

部局	大学院工学研究科
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氏名	林 公 祐

略歴 (学歴, 職歴, 教育歴, 所属機関, 学会及び社会における活動, 受賞)	
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2000年 3月	神戸市立工業高等専門学校機械工学科 卒業
2000年 4月	神戸大学工学部機械工学科 3年次編入学
2002年 3月	同 上 卒業
2002年 4月	神戸大学大学院自然科学研究科博士課程前期課程機械工学専攻 入学
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2007年 4月	神戸市立工業高等専門学校機械工学科 助教
2008年 4月	神戸市立工業高等専門学校機械工学科 講師
2009年 4月	神戸大学大学院工学研究科機械工学専攻 助教
2012年 4月	神戸大学大学院工学研究科機械工学専攻 准教授
2024年 10月	神戸大学大学院工学研究科機械工学専攻 教授
年 月	(受 賞)
2004年 9月	日本混相流学会年会講演会 2004 学生優秀講演賞 「改良 SCA による流体粒子の界面追跡計算」 (日本混相流学会)
2006年 2月	第 18 回計算力学講演会学生優秀講演賞 「表面張力評価へのカーン-ヒリヤード方程式の応用」 (日本機械学会)
2010年 7月	日本混相流学会奨励賞 「円管内気泡及び液滴の終端速度に関する研究」 (日本混相流学会)
2013年 3月	第 62 回理論応用力学講演会優秀講演賞 「粘性力及び表面張力の評価法が界面運動の数値予測に及ぼす影響」 (日本学術会議 IUTAM 分科会)

2013年 3月	15th International Topical Meeting on Nuclear Reactor Thermal hydraulics (NURETH-15) Best Poster Award 「Void Distribution and Bubble Motion in Bubbly Flows in a 4 X 4 Rod Bundle」 (International Topical Meeting on Nuclear Reactor Thermal Hydraulics)
2016年 8月	日本混相流学会論文賞「鉛直管における気液対向流制限」(日本混相流学会)
2020年 9月	マツダ研究助成奨励賞 「強制振動管内気液二相流に及ぼす慣性力の影響の解明」(マツダ財団)
2021年 3月	IOP publishing Outstanding Reviewer Award 2020 (Fluid Dynamics Research) (IOP publishing)
2021年 10月	神戸大学大学院工学研究科優秀教育賞(神戸大学大学院工学研究科)
2022年 8月	日本混相流学会論文賞 「変形気泡に働くせん断誘起揚力に関する研究」(日本混相流学会)
2023年 3月	神戸大学機械クラブ機械クラブ賞(神戸大学機械クラブ)
2023年 8月	日本混相流学会論文賞 「鉛直管におけるフラッシング状態での管内流動特性」(日本混相流学会)

教育研究上の業績	
(著書)	
1.	<u>林公祐</u> 界面追跡法に基づく二相流数値予測手法に関する研究 神戸大学学位論文, 全217p. (2007) https://da.lib.kobe-u.ac.jp/da/kernel/D1004024/
2.	<u>K. Hayashi</u> , 他13名 Encyclopedia of Two-Phase Heat Transfer and Flow III: Macro and Micro Flow Boiling and Numerical Modeling Fundamentals, World Scientific Publishing (2018) (分担執筆) 第1,2章 pp.1-69を担当
3.	梶島岳夫, 加藤健司, 宋明良, 高比良裕之, <u>林公祐</u> , 細川茂雄 機械工学基礎課程 流体力学, 朝倉書店 (2020) (分担執筆) 第3,5章 pp.21-29, pp.40-51を担当
4.	<u>林公祐</u> , 他23名 化学工学系流体シミュレーションの最前線 基礎・実践・将来展望, 化学工学会 (2024) (分担執筆) 第1章 pp.1-15を担当

(学術論文)	
※ Web of Science に登録されている学術誌等に掲載されている論文等	
(a. 学会誌, 専門誌等に掲載された論文)	
1.	宋明良, <u>林公祐</u> , 富山明男 界面を含む流れの体積追跡法 (界面再構築法の改良) 日本機械学会論文集 B編, Vol.70, No.698, pp.2538-2544 (2004) (査読有)

2. A. Tomiyama, K. Sakoda, K. Hayashi, 他 3 名
Modeling and Hybrid Simulation of Bubbly Flow
Multiphase Science and Technology, Vol.18, No.1, pp.73-110 (2006) (査読有)
3. K. Hayashi, A. Sou, A. Tomiyama
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Computational Fluid Dynamics Journal, Vol.15, No.2, pp.225-232 (2006) (査読有)
4. 林公祐, 高田尚樹, 富山明男
表面張力評価へのCahn-Hilliard 方程式の応用
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5. 林公祐, 宋明良, 富山明男
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日本機械学会論文集 B 編, Vol.72, No.722, pp.2410-2417 (2006) (査読有)
- 5'. K. Hayashi, A. Sou, A. Tomiyama
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Journal of Fluid Science and Technology, Vol.2, No.2, pp.490-501 (2007)
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6. K. Hayashi, A. Tomiyama
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- 7.※ K. Hayashi, A. Tomiyama
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8. M. Tanaka, K. Hayashi, A. Tomiyama
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Immersed Boundary Approach
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9. Z. Zhang, S. Hosokawa, K. Hayashi, A. Tomiyama
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10. 田中正博, 林公祐, 富山明男
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- 11.※ 田中正博, 林公祐, 富山明男
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化学工学論文集, Vol.36, No.1, pp.17-24 (2010) (査読有)
12. 太田基希, 細川茂雄, 林公祐, 富山明男
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混相流, Vol.23, No.5, pp.547-554 (2010) (査読有)
13. K. Hayashi, R. Kurimoto, A. Tomiyama
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- 15.※ T. Okawa, K. Hayashi, A. Tomiyama
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16. 赤対秀明, 林公祐, 鈴木隆起
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- 17.※ K. Hayashi, R. Kurimoto, A. Tomiyama
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19. K. Hayashi, A. Tomiyama
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- 21.※ T. Matsubayashi, K. Katono, K. Hayashi, A. Tomiyama
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23. T. Doi, T. Futatsugi, M. Murase, K. Hayashi, 他 2 名
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24. K. Hayashi, R. Rojas, T. Seta, 他 1 名
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25. F. Kira, S. Furuno, K. Hayashi, 他 2 名
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26. 瀬田剛, 内田洋助, R. Rojas, 林公祐, 富山明男
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27. Mohd Hatta bin Mohd Akbar, K. Hayashi, 他 2 名
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- 30.※ P. Di Marco, R. Kurimoto, G. Saccone, K. Hayashi, A. Tomiyama
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31. R. Rojas, T. Seta, K. Hayashi, A. Tomiyama
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- 32.※ Mohd Hatta bin Mohd Akbar, K. Hayashi, 他 2 名
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- 33.※ S. Ojima, K. Hayashi, A. Tomiyama
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- 34.※ A. Dhar, N. Shimada, K. Hayashi, A. Tomiyama
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- 35.※ K. Hayashi, S. Hosoda, 他 2 名
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- 36.※ S. Hosokawa, K. Hayashi, A. Tomiyama
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Study
Journal of Nuclear Science and Technology, Vol.51, No.2, pp.220-230 (2014) (査読有)
- 37.※ K. Hayashi, S. Hosokawa, A. Tomiyama
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Simulation
Journal of Nuclear Science and Technology, Vol.51, No.5, pp.580-589 (2014) (査読有)
- 38.※ T. Seta, R. Rojas, K. Hayashi, A. Tomiyama
Implicit-Correction-based Immersed Boundary-Lattice Boltzmann Method with Two Relaxation
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39. K. Hayashi, A. Tomiyama
Effects of Numerical Treatment of Viscous and Surface Tension Forces on Predicted Motion of
Interface
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- 40.※ S. Ojima, K. Hayashi, 他 2 名
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International Journal of Multiphase Flow, Vol.67, pp.111-121 (2014) (査読有)

- 41.※ Y. Kagawa, T. Ishigami, K. Hayashi, 他 3 名
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- 42.※ T. Kusunoki, M. Murase, Y. Fujii, T. Nozue, K. Hayashi, 他 2 名
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Journal of Nuclear Science and Technology, Vol. 52, Issue 6, pp. 887-896 (2015) (査読有)
43. A. Dhar, N. Shimada, K. Hayashi, A. Tomiyama
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Journal of Computational Multiphase Flows, Vol.7, No.1, pp.15-32 (2015) (査読有)
- 44.※ S. Ojima, S. Sasaki, K. Hayashi, A. Tomiyama
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- 45.※ J. Aoki, K. Hayashi, A. Tomiyama
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International Journal of Heat and Mass Transfer, Vol.83, pp.652-658 (2015) (査読有)
- 46.※ R. Sato, K. Hayashi, A. Tomiyama
Effects of Liquid Viscosity on Flows inside and outside a Bubble Diffuser Pipe
Experimental Thermal and Fluid Science, Vol.66, pp.197-205 (2015) (査読有)
- 47.※ J. Aoki, K. Hayashi, 他 2 名
Effects of Surfactant on Mass Transfer from single Carbon Dioxide Bubbles in Vertical Pipes
Chemical Engineering and Technology, Vol.38, Issue 11, pp.1955-1964 (2015) (査読有)
- 48.※ T. Kusunoki, T. Nozue, K. Hayashi, 他 3 名
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49. 上遠野健一, 田丸隼人, 細川茂雄, 林公祐, 富山明男
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- 51.※ S. Sasaki, K. Hayashi, A. Tomiyama
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- 52.※ S. Aoyama, K. Hayashi, 他 2 名
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- 53.※ S. Sasaki, K. Uchida, K. Hayashi, A. Tomiyama
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- 54.※ H. Funahashi, K. Hayashi, 他 2 名
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Nuclear Engineering and Design, Vol.308, pp.205-213 (2016) (査読有)
55. 山本泰功, 村瀬道雄, 林公祐, 他 2 名
鉛直管内における気液対向流制限
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- 56.※ S. Sasaki, K. Uchida, K. Hayashi, A. Tomiyama
Effects of Column Diameter and Liquid Height on Gas Holdup in Air-Water Bubble Columns
Experimental Thermal and Fluid Science, Vol.82, pp.359-366 (2017) (査読有)
- 57.※ J. Aoki, Y. Hori, K. Hayashi, 他 2 名
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58. 楠木貴世志, 山本泰功, 村瀬道雄, 林公祐, 他 2 名
鉛直管内での気液対向流に対する界面摩擦係数
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59. 村瀬道雄, 楠木貴世志, 山本泰功, 合田頼人, 林公祐, 他 2 名
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- 60.※ S. Aoyama, K. Hayashi, 他 3 名
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- 61.※ H. Funahashi, K. Hayashi, 他 2 名
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Nuclear Engineering and Design, Vol.322, pp.360-367 (2017) (査読有)
- 62.※ Y. Hori, K. Hayashi, 他 2 名
Mass Transfer from Single Carbon-Dioxide Bubbles in Electrolyte Aqueous Solutions in Vertical Pipes
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- 63.※ R. Sato, T. Miyayoshi, K. Hayashi, A. Tomiyama
Effects of Azimuthal Angle of Aeration Hole on Flows Inside and Outside an Air Diffuser Pipe
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- 64.※ S. Hosokawa, Y. Masukura, K. Hayashi, A. Tomiyama
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65. 三村治夫, 塩田浩太, 林公祐, 富山明男
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- 66.※ T. Seta, K. Hayashi, A. Tomiyama
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- 67.※ R. Goda, K. Hayashi, 他 3 名
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Vertical Pipes

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Experimental Thermal and Fluid Science, Vol.96, pp.460-469 (2018) (査読有)
- 69.※ K. Hayashi, A. Tomiyama
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- 70.※ 佐藤稜, 林公祐, 富山明男
散気管内外の流れに散気孔周方向角度および液相粘度が及ぼす影響
化学工学論文集, Vol.44, No.1, pp.59-66 (2018) (査読有)
- 71.※ H. Funahashi, K. Vierow Kirkland, K. Hayashi, 他 2 名
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- 72.※ S. Hosokawa, K. Hayashi, A. Tomiyama
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- 73.※ R. Kurimoto, K. Hayashi, 他 2 名
Numerical Investigation of Bubble Shape and Flow Field of Gas-Liquid Slug Flow in Circular Microchannels
International Journal of Heat and Fluid Flow, Vol.74, pp.28-35 (2018) (査読有)
- 74.※ M. Hashida, K. Hayashi, A. Tomiyama
Rise Velocities of Single Bubbles in a Narrow Channel between Parallel Flat Plates
International Journal of Multiphase Flow, Vol.111, pp.285-293 (2019) (査読有)
- 75.※ S. Al Issa, M. Murase, A. Tomiyama, K. Hayashi, R. Macian-Juan
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- 76.※ M. Kawabata, Y. Tsukaguchi, J. Kang, K. Hayashi, A. Tomiyama
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該当なし

(d. 研究機関の紀要, 報告等に掲載された論文)

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論文等の略語の説明

AJK = ASME-JSME-KSME

AJKFED = ASME-JSME-KSME Fluid Engineering Division

AJTEC = ASME/JSME Thermal Engineering joint Conference

ANN = Artificial Neural Network

ANS = American Nuclear Society

ASME = American Society of Mechanical Engineers

CCFL = Counter Current Flow Limitation

CFD = Computational Fluid Dynamics

FD = Faculty Development

FEDSM = Fluid Engineering Division Summer Meeting

IB = Immersed Boundary

ICeM = International Information Center for Multiphase Flow

ICONE = International Conference on Nuclear Engineering

IHTC = International Heat Transfer Conference

IOP = Institute of Physics

ISIJ = Iron and Steel Institute of Japan

IUTAM = International Union for Theoretical and Applied Mechanics

JKA = Japan Keirin Autorace foundation

JSME = Japan Society of Mechanical Engineers

J-Stage = Japan Science and Technology Information Aggregator, Electronic

KSME = Korean Society of Mechanical Engineers

LB = Lattice Boltzmann

LBM = Lattice Boltzmann Method

LES = Large Eddy Simulation

NIRO = New Industry Research Organization

NURETH = International Topical Meeting on Nuclear Reactor Thermal Hydraulics

PWR = Pressurized Water Reactor

ROOT = Research-Oriented On-site Training program for young scientists to go beyond the boundaries

SCA = Subcell Counting Algorithm

SFV = Spatial Filter Velocimetry

US = United States

WG = Working Group