

学歴

- 1972年3月 東京大学理学部化学科卒業
1974年3月 東京大学大学院理学系研究科化学専門課程 修士課程終了
1974年8月 東京大学大学院理学系研究科化学専門課程 博士課程中退（就職のため）

【学位論文】

- 1981年3月 理学博士（東京大学）

職歴

- 1974年8月-1991年3月 学習院大学理学部助手
1991年4月-1996年3月 横浜国立大学教育学部助教授
1996年4月-2014年3月 千葉大学大学院教授（自然科学研究科および融合科学研究科）
（評議員、研究科長などを兼務）
2014年4月-2018年8月 日本学術振興会 監事
2014年6月-2019年3月 千葉大学特任教授（兼務）
2014年6月 千葉大学名誉教授
2019年4月- 公益財団法人 豊田理化学研究所 フェロー

個人情報

西川恵子

学会活動

- 日本化学会（「化学と工業」編集委員、理事など）
- 日本物理学会
- 日本結晶学会（学会誌編集委員、評議員など）
- 日本放射光学会
- 分子科学会（2006–2008年 初代会長）
- イオン液体研究会（2010–2014年 世話人代表）

本務以外の主な活動—プロジェクト/プログラムの代表・プログラムオフィサーなど

- ・科研費特定領域『イオン液体の科学』領域代表（2005年–2010年）
- ・科学技術振興機構 ERATO（中嶋プロジェクト）のパネルオフィサー（2009–2014年）
- ・科学技術振興機構 戦略的イノベーション創出推進プログラム（宮田フォトニックスポリマー）アドバイザー（2009–2019年）

本務以外の主な活動—管理・運営・学術行政

- ・文部科学省 科学技術学術審議会 臨時委員（2011–2018年）
主に学術分科会研究費部会および科学研究費審査部会
- ・日本学術会議 連携委員（2005年–）
- ・日本学術振興会学術システム研究センター主任研究員（2007–2010年）
- ・日本学術振興会 監事（非常勤）（2014年10月–2015年3月）
- ・豊田技術科学大学 アドバイザー（2014年–）
- ・総合研究院大学 経営協議会委員（2018年–）

本務以外の主な活動—選考委員など

- ・文化審議会文化功労者選考委員会 委員（2010年）
- ・山田科学財団審査員（2009–2014年）その後 参与
- ・旭硝子財団審査員（2014年–）

受賞・褒章

- 1988年 日本結晶学会賞
- 1998年 猿橋賞
- 2012年 日本化学会賞
- 2012年 文部科学大臣表彰 科学技術賞（研究部門）
- 2013年 紫綬褒章（春）
- 2014年 分子科学会賞

研究業績リスト(2019)

西川恵子

I. 原著論文

- 1) Structure of Polyvanadotungstates I. The Crystal Structure of $\alpha\text{-(CN}_3\text{H}_6)_4\text{V}_2\text{W}_4\text{O}_{19}$.
K. Nishikawa, A. Kobayashi and Y. Sasaki
Bull. Chem. Soc. Jpn., **48**, 889 (1975).
- 2) Structure of Polyvanadotungstates II. The Crystal Structure of $\text{K}_7\text{V}_5\text{W}_8\text{O}_{40} \cdot 12\text{H}_2\text{O}$.
K. Nishikawa, A. Kobayashi and Y. Sasaki
Bull. Chem. Soc. Jpn., **48**, 3152 (1975).
- 3) The Construction of Energy-Dispersive X-ray Diffractometer for Liquids and Its application to CCl_4 .
Y. Murata and K. Nishikawa
Bull. Chem. Soc. Jpn., **51**, 411 (1978).
- 4) Liquids Structure of CCl_4 and Long-Range Correlation.
K. Nishikawa and Y. Murata
Bull. Chem. Soc. Jpn., **52**, 293 (1979).
- 5) The Temperature Dependence of the Liquid Structure of CCl_4 .
K. Nishikawa, K. Tohji, M. Shima and Y. Murata
Chem. Phys. Lett., **64**, 154 (1979).
- 6) Direct Observation of Phase Transformation Process by Energy-Dispersive X-ray Diffractometry.
K. Tohji, K. Nishikawa and Y. Murata
Jpn. J. Appl. Phys., **19**, L365 (1980).
- 7) X-ray Diffraction Study of Liquid Water.
K. Nishikawa and N. Kitagawa
Bull. Chem. Soc. Jpn., **53**, 2804 (1980).
- 8) X-ray Diffraction Study of Liquid Methanol.
M. Tanaka, K. Nishikawa and T. Fujiyama
Chem. Lett., **327** (1981).
- 9) The Intermolecular Arrangement in Plastic Crystal (Phase Ia) of Carbon Tetrachloride Studied by X-ray Diffraction.
K. Nishikawa, K. Tohji and Y. Murata
J. Chem. Phys., **74**, 5817 (1981).
- 10) X-ray Diffraction Study of Mixing State in the Carbon Tetrachloride Solutions of Methanol and Pentane.
M. Tanaka, K. Nishikawa, K. Tohji and T. Fujiyama
Bull. Chem. Soc. Jpn., **56**, 1273 (1983).
- 11) Correction for Intensity Data in Energy-Dispersive X-ray Diffractometry of Liquids. Application to Carbon Tetrachloride.
K. Nishikawa and T. Iijima
Bull. Chem. Soc. Jpn., **57**, 1750 (1984).
- 12) Clathrate-like Structure of Water around Some Nonelectrolytes in Dilute Solution as Revealed by Computer Simulation and X-ray Diffraction Studies.
H. Tanaka, K. Nishikawa and K. Nakanishi
J. Inclusion Studies, **2**, 119 (1984).

- 13) Structure Model for Liquid Carbon Tetrachloride.
K. Nishikawa and T. Iijima
Bull. Chem. Soc. Jpn., **58**, 1215 (1985).
- 14) Mean Square Deviations of Interatomic Distances in Liquid Carbon Tetrachloride.
K. Nishikawa and T. Iijima
Bull. Chem. Soc. Jpn., **58**, 1220 (1985).
- 15) Use of Reciprocal Space Expansion in the Analysis of X-ray Scattering Intensities from Liquids.
T. Iijima and K. Nishikawa
Chem. Phys. Lett., **115**, 522 (1985).
- 16) Reciprocal Space Expansion in the Analysis of X-ray Scattering Intensities from Liquid CCl₄.
K. Nishikawa and T. Iijima
Bull. Chem. Soc. Jpn., **59**, 117 (1986).
- 17) Structure Model for Liquid Neopentane.
K. Nishikawa
Bull. Chem. Soc. Jpn., **59**, 2920 (1986).
- 18) Determination of Energy Spectrum of the Primary Beam in Energy-Dispersive Diffractometry.
K. Nishikawa, K. Ishizawa, K. Kodera and T. Iijima
Jpn. J. Appl. Phys., **25**, 1431(1986).
- 19) Simple Relationship between the Kirkwood-Buff Parameters and the Fluctuations of the Particle Number and Concentration Obtained by Small-Angle X-ray Scattering.
K. Nishikawa
Chem. Phys. Lett., **132**, 50 (1986).
- 20) エネルギー分散型 X線回折法による 1,1,1-トリクロロエタンの液体構造の決定
西川恵子, 長野和美, 飯島孝夫
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- 21) Fluctuations in the Particle Number and Concentration and the Kirkwood-Buff Parameters of *tert*-Butyl Alcohol and Water Mixtures Studied by Small-Angle X-ray Scattering.
K. Nishikawa, Y. Kodera and T. Iijima
J. Phys. Chem., **91**, 3694 (1987).
- 22) Binding and Correlation Effects in Nitrogen and Oxygen and the Correlation Effects in Neon, as Studied by Gas X-ray Diffraction.
K. Nishikawa and T. Iijima
J. Chem. Phys., **87**, 3753 (1987).
- 23) Structural Study of Liquid 1,1,1-Trichloroethane by X-ray Diffraction.
K. Nishikawa and T. Iijima
Bull. Chem. Soc. Jpn., **61**, 217 (1988).
- 24) X-ray Inelastic Scattering Intensity Measured by the Energy-Dispersive Diffractometry.
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- 25) Temperature Dependence of the Concentration Fluctuation, the Kirkwood-Buff Parameters and the Correlation Length of *tert*-Butyl Alcohol and Water Mixtures Studied by Small-Angle X-ray Scattering.
K. Nishikawa, H. Hayashi and T. Iijima

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- 26) Construction of a Small-Angle X-ray Scattering Diffractometer for Study of Fluctuations in Solutions.
H. Hayashi, K. Nishikawa and T. Iijima
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- 27) The Micropore Swelling of Activated Carbon Fibers with Water Adsorption Studied by Use of in situ Small-Angle X-ray Scattering.
K. Kaneko, Y. Fujiwara and K. Nishikawa
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H. Hayashi, K. Nishikawa and T. Iijima
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- 29) Structural Study of tert-Butyl Alcohol and Water Mixtures by X-ray Diffraction.
K. Nishikawa and T. Iijima
J. Phys. Chem., **94**, 6227 (1990).
- 30) Small-Angle X-ray Scattering Study of Fluctuations in 1-Propanol-Water and 2-Propanol- Water Systems.
H. Hayashi, K. Nishikawa and T. Iijima
J. Phys. Chem., **94**, 8334 (1990).
- 31) Surface Fractal Dimension of Microporous Carbon Fibers by Nitrogen Adsorption.
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- 32) Accuracy of Intensity Measurement by Use of an Area Detector with a Photostimulable Phosphor Screen, as Confirmed by Measuring Scattering Intensity from a Liquid.
K. Nishikawa, Y. Sakamoto and T. Iijima
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Y. Fujiwara, K. Nishikawa, T. Iijima and K. Kaneko
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- 34) Small-Angle X-ray Scattering Study of Fluctuations in Ethanol and Water Mixtures.
K. Nishikawa and T. Iijima
J. Phys. Chem., **97**, 10824 (1993).
- 35) Construction of Sample Holder for X-ray Diffraction Experiments on Supercritical Fluids.
K. Nishikawa and M. Takematsu
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- 36) Structure Model of Liquid Water as Investigated by the Method of Reciprocal Space Expansion.
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- 40) An Ordered Water Molecular Assembly Structure in a Slit-shaped Carbon Nanospace.
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- 44) Molecular Assembly Structure of CCl₄ in Graphitic Nanospaces.
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- 48) Fluid Behavior at Supercritical States Studied by Small-Angle X-Ray Scattering. ここから番号ズレ
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- 49) Influence of Fine Particles on Carbon Deposition in the Coke Oven Chamber.
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- 50) ガラス状炭素の小角X線散乱強度と黒鉛化挙動
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- 53) Development of Thermal Conductivity Measurement for Fluids which is Convenient and Effective for Samples near the Critical Point.
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- 59) Inhomogeneity of Molecular Distribution in Supercritical Fluids.
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Chem. Phys. Lett. **316**, 238-242 (2000).
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J. Chem. Phys. **112**, 4203-4211 (2000).
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H. Nakayama, K. Saitow, M. Sakashita, K. Ishii and K. Nishikawa
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P. V. Nikolova, S. J. B. Duff, P. Westh, C. A. Haynes, Y. Kasahara, K. Nishikawa and Y. Koga
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- 63) Supercritical-Fluid Cell with Device of Variable Optical Path Length Giving Fringe-Free Terahertz Spectra.
K. Saitow, K. Nishikawa, H. Ohtake, N. Sarukura, H. Miyagi, Y. Shimokawa, H. Matsuo and K. Tominaga
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K. Fukuyama, Y. Kasahara, N. Kasahara, A. Oya and K. Nishikawa
Carbon **39**, 287-290 (2001).
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K. Fukuyama, T. Nishizawa and K. Nishikawa
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- 66) Investigation of Pore Structure in Glass-like Carbon Prepared from Furan Resin.
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Carbon **39**, 2017-2021 (2001).
- 67) Construction of a Sample Cell of Poisonous Organic Solvents in Supercritical State for Small-Angle X-ray Scattering Measurements.
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- K. Tozaki, J. Kudo, Z. Chen and K. Nishikawa
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J. Chem. Phys. **118**, 1341-1346 (2003).
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Chem. Phys. Lett. **368**, 209-214 (2003).
- 79) Chemical Potential and Concentration Fluctuation in Some Aqueous Alkane-mono-ols at 25 °C.
J. Hu, C. A. Haynes, A. H. Y. Wu, C. M. W. Chang, M. G. M. Chen, E. G. M. Yee, T. Ichioka,
K. Nishikawa and Y. Koga
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Can. J. Chem. **81**, 150-155 (2003)
- 81) Investigation of Structural Fluctuation of Supercritical Benzene by Small-angle X-ray Scattering.
A. A. Arai, T. Morita and K. Nishikawa
J. Chem. Phys. **119**, 1502-1509 (2003)
- 82) X-ray Absorption Fine Structure Study on Residue Bromine in Carbons with Different Graphitization Degree.
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- 83) Dynamics of Density Fluctuation of Supercritical Fluid Mapped on Phase Diagram.
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- 84) The Effects of Na₂SO₄ and NaClO₄ on the Molecular Organization of H₂O.
Y. Koga, P. Westh and K. Nishikawa
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- 85) “Icebergs” or No “Icebergs” in Aqueous Alcohols? Composition-dependent Mixing Schemes.
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J. Phys. Chem. A **108**, 3873-3877 (2004).
- 86) Density Fluctuation of Supercritical Fluids Obtained from Small-angle X-ray Scattering Experiment and Thermodynamic Calculation.
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- 87) How are Hydrogen Bonds Perturbed in Aqueous NaClO₄ Solution Depending on the Concentration?

A Near Infrared Study of Water.

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91) Towards Understanding the Hofmeister Series (1): The Effect of Sodium Salts of Some Anions on the Molecular Organization of H₂O.

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J. Phys. Chem. B **108**, 19451-19457 (2004).

93) Mesocellular Foam Carbons: Aggregates of Hollow Carbon Spheres with Open and Closed Wall Structures.

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94) Novel detection method of Liquid-Liquid phase separation

H. Kato, H. Katayanagi, Y. Koga and K. Nishikawa

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95) Analysis to obtain precise density fluctuation of supercritical fluids by small-angle X-ray scattering

A. A. Arai, T. Morita and K. Nishikawa

Chem. Phys. **310**, 123-128 (2005).

96) Time Evolution of Density Fluctuation in Supercritical Region: Part I. Nonhydrogen Bonded Fluids Studied by Dynamic Light Scattering.

K. Saitow, D. Kajiya and K. Nishikawa

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