石川　拓司

東北大学 大学院医工学研究科 医工学専攻 教授
〒980-8579 仙台市青葉区荒巻字青葉 6-6-01
Tel : 022-795-4009, Fax : 022-795-6959
E-mail : t.ishikawa@tohoku.ac.jp
URL : http://www.bfsl.mech.tohoku.ac.jp/

学　歴

1990 年：静岡県立静岡高等学校　卒業
1994 年：東京工業大学 工学部 機械工学科　卒業
1999 年：東京工業大学 大学院工学研究科 機械工学専攻　修了：　博士（工学）

職　歴

1997 年：日本学術振興会　特別研究員（DC２）
1999 年：福井大学 工学部 機械工学科　助手
2002 年：福井大学 工学部 機械工学科　助教授
2003 年：University of Cambridge,　日本学術振興会　海外特別研究員（2 年）
2006 年：東北大学 大学院工学研究科 バイオロボティクス専攻　准教授
2013 年：東北大学 大学院工学研究科 バイオロボティクス専攻　教授
2016 年：東北大学 大学院工学研究科 ファインメカニクス専攻　教授
2021 年：東北大学 大学院医工学研究科 医工学専攻　教授

受　賞

1994 年：東京工業大学工学部機械工学科　白星賞
1996 年：東京工業大学工学研究科機械工学専攻　白星賞
1999 年：日本機械学会奨励賞（研究）
2003 年：日本機械学会教育賞
2007 年：日本機械学会バイオエンジニアリング部門　瀬口賞
2010 年：科学技術分野の文部科学大臣表彰　若手科学者賞
2010 年：みやぎ産業科学振興基金　研究奨励賞
2010 年：日本工学教育協会　論文・論説賞
2011 年：JBSE Papers of the year award
2011 年：青葉工学振興会賞
2013 年：JBSE Graphics of the year award
2015 年：可視化情報学会　アートコンテスト金賞
2019 年：JBSE Papers of the year award

2022 年：機器研究会　流体科学研究賞
2023 年：日本機械学会　フェロー
2023 年：日本機械学会バイオエンジニアリング部門　業績賞

学協会活動：

日本学術会議　連携会員，生体医工学分科会　幹事
日本機械学会バイオエンジニアリング部門　副部門長
日本機械学会東北支部　商議員
日本国際学生技術研修協会（IAESTE JAPAN）　理事
東北大学大学院医工学研究科　研究科長補佐
World Council of Biomechanics, Member
Asian-Pacific Association for Biomechanics, Treasure
Journal of Biomechanical Science and Engineering, Editor in Chief

レビュー論文

1. D. Barthes-Biesel, T. Yamaguchi, T. Ishikawa, and E. Lac
   From passive motion of capsules to active motion of cells
   Journal of Biomechanical Science and Engineering, **1**, 51-68, (2006)
2. T. Yamaguchi, T. Ishikawa, K. Tsubota, Y. Imai, M. Nakamura and T. Fukui
   Computational blood flow analysis - New trends and methods -
   Journal of Biomechanical Science and Engineering, **1**, 29-50, (2006)
3. T. Ishikawa
   Suspension biomechanics of swimming microbes
   Journal of the Royal Society Interface, **6**, 815-834 (2009)
4. T. Yamaguchi, T. Ishikawa, Y. Imai, N. Matsuki, M. Xenos, Y. Deng, D. Bluestein
   Particle-Based Methods for Multiscale Modeling of Blood Flow in the Circulation and in Devices: Challenges and Future Directions
   Annals of Biomedical Engineering, **38**, 1225-1235 (2010)
5. T. Ishikawa
   Models and Numerical Methods for a Suspension of Swimming Microorganisms: Review
   International Journal of Offshore and Polar Engineering, **22**, 270-275 (2012)
6. Toshihiro Omori, Yohsuke Imai, Kenji Kikuchi, Takuji Ishikawa, Takami Yamaguchi
   Hemodynamics in the microcirculation and in microfluidics
   Annals of Biomedical Engineering, **43**, 238-257 (2015)
7. Y. Imai, T. Omori, Y. Shimogonya, T. Yamaguchi and T. Ishikawa
   Numerical methods for simulating blood flow at macro, micro, and multi scales
   Journal of Biomechanics, **49**, 2221-2228 (2016)
8. Takuji Ishikawa
   Swimming of ciliates under geometric constraints
   Journal of Applied Physics, **125**, 200901 (2019)
9. Takuji Ishikawa, Toshihiro Omori, Kenji Kikuchi
   Bacterial Biomechanics - From Individual Behaviors to Biofilm and the Gut Flora -
   APL Bioengineering, **4**, 041504 (2020)
10. Takuji Ishikawa, Hironori Ueno, Toshihiro Omori, Kenji Kikuchi
    Cilia and Centrosomes: Ultrastructural and Mechanical Perspectives
    Seminars in Cell and Developmental Biology, **110**, 61-69 (2021)
11. Takuji Ishikawa, Takeru Morita, and Toshihiro Omori
    Soft Microswimmer Powered by Fluid Oscillation
    Journal of Robotics and Mechatronics, **34**, 298-300 (2022)

12. Takuji Ishikawa, T. J. Pedley
50-year History and Perspective on Biomechanics of Swimming Microorganisms: Part I. Individual Behaviours
Journal of Biomechanics, **158**, 111706 (2023)
13. Toshihiro Omori, Takuji Ishikawa
Computational Fluid Dynamics of Swimming Microorganisms
Journal of the Physical Society of Japan, **92**, 121002 (2023)
14. Takuji Ishikawa, T. J. Pedley
50-year History and Perspective on Biomechanics of Swimming Microorganisms: Part II. Collective Behaviours
Journal of Biomechanics, **160**, 111802 (2023)
15. Takuji Ishikawa
Fluid dynamics of squirmers and ciliated microorganisms
Annual Review of Fluid Mechanics, **56**, 119-145 (2024)

査読付き雑誌論文

1. 石川拓司, L. F. R. Guimaraes, 大島修造, 山根隆一郎
   狭さく管内の血液流の数値シミュレーション（流れに及ぼす血液の非ニュートン性の影響）
   日本機械学会論文集（B 編）, 62-600, 2957-2964, (1996)
2. 石川拓司, 大島修造, 山根隆一郎
   狭窄部を通る血流における渦の共振現象
   日本機械学会論文集（B 編）, 63-606, 387-395, (1997)
3. 石川拓司, 大島修造, 山根隆一郎
   壁面の運動する狭さく管内の血流の数値シミュレーション
   日本機械学会論文集（B 編）, 63-607, 789-797, (1997)
4. T. Ishikawa, L. F. R. Guimaraes, S. Oshima and R. Yamane
   Effect of non-Newtonian property of blood on flow through a stenosed tube
   Fluid Dynamics Research, 22, 251-264, (1998)
5. 石川拓司, 小堺弓木奈, 大島修造, 山根隆一郎
   狭さく管内脈動流の可視化とシミュレーション（非定常流における水素気泡法の適用）
   可視化情報, 18-70, 198-206, (1998)
6. 石川拓司, 大島修造, 山根隆一郎
   狭さく管内の血流における物質拡散
   日本機械学会論文集（B 編）, **64**-625, 2774-2781, (1998)
7. 石川拓司, 大島修造, 山根隆一郎, 長谷川元治
   血管内壁形状による壁面乱流構造の変化
   日本機械学会論文集（B 編）, **64**-625, 2782-2789, (1998)
8. T. Ishikawa, S. Oshima and R. Yamane
   Mass Transport in Blood Flow through a Stenosed Tube
   JSME International Journal, C, **42**- 3, 680 - 688, (1999)
9. 和気充幸, 石川拓司, 大島修造, 山根隆一郎, 長谷川元治
   狭さく部を通る拍動血流における間欠性の影響
   日本機械学会論文集（B 編）, **65**-630, 690-697, (1999)
10. 和気充幸, 石川拓司, 大島修造, 山根隆一郎, 長谷川元治
    大動脈狭さく部を通る間欠期間のある拍動血流における物質移動
    日本機械学会論文集（B 編）, **65**-632, 1362-1369, (1999)
11. 和気充幸, 石川拓司, 大島修造, 山根隆一郎, 長谷川元治
    血管狭さく部の壁面における物質蓄積
    日本機械学会論文集（B 編）, **65**-633, 1551-1558, (1999)
12. 石川拓司, 大島修造, 山根隆一郎
    動脈内軸対称狭さく部の成長過程のモデル化とシミュレーション
    日本機械学会論文集（B 編）, **65**-637, 2982-2989, (1999)
13. 石川拓司, 大島修造, 山根隆一郎
    非対称狭さく部を通る脈動流における渦の共振現象
    日本機械学会論文集（B 編）, **65**-639, 3546-3553, (1999)

14. T. Ishikawa, S. Oshima and R. Yamane
Vortex enhancement in blood flow through stenosed and locally expanded tubes
Fluid Dynamics Research, **26**-1, 35-52, (2000)
15. 石川拓司, 川端信義, 藤田克志, 三宅裕
球, ばね, ダンパマクロモデルによる粘弾性流体の非定常流動解析
日本機械学会論文集（B 編）, **66**-645, 1287-1294, (2000)
16. 石川拓司, 大島修造, 山根隆一郎
非対称狭さく部を通る脈動流における物質移動
日本機械学会論文集（B 編）, **66**-647, 1644-1651, (2000)
17. 石川拓司, 川端信義, 藤田克志, 三宅裕
球, ばね, ダンパマクロモデルによる粘弾性流体の基本流動解析
（ダンパ要素と第二法線応力差発生のメカニズム）
日本機械学会論文集（B 編）, **66**-648, 2049-2055, (2000)
18. 石川拓司, 川端信義, 立花規良
球とばねによる赤血球のモデル化と血液の定ずり流動解析
日本機械学会論文集（B 編）, **66**-650, 2642-2649, (2000)
19. T.Ishikawa, S.Oshima, R.Yamane
Mass Transport in Pulsatile Flow through Asymmetric Stenosis
JSME International Journal, C, **44**-4, 1005-1012, (2001)
20. T.Ishikawa, N.Kawabata, M.Tachibana
Proposal of a Deformable Erythrocyte Model and Numerical Analysis of a Shear Flow of Blood
JSME International Journal, C, **44**-4, 964-971, (2001)
21. 王謙, 川端信義, 石川拓司
トンネル火災時の熱気流の遡上を阻止する臨界縦流風速
日本機械学会論文集（B 編）, **67**-656, 911-918, (2001)
22. 石川拓司, 川端信義, 立花規良
赤血球の簡略化モデルによる血液の振動ずり流動解析
日本機械学会論文集（B 編）, **67**-661, 2180-2187, (2001)
23. 石川拓司, 川端信義, 清水博仁, 藤田克志
球, ばねマクロモデルによる高分子溶液のポアズイユ流れ解析
日本機械学会論文集（B 編）, **68**-676, 3266-3272, (2002)
24. T. Ishikawa, N. Kawabata and M. Tachibana
Comparison between the discrete erythrocyte method and constitutive equations for blood
Acta of Bioengineering and Biomechanics, **5**-1, 21-34, (2003)
25. 川端信義, 石川拓司, 内藤祐輔, 松本洋一郎, 斎藤直, 鶴田俊
消火ガスの室内混合過程の数値シミュレーションによる検討
日本機械学会論文集（B 編）, **69**-688, 2569-2576, (2003)
26. 川端信義, 佐野彰紀, 菊本智樹, 石川拓司, 佐藤忠夫, 加納竜夫
スノーシェッドを有する断続トンネル間における火災時の煙の干渉
空気調和・衛生工学会論文集, **94**, 61-68, (2004)

27. 石川拓司, 亀本圭介, 川端信義
低レイノルズ数のせん断流れ中におけるカプセルの変形挙動
日本機械学会論文集（B 編）, **72**-720, 1927-1934, (2006)
28. T. Ishikawa, M. P. Simmonds and T. J. Pedley
Hydrodynamic interaction of two swimming model micro-organisms
Journal of Fluid Mechanics, **568**, 119-160, (2006)
29. T. Ishikawa and M. Hota
Interaction of two swimming Paramecia
Journal of Experimental Biology, **209**, 4452-4463, (2006)
30. T. Ishikawa, N. Kawabata, Y. Imai, K. Tsubota and T. Yamaguchi
Numerical simulation of a low-hematocrit blood flow in a small artery with stenosis
Journal of Biomechanical Science and Engineering, **2**, 12-22, (2007)
31. K. Yano, D. Mori, K. Tsubota, T. Ishikawa, S. Wada and T. Yamaguchi
Analysis of destruction process of the primary thrombus under the influence of the blood flow
Journal of Biomechanical Science and Engineering, **2**, 34-44, (2007)
32. T. Fukui, K. H. Parker, Y. Imai, K. Tsubota, T. Ishikawa, S. Wada, and T. Yamaguchi
Effect of the wall motion on arterial wall shear stress
Journal of Biomechanical Science and Engineering, **2**, 58-68, (2007)
33. T. Ishikawa, G. Sekiya, Y. Imai and T. Yamaguchi
Hydrodynamic interaction between two swimming bacteria
Biophysical Journal, **93**, 2217-2225, (2007)
34. T. Ishikawa and T. J. Pedley
The rheology of a semi-dilute suspension of swimming model micro-organisms
Journal of Fluid Mechanics, **588**, 399-435, (2007)
35. T. Ishikawa and T. J. Pedley
Diffusion of swimming model micro-organisms in a semi-dilute suspension
Journal of Fluid Mechanics, **588**, 437-462, (2007)
36. T. Ishikawa, T. J. Pedley and T. Yamaguchi
Orientational relaxation time of bottom-heavy squirmers in a semi-dilute suspension
Journal of Theoretical Biology, **249**, 296-306, (2007)
37. T. Yoshida, F. Mizuno, T. Hayasaka, K. Tsubota, Y. Imai, T. Ishikawa and T. Yamaguchi
Development of a wearable surveillance system using gait analysis
Telemedicine and e-Health, **13**, 703-714, (2007)
38. D. Mori, K. Yano, K. Tsubota, T. Ishikawa, S. Wada and T. Yamaguchi
Simulation of platelet adhesion and aggregation regulated by fibrinogen and von Willebrand factor
Thrombosis and Haemostasis, **99**, 108-115, (2008)
39. R. Lima, S. Wada, S. Tanaka, M. Takeda, T. Ishikawa, K. Tsubota, Y. Imai and T. Yamaguchi
In vitro blood flow in a rectangular PDMS microchannel: experimental observations using a confocal micro-PIV system
Biomedical Microdevices, **10**, 153-167, (2008)

40. T. Ishikawa and T. J. Pedley
Coherent Structures in Monolayers of Swimming Particles
Physical Review Letters, **100**, 088103 (2008)
41. Y. Feng, S. Wada, T. Ishikawa, K. Tsubota and T. Yamaguchi
A rule-based computational study on the early progression of intracranial aneurysms using fluid-structure interaction: Comparison between straight model and curved model
Journal of Biomechanical Science and Engineering, **3**, 124-137, (2008)
42. T. Ishikawa and T. Yamaguchi
Shear-induced fluid-tracer diffusion in a semi-dilute suspension of spheres
Physical Review E, **77**, 041402 (2008)
43. R. Lima, T. Ishikawa, Y. Imai, M. Takeda, S. Wada, T. Yamaguchi
Radial dispersion of red blood cells in blood flowing through glass capillaries: Role of Hematocrit and geometry
Journal of Biomechanics, **41**, 2188-2196, (2008)
44. K. Sato, Y. Imai, T. Ishikawa, N. Matsuki and T. Yamaguchi
The importance of parent artery geometry in intra-aneurysm hemodynamics
Medical Engineering & Physics, **30**, 774-782, (2008)
45. Y. Imai, K. Sato, T. Ishikawa and T. Yamaguchi
Inflow into saccular cerebral aneurysms at arterial bends
Annals of Biomedical Engineering, **36**, 1489-1495, (2008)
46. N. Matsuki, T. Ishikawa, Y. Imai and T. Yamaguchi
Low voltage pulses can induce apoptosis
Cancer Letters, **269**, 93-100, (2008)
47. Y. Shimogonya, T. Ishikawa, Y. Imai, D. Mori, N. Matsuki, T. Yamaguchi
Formation of saccular cerebral aneurysms may require proliferation of the arterial wall (Computational investigation)
Journal of Biomechanical Science and Engineering, **3**, 431-442, (2008)
48. T. Ishikawa, J. T. Locsei and T. J. Pedley
Development of coherent structures in concentrated suspensions of swimming model micro-organisms
Journal of Fluid Mechanics, **615**, 401-431 (2008)
49. S. Kim, H. Nakamura, T. Yoshida, M. Kishimoto, Y. Imai, N. Matsuki, T. Ishikawa and T. Yamaguchi
Development of a wearable system module for monitoring physical and mental workloads
Telemedicine and e-Health, **14**, 939-945 (2008)
50. D. Mori, K. Yano, K. Tsubota, T. Ishikawa, S. Wada and T. Yamaguchi
Computational study on effect of red blood cells on primary thrombus formation
Thrombosis Research, **123**, 114-121 (2008)
51. 山野 真裕, 松木 範明, 沼山 恵子, 武田 元博, 早坂 智明, 石川 拓司, 山口 隆美
東北大学における「医療工学技術者創成のための再教育システム」の実践
工学教育, **56**-6, 125-132 (2008)

52. Y. Shimogonya, T. Ishikawa, Y. Imai, N. Matsuki and T. Yamaguchi
Can temporal fluctuation in spatial wall shear stress gradient initiate a cerebral aneurysm? A proposed novel hemodynamic index, the gradient oscillatory number (GON)
Journal of Biomechanics, **42**, 550-554 (2009)

53. 山野 真裕, 松木 範明, 沼山 恵子, 武田 元博, 早坂 智明, 石川 拓司, 山口 隆美
「次世代医療関連産業中核人材育成のための実践的教育システム」の開発と実証研究
工学教育, **57**, 13-21, (2009)

54. H. Kondo, Y. Imai, T. Ishikawa, K. Tsubota, and T. Yamaguchi
Hemodynamic analysis of micro-circulation in malaria infection
Annals of Biomedical Engineering, **37**, 702-709 (2009)

55. H. Fujiwara, T. Ishikawa, R. Lima, N. Matsuki, Y. Imai, H. Kaji, M. Nishizawa and T. Yamaguchi
Red blood cell motions in high-hematocrit blood flowing through a stenosed microchannel
Journal of Biomechanics, **42**, 838-843 (2009)

56. K. Drescher, K. Leptos, I. Tuval, T. Ishikawa, T. J. Pedley and R. E. Goldstein
Dancing *Volvox* : Hydrodynamic bound states of swimming algae
Physical Review Letters, **102**, 168101 (2009)

57. N. Matsuki, M. Takeda, M. Yamano, Y. Imai, T. Ishikawa and T. Yamaguchi
Effects of unique biomedical education programs for engineers: REDEEM and ESTEEM projects
Advances in Physiology Education, **33**, 91-97 (2009)

58. M. Kishimoto, T. Yoshida, T. Hayasaka, D. Mori, Y. Imai, N. Matsuki, T. Ishikawa, T. Yamaguchi
An internet-based wearable watch-over system for elderly and disabled utilizing EMG and accelerometer
Technology and Health Care, **17**, 121-131 (2009)

59. R. Lima, T. Ishikawa, Y. Imai, M. Takeda, S. Wada, T. Yamaguchi
Measurement of individual red blood cell motions under high hematocrit conditions using a confocal micro-PTV system
Annals of Biomedical Engineering, **37**, 1546-1559 (2009)

60. R. Lima, M. S. N. Oliveira, T. Ishikawa, H. Kaji, S. Tanaka, M. Nishizawa, T. Yamaguchi
Axisymmetric polydimethysiloxane microchannels for in vitro haemodynamic studies
Biofabrication, **1**, 035005 (2009)

61. Y. Shimogonya, T. Ishikawa, Y. Imai, N. Matsuki, T. Yamaguchi
A realistic simulation of saccular cerebral aneurysm formation: focussing on a novel haemodynamic index, the gradient oscillatory number
International Journal of Computational Fluid Dynamics, **23**, 583-593 (2009)

62. D. Hosokawa, T. Ishikawa, H. Morikawa, Y. Imai and T. Yamaguchi
Development of a biologically inspired locomotion system for a capsule endoscope
International Journal of Medical Robotics and Computer Assisted Surgery, **5**, 471-478 (2009)

63. 石川拓司
準希薄微生物溶液における自己拡散シミュレーション　ーせん断流れの影響ー
シミュレーション, **1**, 60-65 (2009)

64. H. Kamada, K. Tsubota, M. Nakamura, S. Wada, T. Ishikawa, T. Yamaguchi
A three-dimensional particle simulation of the formation and collapse of primary thrombus
International Journal for Numerical Methods in Biomedical Engineering, **26**, 488-500 (2010)
65. Y. Imai, K. Sato, T. Ishikawa, A. Comerford, T. David and T. Yamaguchi
ATP transport in saccular cerebral aneurysms at arterial bends
Annals of Biomedical Engineering, **38**, 927-934 (2010)
66. N. Matsuki, M. Takeda, T. Ishikawa, A. Kinjo, T. Hayasaka, Y. Imai, T. Yamaguchi
Activation of caspases and apoptosis in response to low-voltage electric pulses
Oncology Reports, **23**, 1425-1434 (2010)
67. Y. Imai, H. Kondo, T. Ishikawa, C. T. Lim, T. Yamaguchi
Modeling of hemodynamics arising from malaria infection
Journal of Biomechanics, **43**, 1386-1393 (2010)
68. T. Ishikawa, J. T. Locsei and T. J. Pedley
Fluid particle diffusion in a semi-dilute suspension of model micro-organisms
Physical Review E, **82**, 021408 (2010)
69. N. Matsuki, M. Takeda, M. Yamano, Y. Imai, T. Ishikawa and T. Yamaguchi
Designing a clinical education program for engineers: The ESTEEM Project
Journal of Interprofessional Care, **24**, 738-741 (2010)
70. D. Giacche and T. Ishikawa
Hydrodynamic interaction of two unsteady model microorganisms
Journal of Theoretical Biology, **267**, 252-263 (2010)
71. D. Giacche, T. Ishikawa and T. Yamaguchi
Hydrodynamic entrapment of bacteria swimming near a solid surface
Physical Review E, **82**, 056309 (2010)
72. J-J. Christophe, T. Ishikawa, N. Matsuki, Y. Imai, K. Takase, M. Thiriet, T. Yamaguchi
Patient-specific morphological and blood flow analysis of pulmonary artery in the case of severe deformations of the lung due to pneumothorax
Journal of Biomechanical Science and Engineering, **5**, 485-498 (2010)
73. M. Saadatmand, T. Ishikawa, N. Matsuki, M. J. Abdekhodaie, Y. Imai, H. Ueno and T. Yamaguchi
Fluid particle diffusion through high-hematocrit blood flow within a capillary tube
Journal of Biomechanics, **44**, 170-175 (2011)
74. T. Ishikawa, H. Fujiwara, N. Matsuki, Y. Imai, H. Ueno and T. Yamaguchi
Asymmetry of blood flow and cancer cell adhesion in a microchannel with symmetric bifurcation and confluence
Biomedical Microdevices, **13**, 159-167 (2011)
75. T. Miki, Y. Imai, T. Ishikawa, S. Wada, T. Aoki, T. Yamaguchi
A fourth-order Cartesian local mesh refinement method for the computational fluid dynamics of physiological flow in multi-generation branched vessels
International Journal for Numerical Methods in Biomedical Engineering, **27**, 424-435 (2011)

76. T. Ishikawa, T. Sato, G. Mohit, Y. Imai and T. Yamaguchi
Transport phenomena of microbial flora in the small intestine with peristalsis
Journal of Theoretical Biology, **279**, 63-73 (2011)

77. T. Omori, T. Ishikawa, D. Barthes-Biesel, A.-V. Salsac, Y. Imai and T. Yamaguchi
Comparison between spring network models and continuum constitutive laws: application to the large deformation of a capsule in shear flow
Physical Review E, **83**, 041918 (2011)

78. Y. Imai, K. Nakaaki, H. Kondo, T. Ishikawa, C. T. Lim, T. Yamaguchi
Margination of red blood cells infected by *Plasmodium falciparum* in a microvessel
Journal of Biomechanics, **44**, 1553-1558 (2011)

79. T. Ishikawa, N. Yoshida, H. Ueno, M. Wiedeman, Y. Imai and T. Yamaguchi
Energy transport in a concentrated suspension of bacteria
Physical Review Letters, **107**, 028102 (2011)

80. C. Huang, T. W. H. Sheu, T. Ishikawa, T. Yamaguchi
Development of a particle interaction kernel for convection-diffusion scalar transport equation
Numerical Heat Transfer, *B*, **60**, 96-115 (2011)

81. H. Kamada, K. Tsubota, M. Nakamura, S. Wada, T. Ishikawa, T. Yamaguchi
Computational study on effect of stenosis on a primary thrombus formation
Biorheology, **48**, 99-114 (2011)

82. A. A. Evans, T. Ishikawa, T. Yamaguchi and E. Lauga
Orientational order in concentrated suspensions of spherical microswimmers
Physics of Fluids, **23**, 111702 (2011)

83. V. Leble, R. Lima, R. Dias, C. Fernandes, T. Ishikawa, Y. Imai and T. Yamaguchi
Asymmetry of red blood cell motions in a microchannel with a diverging and converging bifurcation
Biomicrofluidics, **5**, 044120 (2011)

84. D. Alizadehrad, Y. Imai, K. Nakaaki, T. Ishikawa, T. Yamaguchi
Parallel simulation of cellular flow in microvessels using a particle method
Journal of Biomechanical Science and Engineering, **7**, 57-71 (2012)

85. T. Tanaka, T. Ishikawa, K. Numayama-Tsuruta, Y. Imai, H. Ueno, T. Yoshimoto, N. Matsuki and T. Yamaguchi
Inertial migration of cancer cells in blood flow in microchannels
Biomedical Microdevices, **14**, 25-33 (2012)

86. T. Omori, Y. Imai, T. Yamaguchi and T. Ishikawa
Reorientation of a non-spherical capsule in creeping shear flow
Physical Review Letters, **108**, 138102 (2012)

87. N. Matsuki, S. Ichiba, T. Ishikawa, O. Nagano, M. Takeda, Y. Ujike and T. Yamaguchi
Blood oxygenation using microbubble suspensions
European Biophysics Journal, **41**, 571-578 (2012)

88. J-J. Christophe, T. Ishikawa, Y. Imai, K. Takase, M. Thiriet and T. Yamaguchi
Hemodynamics in the pulmonary artery of a patient with pneumothorax
Medical Engineering & Physics, **34**, 725-732 (2012)

89. T. Miki, X. Wang, T. Aoki, Y. Imai, T. Ishikawa, K. Takase and T. Yamaguchi
Patient-specific modeling of pulmonary air flow using GPU cluster for the application in medical practice
Computer Methods in Biomechanics and Biomedical Engineering, **15**, 771-778 (2012)

90. Y. Imai, T. Miki, T. Ishikawa, T. Aoki and T. Yamaguchi
Deposition of micrometer particles in pulmonary airways during inhalation and breath holding
Journal of Biomechanics, **45**, 1809-1815 (2012)

91. T. Ishikawa
Vertical dispersion of model microorganisms in horizontal shear flow
Journal of Fluid Mechanics, **705**, 98-119 (2012)

92. H. Ueno, T. Ishikawa, K. H. Bui, K. Gonda, T. Ishikawa and T. Yamaguchi
Mouse respiratory cilia with the asymmetric axonemal structure on sparsely distributed ciliary cells can generate overall directional flow
Nanomedicine: Nanotechnology, Biology, and Medicine, **8**, 1081-1087 (2012)

93. T. Tanaka, T. Ishikawa, K. Numayama-Tsuruta, Y. Imai, H. Ueno, N. Matsuki, T. Yamaguchi
Separation of cancer cells from a red blood cell suspension using inertial force
Lab on a Chip, **12**, 4336-4343 (2012)

94. H. Kamada, Y. Imai, M. Nakamura, T. Ishikawa, T. Yamaguchi
Computational analysis on the mechanical interaction between thrombus and red blood cells
Medical Engineering & Physics, **34**, 1411-1420 (2012)

95. D. Alizadehrad, Y. Imai, K. Nakaaki, T. Ishikawa, T. Yamaguchi
Quantifying the deformation of red blood cells in microvessels
Journal of Biomechanics, **45**, 2684-2689 (2012)

96. T. Omori, T. Ishikawa, D. Barthes-Biesel, A.-V. Salsac, J. Walter, Y. Imai and T. Yamaguchi
Tension of red blood cell membrane in simple shear flow
Physical Review E, **86**, 056321 (2012)

97. T. Omori, T. Ishikawa, Y. Imai and T. Yamaguchi
Membrane tension of red blood cells pairwiselyinteracting in simple shear flow
Journal of Biomechanics, **46**, 548-553 (2013)

98. Y. Imai, I. Kobayashi, S. Ishida, T. Ishikawa, M. Buist and T. Yamaguchi
Antral recirculation in the stomach during gastric mixing
American Journal of Physiology - Gastrointestinal and Liver Physiology, **304**, G536-542 (2013)

99. T. Omori, T. Ishikawa, Y. Imai and T. Yamaguchi
Shear-induced diffusion of red blood cells in a semi-dilute suspension
Journal of Fluid Mechanics, **724**, 154-174 (2013)

100. A. Takamatsu, T. Ishikawa, K. Shinohara and H. Hamada
Asymmetric rotational stroke in mouse node cilia during left-right determination
Physical Review E, **87**, 050701(R) (2013)

101. A. Takamatsu, K. Shinohara, T. Ishikawa and H. Hamada
Hydrodynamic Phase Locking in Mouse Node Cilia
Physical Review Letters, **110**, 248107 (2013)
102. T. Yaginuma, M. S. N. Oliveira, R. Lima, T. Ishikawa and T. Yamaguchi
Behavior of red blood cells in a hyperbolic microchannel: the extensional flow effect
Biomicrofluidics, **7**, 054110 (2013)
103. H. Kamada, Y. Imai, M. Nakamura, T. Ishikawa and T. Yamaguchi
Computational simulation of thrombus formation regulated by platelet membrane receptors and blood shear
Microvascular Research, **89**, 95-106 (2013)
104. J. Ferracci, H. Ueno, K. Numayama-Tsuruta, Y. Imai, T. Yamaguchi, T. Ishikawa
Hydrodynamical entrapment of ciliates at the air-liquid interface
PLoS ONE, **8**, e75238 (2013)
105. K. Kiyota, H. Ueno, K. Numayama-Tsuruta, T. Haga, Y. Imai, T. Yamaguchi and T. Ishikawa
Fluctuation of cilia-generated flow on the surface of tracheal lumen
American Journal of Physiology - Lung Cellular and Molecular Physiology, **306**, L144-L151 (2014)
106. T. Ishikawa, T. Shioiri, K. Numayama-Tsuruta, H. Ueno, Y. Imai, T. Yamaguchi
Separation of bacteria using the near-wall drift velocity in a microchannel
Lab on a Chip, **14**, 1023-1032 (2014)
107. T. Omori, H. Hosaka, Y. Imai, T. Yamaguchi, T. Ishikawa
Numerical analysis of a red blood cell flowing through a thin micro-pore
Physical Review E, **89**, 013008 (2014)
108. P. Kanehl and T. Ishikawa
Fluid mechanics of swimming bacteria with multiple flagella
Physical Review E, **89**, 042704 (2014)
109. T. Omori, T. Ishikawa, Y. Imai and T. Yamaguchi
Hydrodynamic interaction between two red blood cells in simple shear flow:
its impact on the rheology of a semi-dilute suspension
Computational Mechanics, **54**, 933-941 (2014)
110. N. Matsuki, T. Ishikawa, S. Ichiba, N. Shiba, Y. Ujike and T. Yamaguchi
Oxygen supersaturated fluid using fine micro/nanobubbles
International Journal of Nanomedicine, **9**, 4495-4505 (2014)
111. N. Takeishi, Y. Imai, K. Nakaaki, T. Yamaguchi and T. Ishikawa
Leukocyte margination at arteriole shear rate
Physiological Reports, **2**, e12037, (2014)

112. T. Ishikawa and T. J. Pedley
Dispersion of model microorganisms swimming in a nonuniform suspension
Physical Review E, **90**, 033008 (2014)
113. H. Ueno, K. H. Bui, T. Ishikawa, Y. Imai, T. Yamaguchi, T. Ishikawa
Structure of dimeric axonemal dynein in cilia suggests an alternative mechanism of force generation
Cytoskeleton, **71**, 412-422 (2014)
114. S. Nix, Y. Imai, D. Matsunaga, T. Yamaguchi, T. Ishikawa
Lateral migration of a spherical capsule in a near-wall shear flow
Physical Review E, **90**, 043009 (2014)
115. D. Matsunaga, Y. Imai, T. Omori, T. Ishikawa, T. Yamaguchi
A full GPU implementation of a numerical method for simulating capsule suspensions
Journal of Biomechanical Science and Engineering, **9**, 14-00039 (2014)
116. D. Matsunaga, Y. Imai, T. Yamaguchi, T. Ishikawa
Deformation of a spherical capsule under oscillating shear flow
Journal of Fluid Mechanics, **762**, 288-301 (2015)
117. Y. Kawano, C. Otsuka, J. Sanzo, C. Higgins, T. Nirei, T. Schilling, T. Ishikawa
Applicability of darkfield internal reflection illumination (DIRI) to observations in microfluidics
PLoS ONE, **10**, e0116925 (2015)
118. T. Ishikawa and V. A. Vladimirov
A stepping micro-robot controlled by flow oscillations
Journal of Fluids Engineering, **137**, 84501-1-3 (2015)
119. Y. Shimogonya, Y. Sawano, H. Wakebe, Y. Inoue, A. Ishijima and T. Ishikawa
Torque-induced precession of bacterial flagella
Scientific Reports, **5**, 18488 (2015)
120. N. Takeishi, Y. Imai, T. Yamaguchi, T. Ishikawa
Flow of a circulating tumor cell and red blood cells in microchannels
Physical Review E, **92**, 063011 (2015)
121. K. Kyoya, D. Matsunaga, Y. Imai, T. Omori and T. Ishikawa
Shape matters: Near-field fluid mechanics dominate the collective motions of ellipsoidal squirmers
Physical Review E, **92**, 063027 (2015)
122. D. Matsunaga, Y. Imai, T. Yamaguchi, T. Ishikawa
Rheology of a dense suspension of spherical capsules under simple shear flow
Journal of Fluid Mechanics, **786**, 110-127 (2016)
123. T. Ishikawa, T. Tanaka, Y. Imai, T. Omori and D. Matsunaga
Deformation of a micro torque swimmer
Proceedings of the Royal Society A, **472**, 20150604 (2016)

124. Y. Nonaka, K. Kikuchi, K. Numayama-Tsuruta, A. Kage, H. Ueno, T. Ishikawa
Inhomogeneous distribution of Chlamydomonas in a cylindrical container with a bubble plume
Biology Open, **5**, 154-160 (2016)

125. T. Omori and T. Ishikawa
Upward swimming of a sperm cell in shear flow
Physical Review E, **93**, 032402 (2016)

126. T. Ishikawa, S. Kajiki, Y. Imai and T. Omori
Nutrient uptake in a suspension of squirmers
Journal of Fluid Mechanics, **789**, pp.481-499 (2016)

127. R. Niwayama, H. Nagao, T. Kitajima, L. Hufnagel, K. Shinohara, T. Higuchi, T. Ishikawa, A. Kimura
Bayesian inference of forces causing cytoplasmic streaming in Caenorhabditis elegans embryos and mouse oocytes
PLoS ONE, **11**, e0159917 (2016)

128. S. Nix, Y. Imai, T. Ishikawa
Lateral migration of a spherical capsule in a parabolic flow
Journal of Biomechanics, **49**, 2249-2254 (2016)

129. M. Saadatmand, Y. Shimogonya, T. Yamaguchi, T. Ishikawa
Enhancing cell free layer thickness by bypass channels in a wall
Journal of Biomechanics, **49**, 2299-2305 (2016)

130. N. Takeishi, Y. Imai, S. Ishida, T. Omori, R. D. Kamm, T. Ishikawa
Cell adhesion during bullet motion in capillaries
American Journal of Physiology - Heart and Circulatory Physiology, **311**, H395–H403 (2016)

131. S. Ishida, Y. Imai, Y. Ichikawa, S. Nix, D. Matsunaga, T. Omori, T. Ishikawa
A numerical model of a red blood cell infected by Plasmodium falciparum malaria: coupling cell mechanics with ligand-receptor interactions
Science and Technology of Advanced Materials, **17**, 454-461 (2016)

132. D. Matsunaga, Y. Imai, W. Christian, T. Ishikawa
Reorientation of a single red blood cell during sedimentation
Journal of Fluid Mechanics, **806**, 102-128 (2016)

133. Taimei Miyagawa, Yohsuke Imai, Shunichi Ishida, and Takuji Ishikawa
Relationship between gastric motility and liquid mixing in the stomach
American Journal of Physiology - Gastrointestinal and Liver Physiology, **311**, G1114-G1121 (2016)

134. Y. Kawano, K. Namiki, A. Miyawaki, T. Ishikawa
Extending whole slide imaging: Color darkfield internal reflection illumination (DIRI) for biological applications
PLoS ONE, **12**, e0167774 (2017)

135. Jinyou Yang, Yuji Shimogonya, Takuji Ishikawa
Mixing and pumping functions of the intestine of zebrafish larvae
Journal of Theoretical Biology, **419**, 152-158 (2017)

136. K. Kikuchi, T. Haga, K. Numayama-Tsuruta, H. Ueno, T. Ishikawa
Effect of fluid viscosity on the cilia-generated flow on a mouse tracheal lumen
Annals of Biomedical Engineering, **45**, 1048-1057 (2017)

137. Hiroki Kamada, Yohsuke Imai, Masanori Nakamura, Takuji Ishikawa, Takami Yamaguchi
Shear-induced platelet aggregation and distribution of thrombogenesis at stenotic vessels
Microcirculation, **24**, e12355 (2017)

138. Toshihiro Omori, Hiroto Sugai, Yohsuke Imai, Takuji Ishikawa
Nodal cilia-driven flow: development of a computational model of the nodal cilia axoneme
Journal of Biomechanics, **61**, 242-249 (2017)

139. Alexander Chamolly, Takuji Ishikawa, Eric Lauga
Active particles in periodic lattices
New Journal of Physics, **19**, 115001 (2017)

140. Cheng-Hsi Chuang, Kenji Kikuchi, Hironori Ueno, Keiko Numayama-Tsuruta, Takami Yamaguchi and Takuji Ishikawa
Collective spreading of red blood cells flowing in a microchannel
Journal of Biomechanics, **69**, 64-69 (2018)

141. Takuji Ishikawa and Kenji Kikuchi
Biomechanics of *Tetrahymena* escaping from a dead end
Proceedings of the Royal Society B, **285**, 20172368 (2018)

142. Jinyou Yang, Yuji Shimogonya, Takuji Ishikawa
What causes the spatial heterogeneity of bacterial flora in the intestine of zebrafish larvae?
Journal of Theoretical Biology, **446**, 101–109 (2018)

143. Takuya Ohmura, Yukinori Nishigami, Atsushi Taniguchi, Shigenori Nonaka, Jun-ichi Manabe, Takuji Ishikawa, Masatoshi Ichikawa
Simple mechanosense and response of cilia motion reveal the intrinsic habits of ciliates
Proceedings of the National Academy of Sciences of the United States of America, **115**, 3231-3236 (2018)

144. Keiji Okumura, Seiya Nishikawa, Toshihiro Omori, Takuji Ishikawa, Atsuko Takamatsu
Asymmetry in cilia configuration induces hydrodynamic phase locking
Physical Review E, **97**, 032411 (2018)

145. Takeru Morita, Toshihiro Omori and Takuji Ishikawa
Passive swimming of a microcapsule in vertical fluid oscillation
Physical Review E, **98**, 023108 (2018)

146. Toshihiro Omori, Katja Winter, Kyosuke Shinohara, Hiroshi Hamada, Takuji Ishikawa
Simulation of the nodal flow of Dpcd and Rfx3 mutant embryo: comparison of mechano-sensing and morphogen transport hypotheses
Royal Society Open Science, **5**, 180601 (2018)

147. Yukinori Nishigami, Takuya Ohmura, Atsushi Taniguchi, Shigenori Nonaka, Junichi Manabe, Takuji Ishikawa, Masatoshi Ichikawa
Influence of cellular shape on sliding behavior of ciliates
Communicative & Integrative Biology, **11**, e1506666 (2018)

148. Takeru Morita, Toshihiro Omori and Takuji Ishikawa
Biaxial fluid oscillations can propel a micro-capsule swimmer in an arbitrary direction
Physical Review E, **98**, 063102 (2018)

149. Toshihiro Omori, Mingming Lu, Takuji Ishikawa
Elastohydrodynamic phase-lock in two rotating cilia
Journal of Biomechanical Science and Engineering, **13**, 17-00699 (2018)

150. Takuji Ishikawa
Stability of a dumbbell micro-swimmer
Micromachines, **10**, 33 (2019)

151. Toshihiro Omori, Takuji Ishikawa
Swimming of spermatozoon in a Maxwell fluid
Micromachines, **10**, 78 (2019)

152. Jinyou Yang, Yuji Shimogonya, Takuji Ishikawa
Bacterial detachment from a wall with a line of bump
Physical Review E, **99**, 023104 (2019)

153. Kenji Kikuchi, Shunsuke Shigeta, and Takuji Ishikawa
Depth measurement of molecular permeation using inclined confocal microscopy
PLoS ONE, **14**, e0214504 (2019)

154. Koyo Nakamura, Toshihiro Omori, Takuji Ishikawa
Shear-induced migration of a transmembrane protein within a vesicle
Biophysical Journal, **116**, 1483–1494, (2019)

155. Hiroaki Ito, Toshihiro Omori and Takuji Ishikawa
Swimming mediated by ciliary beating: Comparison with a squirmer model
Journal of Fluid Mechanics, **874**, 774–796. (2019)

156. Yuki Suzuki, Kenji Kikuchi, Keiko Tsuruta-Numayama, Takuji Ishikawa
Particle selectivity of filtering by *C. elegans*
Theoretical & Applied Mechanics Letters, **9**, 61-65 (2019)

157. Azusa Kage, Toshihiro Omori, Kenji Kikuchi and Takuji Ishikawa
The shape effect of flagella is more important than bottom-heaviness on passive gravitactic orientation in *Chlamydomonas reinhardtii*
Journal of Experimental Biology, **223**, jeb205989 (2020)

158. Helene de Maleprade, Frederic Moisy, Takuji Ishikawa, Raymond E. Goldstein
Motility and Phototaxis of *Gonium*, the Simplest Differentiated Colonial Alga
Physical Review E, **101**, 022416 (2020)

159. Junichi Manabe, Toshihiro Omori and Takuji Ishikawa
Shape matters: Entrapment of a model ciliate at interfaces
Journal of Fluid Mechanics, **892**, A15 (2020)

160. Hitomu Matsui, Toshihiro Omori, Takuji Ishikawa
Hydrodynamic interaction of two deformable torque swimmers
Journal of Fluid Mechanics, **894**, A9 (2020)

161. Kenji Kikuchi, Hyontack Noh, Keiko Numayama-Tsuruta, Takuji Ishikawa
Mechanical roles of anterograde and retrograde intestinal peristalses after feeding in a larval fish (Danio rerio)
American Journal of Physiology - Gastrointestinal and Liver Physiology, **318**, G1013–G1021 (2020)

162. Takeru Morita, Toshihiro Omori, Yohei Nakayama, Shoichi Toyabe and Takuji Ishikawa
Harnessing random low Reynolds number flow for net migration
Physical Review E, **101**, 063101 (2020)

163. Yuki Suzuki, Kenji Kikuchi, Keiko Tsuruta-Numayama, Takuji Ishikawa
How do *C. elegans* worms survive in highly viscous habitats?
Journal of Experimental Biology, **224**, jeb.224691 (2020)

164. Hitomu Matsui, Toshihiro Omori, Takuji Ishikawa
Rheology of a dilute suspension of deformable microswimmers
Physics of Fluids, **32**, 071902 (2020)

165. Kenji Kikuchi, Shunsuke Shigeta, Keiko Tsuruta-Numayama, Takuji Ishikawa
Vulnerability of the skin barrier to mechanical rubbing
International Journal of Pharmaceutics, **587**, 119708 (2020)

166. Takuji Ishikawa, T. J. Pedley, K. Drescher, R. E. Goldstein
Stability of dancing *Volvox*
Journal of Fluid Mechanics, **903**, A11 (2020)

167. Zhihan Huang, Toshihiro Omori, Takuji Ishikawa
Active droplet driven by a collective motion of enclosed microswimmers
Physical Review E, **102**, 022603 (2020)

168. Nanami Taketoshi, Toshihiro Omori, Takuji Ishikawa
Elasto-hydrodynamic interaction of two swimming spermatozoa
Physics of Fluids, **32**, 101901 (2020)

169. Toshihiro Omori, Hiroaki Ito, Takuji Ishikawa
Swimming microorganisms acquire optimal efficiency with multiple cilia
Proceedings of the National Academy of Sciences of the United States of America, **117**, 30201-30207 (2020)

170. Atul Srivastava, Kenji Kikuchi, Takuji Ishikawa
The bubble induced population dynamics of fermenting yeasts
Journal of the Royal Society Interface, **17**, 20200735 (2020)

171. Takuji Ishikawa, D. R. Brumley, T. J. Pedley
Rheology of a concentrated suspension of spherical squirmers: monolayer in simple shear flow
Journal of Fluid Mechanics, **914**, A26 (2021)

172. Eric Lauga, Thanh Nghi Dang, Takuji Ishikawa
Zigzag instability of biased pusher swimmers
EPL, **133**, 44002 (2021)

173. Atul Srivastava, Kenji Kikuchi and Takuji Ishikawa
Non-biodegradable objects may boost microbial growth in water bodies by harnessing bubbles
Royal Society Open Science, **8**, 210646 (2021)

174. T. Ohmura, Y. Nishigami, A. Taniguchi, S. Nonaka, T. Ishikawa, M. Ichikawa
Near-wall rheotaxis of the ciliate Tetrahymena induced by the kinesthetic sensing of cilia
Science Advances, **7**, eabi5878 (2021)

175. Hiroki Kitamura, Toshihiro Omori and Takuji Ishikawa
Impact of rheological properties on bacterial streamer formation
Journal of The Royal Society Interface, **18**, 20210546 (2021)

176. Atul Srivastava, Kenji Kikuchi and Takuji Ishikawa
Microbial Brazil nut effect
Soft Matter, **17**, 10428-10436 (2021) (***Back Cover***)

177. T. Omori, K. Kikuchi, M. Schmitz, M. Pavlovic, C.-H. Chuang, T. Ishikawa
Rheotaxis and migration of an unsteady microswimmer
Journal of Fluid Mechanics, **930**, A30 (2022)

178. Takuji Ishikawa
Lubrication theory and boundary element hybrid method for calculating hydrodynamic forces between particles in near contact
Journal of Computational Physics, **452**, 110913 (2022)

179. C. Darveniza, T. Ishikawa, T. J. Pedley, and D. R. Brumley
Pairwise scattering and bound states of spherical microorganisms
Physical Review Fluids, **7**, 013104 (2022)

180. Kazuhiro Takahashi, Hiroaki Toyama, Youtaro Funahashi, Shin Kawana, Yutaka Ejima, Kenji Kikuchi, Takuji Ishikawa, Masanori Yamauchi
Influence of Respiratory Gas Density on Tidal Volume during Mechanical Ventilation: A Laboratory Investigation and Observational Study in Children
Tohoku Journal of Experimental Medicine, **256,** 271-281 (2022)

181. Takuji Ishikawa
Bacterial behaviors in confined diorama environments
Biophysical Journal, **121**, 2487-2489 (2022)

182. T. Omori, S. Munakata, and T. Ishikawa
Self-sustaining oscillation of two axonemal microtubules based on a stochastic bonding model between microtubules and dynein
Physical Review E, **106**, 014402 (2022)

183. Yuki Suzuki, Kenji Kikuchi, Keiko Numayama-Tsuruta, Takuji Ishikawa
Reciprocating intestinal flows enhance glucose uptake in C. elegans
Scientific Reports, **12**, 15310 (2022)

184. Takuji Ishikawa, Thanh Nghi Dang, Eric Lauga
Instability of an active fluid jet
Physical Review Fluids, **7**, 013104 (2022)

185. Takanobu A. Katoh, Toshihiro Omori, Katsutoshi Mizuno, Xiaorei Sai, Katsura Minegishi, Yayoi Ikawa, Hiromi Nishimura, Takeshi Itabashi, Eriko Kajikawa, Sylvain Hiver, Atsuko H. Iwane, Takuji Ishikawa, Yasushi Okada, Takayuki Nishizaka, Hiroshi Hamada
Immotile cilia mechanically sense the direction of fluid flow for left-right determination
Science, **379**, 66-71 (2023)

186. Takanobu A. Katoh, Toshihiro Omori, Takuji Ishikawa, Yasushi Okada, Hiroshi Hamada
Biophysical analysis of mechanical signals in immotile cilia of mouse embryonic nodes using advanced microscopic techniques
Bio-protocol, **13**, e4715 (2023)

187. Takahashi, K., Toyama, H., Kubo, R., Yoshida, N. Ejima, Y., Kikuchi, K., Ishikawa, T., Yamauchi, M.
Effectiveness of substantial shortening of the endotracheal tube for decreasing airway resistance and increasing tidal volume during pressure-controlled ventilation in pediatric patients: a prospective observational study
Journal of Clinical Monitoring and Computing, **37**, 1513-1519 (2023)

188. Yu Kogure, Toshihiro Omori, Takuji Ishikawa
Flow-induced diffusion in a packed lattice of squirmer
Journal of Fluid Mechanics, **971**, A17-1 (2023)

189. Kazuhiro Takahashi, Hiroaki Toyama, Yutaka Ejima, Jinyou Yang, Kenji Kikuchi, Takuji Ishikawa, Masanori Yamauchi
Endotracheal tube, by the venturi effect, reduces the efficacy of increasing inlet pressure in improving pendelluft
PLOS ONE, **18**, e0291319 (2023)

190. Lloyd Fung, Adam Konkol, Takuji Ishikawa, Ben T. Larson, Thibaut Brunet, Raymond E. Goldstein
Swimming, Feeding and Inversion of Multicellular Choanoflagellate Sheets
Physical Review Letters, **131**, 168401 (2023)

191. Jinyou Yang, Kenji Kikuchi, Takuji Ishikawa
High shear flow prevents bundling of bacterial flagella and induces lateral migration away from a wall
Communications Physics, **6**, 354 (2023)