

1971 (昭和 46) 年 10 月 長崎市にて出生

1) 経歴

a) 学歴:

- 1995 年 3 月 長崎大学薬学部薬科学科卒業
- 1997 年 3 月 長崎大学大学院薬学研究科博士前期課程修了
- 1999 年 9 月 京都大学大学院薬学研究科博士後期課程中退 (長崎大学助手採用につき)
- 2001 年 9 月 京都大学 博士 (薬学)
「糖修飾カチオン性リポソームを用いたプラスミド DNA の細胞選択的ターゲティングに関する研究」

b) 職歴:

- 1999 年 10 月～2002 年 3 月 長崎大学薬学部 助手
- 2002 年 4 月～2002 年 9 月 長崎大学大学院医歯薬学総合研究科 助手 (改組による)
- 2002 年 10 月～2009 年 3 月 京都大学大学院薬学研究科 助手
- 2009 年 4 月～2011 年 5 月 京都大学大学院薬学研究科 助教
- 2011 年 6 月～2013 年 3 月 京都大学大学院薬学研究科 講師
- 2013 年 4 月～現在 長崎大学大学院医歯薬学総合研究科 教授
- 2013 年 4 月～現在 長崎大学薬学部 教授 (兼)
- 2013 年 4 月～2014 年 3 月 京都大学大学院薬学研究科 非常勤講師 (兼)
- 2014 年 4 月～2015 年 3 月 熊本大学大学院生産科学研究科 非常勤講師 (兼)
- 2016 年 4 月～現在 長崎大学教授 生命医科学域 (改組による)
- 2016 年 7 月～2022 年 3 月 長崎大学大学院医歯薬学総合研究科 URA 教授 (兼)
- 2017 年 10 月～現在 長崎大学大学院医歯薬学総合研究科 地域医療協働センター教授 (兼)
- 2021 年 4 月～現在 長崎大学薬学部副学部長・薬学科長 (兼)
- 2021 年 4 月～現在 長崎大学薬学部 地域薬剤師卒後教育研修センター センター長 (兼)
- 2022 年 4 月～現在 長崎大学生命医科学域 研究キャリア支援室 教授 (兼)

2) 受賞歴:

a) 学会等

- ・ Postdoctoral Presentation Award (2002) /日本薬剤学会
- ・ The APSTJ Global Education Seminar Presentation Award 2003 (2003) /日本薬剤学会
- ・ 万有薬剤学奨励賞 (2006) /万有国際交流財団
- ・ 日本薬物動態学会奨励賞 (2006) /日本薬物動態学会
- ・ 日本薬学会奨励賞 (2008) /日本薬学会
- ・ DMPK Award for the Most Frequently Downloaded Review Article in 2007 (1st place) (2009)
- ・ DMPK Award for the Most Frequently Cited Review Article in 2007 (1st place) (2011)
- ・ 日本薬剤学会奨励賞 (2012) /日本薬剤学会
- ・ 令和 4 年度長崎大学インパクト論文賞/長崎大学
- ・ パーティクルデザイン賞 (2023) /新製剤技術とエンジニアリング基金
- ・ 令和 5 年度長崎大学 High インパクト論文賞/長崎大学

b) 雑誌等

- ・ Top Reviewer 2010 in Pharmaceutical Sciences, Elsevier (2010)
- ・ Certification of Appreciation, ACS Publications (2011)
- ・ Top Reviewer 2011 in Pharmaceutical Sciences, Elsevier (2012)
- ・ Outstanding Reviewer-Journal of Controlled Release, Elsevier (2014)
- ・ Outstanding Reviewer-International Journal of Pharmaceutics, Elsevier (2014)
- ・ Outstanding Reviewer-Biomaterials, Elsevier (2016)
- ・ Outstanding Reviewer-International Journal of Pharmaceutics, Elsevier (2016)

3) 委員歴 (2013 年度以降)

a) 学会代議員・評議員等

2013 年 4 月～現在	遺伝子・デリバリー研究会 役員
2013 年 4 月～2016 年 3 月	日本薬学会 学術誌編集委員
2013 年 4 月～2018 年 3 月	日本薬剤学会 評議員
2014 年 4 月～現在	日本薬学会 代議員
2014 年 4 月～2016 年 3 月	日本薬学会 九州支部会幹事
2015 年 1 月～現在	日本薬物動態学会 代議員
2018 年 4 月～現在	日本薬物動態学会 DIS 委員 (DDS 部門)
2018 年 4 月～現在	日本薬剤学会 代議員
2018 年 4 月～2019 年 3 月	日本薬学会 九州支部会幹事
2018 年 5 月～2020 年 3 月	日本薬剤学会 超分子薬剤学 FG 執行部メンバー
2018 年 6 月～現在	日本核酸医薬学会 評議員
2018 年 6 月～現在	日本核酸医薬学会 デリバリー (DDS) 幹事
2019 年 7 月～現在	日本 DDS 学会 評議員
2020 年 4 月～2022 年 3 月	日本薬剤学会 超分子薬剤学 FG 副リーダー
2022 年 1 月～2023 年 12 月	遺伝子・デリバリー研究会 監査役
2022 年 4 月～2024 年 3 月	日本薬剤学会超分子薬剤学 FG リーダー
2024 年 1 月～現在	遺伝子・デリバリー研究会 事務局 (代表)

b) 委員・実行委員等

2013 年 4 月～現在	薬学教育協議会 薬学と社会教科担当教員会議委員
2013 年 4 月～現在	薬学教育協議会 医薬品情報学教科担当教員会議委員
2013 年 4 月～現在	薬剤師国家試験問題検討委員会 (法規・制度・倫理) 委員
2013 年 4 月～2019 年 3 月	日本薬剤学会 DDS 製剤臨床応用 FG 執行部メンバー
2013 年 12 月～2014 年 7 月	第 17 回日本医薬品情報学会総会・学術大会実行委員
2014 年 4 月～2016 年 5 月	日本薬剤学会 FG 統括委員会委員
2014 年 6 月～2015 年 5 月	日本薬剤学会第 30 年会組織委員
2016 年 11 月～2016 年 11 月	日本薬学会 佐藤記念国内賞選考委員
2017 年 11 月～2017 年 12 月	日本薬剤学会 学会賞選考委員
2017 年 12 月～2018 年 6 月	第 34 回日本 DDS 学術集会 プログラム委員
2017 年 12 月～2018 年 9 月	第 38 回日本眼薬理学会 組織委員
2018 年 8 月～2019 年 7 月	日本ジェネリック医薬品・バイオシミラー学会第 13 回学術大会 組織委員
2019 年 1 月～2020 年 5 月	日本薬剤学会第 35 年会 組織委員
2020 年 3 月～2020 年 8 月	日本核酸医薬学会 学会賞選考委員
2020 年 4 月～2020 年 10 月	第 20 回 CRC と臨床試験のあり方を考える会議 2020 in 長崎 実行委員
2020 年 6 月～2021 年 5 月	日本薬剤学会第 36 年会 組織委員
2020 年 9 月～2021 年 7 月	第 37 回日本 DDS 学会学術集会 プログラム委員
2021 年 3 月～2022 年 5 月	日本薬剤学会 第 37 年会 組織委員
2021 年 3 月～2021 年 8 月	日本核酸医薬学会 学会賞選考委員
2022 年 9 月～2023 年 7 月	第 39 回日本 DDS 学会学術集会 プログラム委員

c) その他

2014 年 12 月～2015 年 11 月	日本学術振興会 科学研究費委員会専門委員
2017 年 5 月～現在	長崎市薬剤師会 監事
2017 年 6 月～現在	長崎県ジェネリック医薬品使用促進協議会 委員
2017 年 5 月～2021 年 6 月	長崎県薬剤師会 生涯学習委員
2019 年 5 月～2020 年 6 月	日本学術振興会 特別研究員等審査会専門委員
2021 年 6 月～現在	長崎県ジェネリック医薬品使用促進協議会 会長
2021 年 7 月～現在	長崎県薬剤師会 薬事情報・試験検査委員会 委員
2021 年 9 月～2023 年 3 月	長崎県薬剤師研修協議会 委員

4) 学会シンポジウムオーガナイザー等 (2013 年度以降)

1. 2016 年 3 月：日本薬学会第 136 年会シンポジウム「イメージング技術が切り開く遺伝子・核酸デリバリーの最前線」オーガナイザー、横浜
2. 2018 年 3 月：日本薬学会第 138 年会シンポジウム「DDS の難題に挑む」オーガナイザー、金沢
3. 2018 年 6 月：日本 DDS 学会第 34 年会ジョイントシンポジウム「ナノ DDS 製剤開発の最前線」(共催：日本薬剤学会)オーガナイザー、長崎
4. 2019 年 5 月：日本薬剤学会第 34 年特別企画シンポジウム 日本薬剤学会・日本薬学会 合同シンポジウム「脂質・細胞製剤の新展開」オーガナイザー、富山
5. 2020 年 5 月：日本薬剤学会第 35 年会シンポジウム「新技術による薬剤学維新 2020」オーガナイザー、誌上シンポジウム
6. 2020 年 10 月：第 37 回日本 DDS 学会学術集会シンポジウム「ワクチン・核酸医薬・ナノ DDS イノベーションの最前線」オーガナイザー、千葉
7. 2021 年 11 月：日本薬物動態学会第 36 年会シンポジウム「核酸・遺伝子医薬開発における DDS テクノロジー」オーガナイザー、オンライン開催
8. 2022 年 9 月：日本薬剤学会第 3 回超分子薬剤学 FG シンポジウム「超分子医薬創出に必要とされる DDS・物質共生：出島から世界への情報発信」オーガナイザー
9. 2022 年 11 月：日本薬物動態学会第 37 年会シンポジウム「中分子医薬品開発における DDS テクノロジーの展開」オーガナイザー、横浜
10. 2023 年 9 月：遺伝子・デリバリー研究会 第 21 回夏期セミナー、オーガナイザー、長崎
11. 2023 年 9 月：Organizer, Symposium 3”DDS Development Strategies for the Creation of Innovative Drugs”, 2023 International Joint Meeting of the 23rd International Conference on Cytochrome P450 and the 38th Annual Meeting of the Japanese Society for the Study of Xenobiotics (Shizuoka, Japan)
12. 2024 年 3 月：日本薬学会第 144 年会シンポジウム「中分子医薬および超分子 DDS の開発・評価とレギュレーションについて考える」オーガナイザー、横浜

5) 学会シンポジウム等講演 (2013 年度以降)

1. Shigeru Kawakami: Targeted gene delivery using external stimuli, **The 1st International Symposium, Dejima Challenge for Therapeutic Innovation**, March 14, 2014, Nagasaki, Japan
2. 川上 茂: 細胞選択的遺伝子導入を目的とした超音波応答性糖修飾バブルリポプレックスの開発、日本超音波医学会第 87 回学術集会、2014 年 5 月 9 日、横浜
3. 川上 茂: 医療機器と DDS の融合によるメディカルイノベーション、立命館大学バイオメディカルデバイス研究センターシンポジウム 2014、2014 年 9 月 17 日、滋賀
4. 川上 茂: 外部刺激を利用した標的指向性 DDS の開発、第 63 回高分子討論会、2014 年 9 月 24~26 日、長崎
5. 川上 茂: 超音波照射や組織押圧・吸引圧を利用した遺伝子デリバリー、分子デリバリー研究会: 物理と薬学のコラボレーション、神奈川
6. 川上 茂: 超音波照射と糖修飾バブルリポソームの併用による標的指向型 DDS の開発、第 4 回超音波分子診断治療研究会、2015 年 3 月 7 日、福岡
川上 茂: 超音波照射を利用した脳に対する標的指向 DDS の開発、第 30 回長崎 DDS・再生医療研究会教育講演、2015 年 12 月 4 日、長崎
7. 川上 茂: 外部刺激制御に基づく遺伝子・核酸デリバリーシステムの開発、日本薬学会第 136 年会シンポジウム、2016 年 3 月 29 日、神奈川県
川上 茂: くすりの知識: 品質と効果を最大限引き出す方法、放送大学・県立長崎図書館 公開講座、2017 年 8 月 6 日、長崎
8. 川上 茂: 医療イノベーションにおける DDS、第 41 回西日本薬剤学研究会特別講演、2017 年 8 月 25 日、大分
9. 川上 茂: くすりの上手な使い方、放送大学長崎同窓会特別講演、2017 年 10 月 1 日
10. 川上 茂: 医療イノベーション推進における DDS 研究、平成 29 年度長薬同窓会近畿支部会特別講演、2017 年 10 月 15 日、大阪
11. 川上 茂、菅 忠明: 高機能・高品質 (HFQ) 脂質を用いた標的指向型 DDS 製剤の開発、第 34 回日本 DDS 学会学術集会シンポジウム、2018 年 6 月 21 日~22 日、長崎
12. 川上 茂、菅 忠明: 多色深部イメージングを利用した空間分布制御型ナノ DDS の開発、日本薬学会 139 年会シンポジウム、2019 年 3 月 22 日、千葉

13. 川上 茂：遺伝子・核酸医薬品による革新的医療・薬剤師の役割とマイクロ流体デバイスによるナノ DDS の新展開、**医療と薬物投与技術講演**、2019 年 6 月 22 日、長崎
14. 川上 茂、杉本友里：体内動態制御化を目的とした機能性エクソソームの製造体系・開発体系の構築、**日本薬学会第 140 年会シンポジウム**、2020 年 3 月 28 日、京都
15. 川上 茂、杉本友里：ペプチド修飾脂質を用いた機能化エクソソームの開発、**日本薬学会第 141 年会シンポジウム**、2021 年 3 月 27 日、オンライン開催
16. 川上 茂：脳を標的としたリポソーム・脂質ナノ粒子の DDS 技術の開発、**日本薬剤学会第 36 年会**（学術シンポジウム 3）、2021 年 5 月 13 日、オンライン開催
川上 茂：標的指向 DDS 開発と組織透明化評価、**立命館大学総合科学技術研究機構 創薬科学研究センター創剤研究コンソーシアム 2021 年度第 2 回研究会**、2022 年 2 月 18 日
17. 川上 茂：遺伝子導入技術、**第 38 回日本 DDS 学会教育講演**、2022 年 6 月 30 日
18. 川上 茂：標的指向型脂質ナノ粒子製剤の設計・開発と組織内空間分布評価、**小野薬品工業社内講演会**、2023 年 1 月 27 日、オンライン開催
19. 川上 茂：脂質ナノ粒子の標的指向型製剤の設計と評価、**日本薬学会第 143 年会シンポジウム**、2023 年 3 月 26 日、北海道
20. Shigeru Kawakami: **7th Gratama Workshop**, Development of Ligand Modified Nanoparticles for Targeted Drug Delivery of Nucleic Acid, May 11, 2023, Nagasaki
21. 川上 茂：脂質ナノ粒子製剤を対象としたアクティブターゲティング技術の開発、**日本薬剤学会第 38 年会ラウンドテーブル**、2023 年 5 月 17 日、名古屋
22. 川上 茂：ナノ粒子を用いた核酸医薬の標的指向化技術の開発に関する研究、**第 20 回技術講演会受賞講演**、新製剤技術とエンジニアリングを考える会、2023 年 7 月 12 日、東京
23. 川上 茂：集束超音波照射を利用した BBB オープニングによる脳内への mRNA 医薬送達法の開発、**第 7 回先端薬科学ワークショップ**、長崎大学薬学部下村脩博士ノーベル化学賞顕彰記念創薬研究教育センター、2023 年 10 月 5 日、長崎
24. 川上 茂：脂質ナノ粒子の高機能化を目的としたリポペプチドの開発と核酸・細胞医薬創出への展開、**高度な基礎力と研究マインドを持った先導的薬剤師育成事業、SDGs 推進に係る連携創出の場形成支援事業 合同シンポジウム 2024 年 2 月 6 日** 徳島大学大学院医歯薬学研究部 DDS 研究センター、**徳島大学研究クラスター「次世代 DDS 拠点形成」**、2024 年 2 月 6 日、徳島
25. 川上 茂：超音波照射とマイクロバブルを利用した脳内への mRNA 封入脂質ナノ粒子の送達、**第 129 回日本解剖学会総会・全国学術集会シンポジウム**、2024 年 3 月 22 日、沖縄

6) 学術雑誌編集

1. 2013 年～2017 年: **Editor**, *Biol Pharm Bull*, *Chem Pharm Bull*, *Yakugaku Zasshi*
2. 2018 年: **Guest Editor**, *Chem Pharm Bull* 特集号「Stimuli-Responsive Systems of Therapeutics」を編集
3. 2021 年: **Guest Editor**, *Drug Metabolism and Pharmacokinetics*
特集号「Gene and Oligonucleotide Delivery」を編集
4. 2021 年～現在: **Editorial Board**, *Pharmaceutics*
5. 2023 年 1 月～現在: **Scientific Adviser**, *Journal of Pharmaceutical Science*

7) 研究室出身者 (2013 年度～2023 年度)

- ・博士課程修了 (博士号取得) : 16 名
- ・博士前期課程修了 : 15 名
- ・薬学科卒業 : 53 名
- ・薬科学科卒業 : 14 名

7) 論文業績、特許出願: * : Corresponding author

【欧文原著】

188. Sayuri Nakamae, Satoshi Miyagawa, Koki Ogawa, Mariko Kamiya, Mayumi Taniguchi, Akari Ono, Maho Kawaguchi, Awet Alem Teklemichael, Jiun-Yu Jian, Tamasa Araki, Yukimi Katagami, Hidefumi Mukai, Takeshi Annoura, Katsuyuki Yui, Kenji Hirayama, Shigeru Kawakami, and Shusaku Mizukami: Induction of liver-resident memory T cells and protection at liver-stage malaria by mRNA-containing lipid nanoparticles, *Frontiers in Immunology*, 14, 1116299 (2023)
187. Jun Miyata, Hirotomo Yamanashi, Shin-Ya Kawashiri, Sakiko Soutome, Kazuhiko Arima, Mami Tamai, Fumiaki Nonaka, Yukiko Honda, Masayasu Kitamura, Koji Yoshida, Yuji Shimizu, Naomi Hayashida, Shigeru Kawakami, Noboru Takamura, Takashi Sawase, Atsutoshi Yoshimura, Yasuhiro Nagata, Mayumi Ohnishi, Kiyoshi Aoyagi, Atsushi Kawakami, Toshiyuki Saito, and Takahiro Maeda: Profile of Nagasaki Islands Study (NaIS): A Population-Based Prospective Cohort Study on Multi-disease, *Journal of Epidemiology*, 14, 1116299 (2023)
186. Masayori Hagimori, Naoya Kato, Akira Orimoto, Tadaharu Suga, and Shigeru Kawakami: Development of triple-negative breast cancer-targeted liposomes with MUC16 binding peptide ligand in triple-negative breast cancer cells, *Journal of Pharmaceutical Sciences*, 112(6), 1740-1745 (2023)
185. Longjian Geng, Naoya Kato, Yukinobu Kodama, Hidefumi Mukai, Shigeru Kawakami*: Influence of lipid composition of messenger RNA-loaded lipid nanoparticles on the protein expression via intratracheal administration in mice, *International Journal of Pharmaceutics*, 122896 (2023)
184. Yuri Sugimoto, Tadaharu Suga, Mizuki Umino, Asako Yamayoshi, Hidefumi Mukai, Shigeru Kawakami*: Investigation of enhanced intracellular delivery of nanomaterials modified with novel cell-penetrating zwitterionic peptide-lipid derivatives, *Drug Delivery*, 30(1) 2191891 (2023)
183. Naoya Kato, Sakura Yamada, Rino Suzuki, Yoshiki Iida, Makoto Matsumoto, Shintaro Fumoto, Hidetoshi Arima, Hidefumi Mukai, Shigeru Kawakami*: Development of an apolipoprotein E mimetic peptide-lipid conjugate for efficient brain delivery of liposomes, *Drug Delivery*, 30(1), 2173333 (2023)
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