: Phys. Stat. Sol. (b), 43(1971), p. K79-K82.

1972

14. Structure Factor and Atomic Distribution in Liquid Metals by X-ray Diffraction.  
Y. Waseda and K. Suzuki: Phys. Stat. Sol. , (b), 49(1972), p. 339-347.
15. Partial Structure Factors and Atomic Distributions in Liquid Hg-In and Hg-Tl Alloys.  
Y. Waseda, N. Kuroha, K. Suzuki and M. Ohtani: Phys. Stat. Sol. (b), 52(1972), p. 571-579.
16. Effective Interionic Pair Potentials in Liquid Te, Sb and Bi.  
Y. Waseda and K. Suzuki: Phys. Sta. Sol. (b), 51(1972), p. K109-K112.
17. Effect of the Pressure on the Pair Potential for Simple Liquid Metals.  
Y. Waseda and M. Ohtani: Phys. Stat. Sol. (b), 52(1972), p. K37-K40.
18. Interionic Potentials in Liquid Alkali Metals.  
Y. Waseda and K. Suzuki: Phys. Stat. Sol. (b), 49(1972), p. 643-650.
19. Effective Interionic Potentials and Properties. (in Japanese)  
Y. Waseda and M. Ohtani: J. Japan Inst. Metals, 36(1972), p. 1016-1025.
20. On the Pressure Dependence of the Structure in Liquid Neon and Sodium. (in Japanese)  
Y. Waseda and M. Ohtani: J. Japan Inst. Metals, 36(1972), p. 1087-1092.

1973

21. Partial Structure Factors of Liquid Na-K and Al-Mg Alloys.  
Y. Waseda, M. Ohtani and K. Suzuki: Z. Naturforsch. , 28a(1973), p. 1002-1008.

22. Application of the Kinetic Theory of Fluids to Self-Diffusion in Molten Noble and Transition Metals.  
Y. Waseda and K. Suzuki: *Scripta Met.* , **7**(1973), p. 1157-1160.
23. Structure and Pair Potentials of Liquid Metals by X-ray and Neutron Diffraction.  
Y. Waseda and K. Suzuki: *Proc. 2nd Inter. Conf. on Liquid Metals*, Taylor and Francis, (1973), p. 37-41.
24. Interionic Potentials in Liquid Metals Including Liquid Noble and Transition Metals.  
Y. Waseda and K. Suzuki: *Phys. Sta. Sol. (b)*, **57**(1973), p. 351-367.
25. Effective Interionic Pair Potentials and Properties for Liquid Sodium and Potassium.  
Y. Waseda and K. Suzuki: *Acta Met.* , **21**(1973), p. 1065-1072.

1974

26. Temperature Dependence of the Structure of Liquid Mercury up to 250°C.  
Y. Waseda, K. Yokoyama and K. Suzuki: *Phil. Mag.* , **29**(1974), p. 1427-1430.
27. The Structure of Liquid Alkaline Earth Metals.  
Y. Waseda, K. Yokoyama and K. Suzuki: *Phil. Mag.* , **30**(1974), p. 1195-1198.
28. Structure of Molten Selenium by X-ray Diffraction.  
Y. Waseda, K. Yokoyama and K. Suzuki: *Phys. cond. Matter.* , **18**(1974), p. 293-299.
29. Static Structure of Liquid Noble and Transition Metals by X-ray Diffraction.  
Y. Waseda and M. Ohtani: *Phys. Stat. Sol. (b)*, **62**(1974), p. 535-546.
30. Triplet Correlation and Pair Potential Functions in Liquid Neon and Sodium.  
Y. Waseda, M. Ohtani and K. Suzuki: *J. Phys. Chem. Solids*, **35**(1974), p. 585-589.
31. Triplet Correlation Function and Related Quantities in Liquid Sodium from Experimental Structure Factor.  
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1975

32. Structure of Molten Silicon and Germanium by X-ray Diffraction.  
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33. X-ray Diffraction Study of Molten Te and Tl-Te Alloys.  
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34. Structure and Effective Interionic Potential of Liquid Palladium, Platinum and Zirconium.  
Y. Waseda and M. Ohtani: *Z. Physik*, **B21**(1975), p. 229-234.
35. The Structure of 3d-transition Metals in the Liquid State.  
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36. Structure of Molten Mg, Ca, Sr and Ba by X-ray Diffraction.  
Y. Waseda, K. Yokoyama and K. Suzuki: *Z. Naturforsch.* , **30a**(1975), p. 801-805.
37. Structure of Liquid Pb-Bi Alloys by X-ray Diffraction.  
Y. Waseda, K. Yokoyama and K. Suzuki: *Phys. Chem. Liquids*, **4**(1975), p. 267-278.
38. Structural Study of Platinum and Chromium in the Liquid State by X-ray Diffraction.  
Y. Waseda and S. Tamaki: *High Temp. High Pressures*, **7**(1975), p. 215-220.
39. Structure and Effective Interionic Potential of Liquid Titanium.  
Y. Waseda and S. Tamaki: *Phys. Stat. Sol. (b)*, **71**(1975), p. 665-670.
40. Effective Interionic Potentials and Properties of Molten Noble and Transition Metals.  
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41. Structural Study of an Amorphous Pd<sub>80</sub>-Si<sub>20</sub> Alloy by X-ray Fourier Analysis.  
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42. An X-ray Diffraction Study of the Structure of Amorphous Cu<sub>57</sub>-Zr<sub>43</sub> Alloy.  
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43. Structure of Amorphous Fe<sub>80</sub>-P<sub>13</sub>-C<sub>7</sub> Alloy by X-ray Diffraction.  
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44. High Temperature Thermal Expansion of Platinum, Tantalum, Molybdenum, and Tungsten Measured by X-ray Diffraction.  
Y. Waseda, K. Hirata and M. Ohtani: *High Temp. High Press.* , **7**(1975), p. 221-226.



45. The Partial Structure Factors of Liquid Ni-Si Alloys by the Anomalous X-ray Scattering.  
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46. Coefficient, Self-diffusion Coefficient, and Surface Tension of Molten Metals by the Principle of Corresponding States. The Estimation of Viscosity. (in Japanese)  
Y. Waseda and M. Ohtani: *Tetsu to Hagane*, **61**(1975), p. 46-53.
47. The Structure of Molten Fe and Fe-C Alloys by X-ray Diffraction. (in Japanese)  
Y. Waseda, M. Tokuda and M. Ohtani: *Tetsu to Hagane*, **61**(1975), p. 54-70.

1976

48. Pair Potentials and Properties of Simple Liquids from the Pair Correlation Function.  
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49. Effective Interatomic Potentials of Liquid Semiconductors.  
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50. Application of the Hard-Sphere Model to Thermodynamic Properties of Liquid 3d Transition Metals.  
S. Tamaki and Y. Waseda: *J. Phys. F. Metal Phys.* , **6**(1976), p. L89-L92.
51. Structural Stability of Amorphous Metals.  
T. Masumoto, H. Kimura, A. Inoue and Y. Waseda: *Mater. Sci. Eng.* , **23**(1976), p. 141-144.
52. A Comparison Between the Structure of Oxide Glass (SiO<sub>2</sub>) and Metallic Glass (Fe-P).  
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53. The Partial Structure Factors of Amorphous Nickel-Phosphorus Alloys.  
Y. Waseda and S. Tamaki: *Z. Physik B*, **23**(1976), p. 315-319.
54. Determination of the Partial Structure Factors of Liquid Fe-Si Alloys by the Anomalous Scattering of X-rays.  
Y. Waseda and S. Tamaki: *Commun. on Phys.* , **1**(1976), p. 3-9.
55. The Structure of Molten Alkali Silicates. (in Japanese)  
Y. Waseda and H. Suito: *Tetsu to Hagane*, **62**(1976), p. 1493-1502.

1977

56. On the Density of Electronic States of Liquid Mercury.  
M. Kuroha, Y. Waseda and K. Suzuki: *J. Phys. Soc. Japan*, **42**(1977), p. 107-111.
57. On the Structure of Liquid Au-Co Alloys.  
Y. Waseda and S. Tamaki: *J. Phys. Soc. Japan*, **43**(1977), p. 1258-1261.
58. Heat of Vaporization and Density of States of the d-band in Liquid 3d-Transition Metals.  
Y. Waseda, S. Tamaki and Y. Tsuchiya: *Phil. Mag.*, **35**(1977), p. 1417-1420.
59. The Structure of Rare Earth Metals in the Liquid State.  
Y. Waseda and S. Tamaki: *Phil. Mag.*, **36**(1977), p. 1-8.
60. The Structure of Molten Nickel-Phosphorus Alloys.  
Y. Waseda and J. M. Toguri: *Z. Naturforsch.*, **32a**(1977), p. 1506-1511.
61. The Structure of Liquid Ce-Ni Alloys.  
Y. Waseda and S. Tamaki: *J. Phys. F Metal. Phys.*, **6**(1977), p. L151-L153.
62. Resistivity of Liquid Transition Metals and Their Alloys Using the t- Matrix.  
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63. A Comparison Between the Structure of Amorphous Ni-P and Cu-Zr Alloys.  
Y. Waseda, T. Masumoto and S. Tamaki: *Proc. 3rd Inter. Conf. on Liquid Metals, Bristol, Inst. Phys. Conf. Ser. No. 30*(1977), p. 268-273.
64. The Resistivity of Amorphous Transition Elements.  
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65. Structural Study of Amorphous Cu-Zr Alloys.  
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66. Temperature Dependence of the Structure of Molten Silicates  $M_2O-2SiO_2$  and  $M_2O-SiO_2$  (M=Li, Na and K).  
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69. The Structure of Molten Fe-P and Fe-Si Alloys. (in Japanese)  
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70. The Structure of the Molten CaO-SiO<sub>2</sub> System. (in Japanese)  
Y. Waseda, H. Suito and Y. Shiraishi: *Tetsu to Hagane*, **41**(1977), p. 1068-1073.

1978

71. The Structure and Electron Localization of Liquid IIIb-Te Alloys.  
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72. A Structural Study of Some Liquid Rare Earth Metals (Nd, Dy, Ho, Er and Lu).  
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73. Resistivity, its Temperature Coefficient and Thermoelectric Power of Liquid Rare Earths (La, Ce, Eu, Gd, Yb) Using t Matrix.  
Y. Waseda, A. Jain and S. Tamaki: *J. Phys. F Metal Phys.* , **8**(1978), p. 125-130.
74. Calculation of the Crystal-Melt Interfacial Free Energy from Experimental Radial Distribution Function Data.  
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75. Vapour Pressure of Liquid Metals and Alloys.  
Y. Waseda, K. T. Jacob, Y. Tsuchiya and S. Tamaki: *Z. Naturforsch.* , **33a**(1978), p. 940-945.
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