

Curriculum Vitae

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Education:

1967-1971 Faculty of Mathematics, Department of Science,
University of Kyoto

Work experience:

1971-1985 IBM Japan

Research and professional experience:

1985- Lecturer of Information Mathematics at Osaka University of
Economics

1995-present Professor at Osaka University of Economics

2005-2006 Visiting fellows at University of Cambridge, UK

Membership of academic societies:

Sugaku Kyouiku Kyogikai (Association for Mathematical Instruction)

Nihonsugaku kyoukai (Japan Mathematical Society), Director

Katachi no bunkakai (Society of Form and Imagination)

Others:

Honored Director of the Japan Boomerang Association

Publications

Book: (in English)

The Mysterious Number 6174: One of 30 Amazing Mathematical Topics in Daily Life”, Osaka University of Economics Research Series, Vol. 79, Gendai Sugakusha (July 25, 2013), ISBN 978-4768761748

Books: (in Japanese)

- 1) *Tamagowa naze tamagogatata (Why are eggs ovalshaped?)*, Tokyo:Nihon hyouronsya, 1986, 163 pages.
- 2) *Kurashino arugorizumu (Algorithm in daily life)*, Kyoto: Nakanishiya syoten, 1989, 163 pages.
- 3) *Saiensu no Kaori (Promenade of Science)*, Tokyo: Nihon hyouronsya, 1991, 194 pages.
- 4) *Densitaionkei no kenkyu (Study of Electronic Clinical Thermometer)*, Kyoto: Horitsu bunkasya, 1993, 300 pages.
- 5) *Hitoto hitodeto sakkaboru (Finger, Starfish and Soccer ball)*, Tokyo: Sanseidou, 1993, 211 pages.
- 6) *Bumeran wa naze modottekurunoka (Why does a Boomerang come back?)*, Tokyo: Nesco, 1994, 239 pages.
- 7) *Shizenkaini hisomu 5no nazo (The mystery of figure 5 hidden in Nature)*, Tokyo: Chikuma Syobou, 1999, 189 pages.
- 8) *Sugaku wo Tanoshimu (Enjoy Mathematics: Mathematics in Daily Life)*, Kyoto: Gendai Sugaku Sya, 2007, 272 pages.

Papers: (in English)

- 1) The World of Boomerangs, Bulletin of Science, Technology & Society, Vol.22, No.1, 13-20, Sage Publications, February 2002
- 2) Why Is a Flower Five-Petaled? Journal of Science Education and Technology, Vol.13, No.1, 107-114, Springer Netherlands, April 2004
- 3) A bright idea, Plus web magazine, issue 36, Millennium Mathematics Project, University of Cambridge, September 2005
- 4) Building Blocks Problem Related to Harmonic Series, The Montana Mathematics Enthusiast, Vol.3, No.1, 76-84, February 2006
- 5) Mysterious Number 6174, Plus web magazine, issue 38, Millennium Mathematics Project, University of Cambridge, March 2006
- 6) A Study of Odd- and Even-Number Cultures, Bulletin of Science, Technology & Society, Vol.26, No.6, 479-484, Sage Publications, December 2006
- 7) Boomerang International Project 2007, 2007/8/6

<http://www.kbn3.com/bip/index2.html>

- 8) Fixed Points in Similarity Transformations, International Journal of Pure and Applied Mathematics, Vol. 56, No. 3, 429-438, Academic Publications, 2009
- 9) General Solution for Multiple Foldings of Hexaflexagons, International Journal of Pure and Applied Mathematics, Vol. 58, No. 1, 113-124, Academic Publications, 2010.
- 10) Pattern Matching Probabilities and Paradoxes as a New Variation of Penney's Coin Game, International Journal of Pure and Applied Mathematics, Vol. 59, No.3, 357-366, Academic Publications, 2010.
- 11) Winning Odds, PLUS web magazine, issue 55, Millennium Mathematics Project, University of Cambridge, June 2010
- 12) Mathematics of Direction in Writing, International Journal of Pure and Applied Mathematics, Vol. 61, No.3, 347-356, Academic Publications, 2010.
- 13) S. Humble & Y. Nishiyama, Humble-Nishiyama Randomness Game - A New Variation of Penney's Coin Game, IMA Mathematics Today, Vol. 46, No. 4, August 2010, pp194-195.
- 14) FLEXIBLE GEOMETRY ILLUSTRATED BY THE TOPOLOGY OF AN ENTANGLED RING PUZZLE, International Journal of Pure and Applied Mathematics, Vol.66, No.1, 61-70, 2011.
- 15) THE BEAUTIFUL GEOMETRIC THEOREM OF VAN AUBEL, International Journal of Pure and Applied Mathematics, Vol.66, No.1, 71-80, 2011.
- 16) INTERESTING PROBABILITY CALCULATIONS USING CARDS TO WIN THE RED OR BLACK GAME, International Journal of Pure and Applied Mathematics, Vol.66, No.1, 81-90, 2011.
- 17) THE MATHEMATICS OF MINOR KEYS, International Journal of Pure and Applied Mathematics, Vol.67, No.2, 149-158, 2011.
- 18) THE "52 CYCLING CARDS" TRICK USING MODULAR ARITHMETIC, International Journal of Pure and Applied Mathematics, Vol.74, No.1, 1-10, 2012.
- 19) THE MATHEMATICS OF THE STRAW FLUTE, International Journal of Pure and Applied Mathematics, Vol.74, No.1, 11-20, 2012.
- 20) Having fun with unit fractions, Plus, Millennium Mathematics Project, University of Cambridge, Feb 2012.
- 21) WHY DO BOOMERANGS COME BACK?, International Journal of Pure and Applied Mathematics, Vol.78, No.3, 335-347, 2012.
- 22) FIVE PETALS: THE MYSTERIOUS NUMBER "5" HIDDEN IN NATURE, International Journal of Pure and Applied Mathematics, Vol.78, No.3, 349-362, 2012.
- 23) AN ELEGANT SOLUTION FOR DRAWING A FIXED POINT, International Journal of Pure and Applied Mathematics, Vol.78, No.3, 363-377, 2012.
- 24) STAIRWAY LIGHT SWITCHES, International Journal of Pure and Applied Mathematics, Vol.78, No.5, 657-667, 2012.
- 25) MATHEMATICS OF FANS, International Journal of Pure and Applied Mathematics,

Vol.78, No.5, 669-678, 2012.

26) THE MATHEMATICS OF EGG SHAPE, International Journal of Pure and Applied Mathematics, Vol.78, No.5, 679-689, 2012.

27) WHAT'S IN BARCODES?: DUPLICATED COMBINATIONS, International Journal of Pure and Applied Mathematics, Vol.78, No.8, 1099-1109, 2012.

28) BUILDING BLOCKS AND HARMONIC SERIES, International Journal of Pure and Applied Mathematics, Vol.78, No.8, 1111-1120, 2012.

29) PLAYING WITH MOEBIUS STRIPS, International Journal of Pure and Applied Mathematics, Vol.78, No.8, 1121-1130, 2012.

30) TURNING THINGS INSIDE OUT, International Journal of Pure and Applied Mathematics, Vol.79, No.2, 259-268, 2012.

31) MIURA FOLDING: APPLYING ORIGAMI TO SPACE EXPLORATION, International Journal of Pure and Applied Mathematics, Vol.79, No.2, 269-279, 2012.

32) THE SEPAK TAKRAW BALL PUZZLE, International Journal of Pure and Applied Mathematics, Vol.79, No.2, 281-291, 2012.

33) THE WEIRDNESS OF NUMBER 6174, International Journal of Pure and Applied Mathematics, Vol.80, No.3, 363-373, 2012.

34) NUMERICAL PALINDROMES AND THE 196 PROBLEM, International Journal of Pure and Applied Mathematics, Vol.80, No.3, 375-384, 2012.

35) INCREASING AND DECREASING OF AREAS, International Journal of Pure and Applied Mathematics, Vol.80, No.3, 385-393, 2012.

36) FROM OLDHAM'S COUPLING TO AIR CONDITIONERS, International Journal of Pure and Applied Mathematics, Vol.81, No.1, 81-90, 2012.

37) MEASURING AREAS: FROM POLYGONS TO LAND MAPS, International Journal of Pure and Applied Mathematics, Vol.81, No.1, 91-99, 2012.

38) SICHERMAN DICE: EQUIVALENT SUMS WITH A PAIR OF DICE, International Journal of Pure and Applied Mathematics, Vol.81, No.1, 101-110, 2012.

39) UNEXPECTED PROBABILITIES, International Journal of Pure and Applied Mathematics, Vol.81, No.6, 821-830, 2012.

40) OPENING THE BLACK BOX OF RANDOM NUMBERS, International Journal of Pure and Applied Mathematics, Vol.81, No.6, 831-839, 2012.

41) CALCULATING ROOT 2, International Journal of Pure and Applied Mathematics, Vol.81, No.6, 841-856, 2012.

42) THE BRACHISTOCHRONE CURVE: THE PROBLEM OF QUICKEST DESCENT, International Journal of Pure and Applied Mathematics, Vol.82, No.3, 409-419, 2013.

43) MACHIN'S FORMULA AND PI, International Journal of Pure and Applied Mathematics, Vol.82, No.3, 421-430, 2013.

44) BURNSIDE'S LEMMA, International Journal of Pure and Applied Mathematics, Vol.82, No.3, 431-440, 2013.

45) GAUSS' METHOD OF CONSTRUCTING A REGULAR HEPTADECAGON,

- International Journal of Pure and Applied Mathematics, Vol.82, No.5, 695-707, 2013.
- 46) SUDOKU: THE NEW SMASH HIT PUZZLE GAME, International Journal of Pure and Applied Mathematics, Vol.82, No.5, 709-718, 2013.
- 47) ODD AND EVEN NUMBER CULTURES, International Journal of Pure and Applied Mathematics, Vol.82, No.5, 719-729, 2013.
- 48) UNIT FRACTIONS THAT SUM TO 1, International Journal of Pure and Applied Mathematics, Vol.85, No.1, 83-93, 2013.
- 49) THE THREE-COLOR TRIANGLE PROBLEM, International Journal of Pure and Applied Mathematics, Vol.85, No.1, 69-81, 2013.
- 50) THE PROBABILITY OF CARDS MEETING AFTER A SHUFFLE,
International Journal of Pure and Applied Mathematics, Vol.85, No.5, 849-857, 2013.
- 51) COUNTING WITH THE FINGERS, International Journal of Pure and Applied Mathematics, Vol.85, No.5, 859-868, 2013.
- 52) CULTURES OF CURVES AND STRAIGHT LINES, International Journal of Pure and Applied Mathematics, Vol.85, No.5, 869-877, 2013.
- 53) THE KRUSKAL PRINCIPLE, International Journal of Pure and Applied Mathematics, Vol.85, No.6, 983-992, 2013.
- 54) WHY ¥2000 NOTES ARE UNPOPULAR, International Journal of Pure and Applied Mathematics, Vol.85, No.6, 993-1000, 2013.