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**職歴：**

- 2019 – 立命館大学理工学部環境都市工学科 准教授
- 2016 – 2019 国立研究開発法人国立環境研究所 研究員
- 2016 – 2019 国際応用システム分析研究所（オーストリア）客員研究員
- 2014 – 2016 独立行政法人国立環境研究所 特別研究員
- 2011 – 2014 独立行政法人国立環境研究所 日本学術振興会特別研究員

**学歴：**

- 2011 京都大学大学院工学研究科都市環境工学専攻 博士課程修了
- 2008 京都大学大学院地球環境学舎環境マネジメント専攻 修士課程修了
- 2006 大阪市立大学 工学部卒業

**略歴：**

長谷川氏は、エネルギー、経済、農業、土地利用、水利用などを解析するため、独自に開発してきたコンピューターシミュレーションモデルを組み合わせることで、統合的な評価、シナリオ分析を行っており、その対象は世界と幅広く、国際的にもこの分野を牽引する研究者の一人である。この独自の統合的な評価モデルを用いて、世界各国の温暖化政策立案や食料問題への影響に関する独創的な解析成果を数多く発表し、将来推計の不確実性が考慮でき、より強固な推計を提示しようと日々研究に邁進している。

主として気候変動に関連する研究を行っており、その中でも、将来の温室効果ガスの排出量見通し、その削減方策の検討、気候変動影響の経済的分析を得意としている。さらに気候変動だけでなく持続可能な発展に関連する諸事象についても統合評価モデルで対象とできるものは解析の対象としその対象は幅広い。近年は、世界を対象に気候変動問題とその解決のための農業・土地利用分野の役割と気候変動問題と食料安全保障問題とのかかわりについて明らかにしてきた。2015年12月のCOP21（第21回気候変動枠組条約締約国会議）では「パリ協定」が採択され、世界の平均気温の上昇を産業革命以前の2°C未満に保つこと、さらには1.5°C以下に抑えるよう努力することが約束された。長谷川氏らの研究グループは地球温暖化対策に関する研究に取り組み、地球温暖化の影響

は多岐にわたることから一つの対策が意図せず別の分野に悪影響を及ぼす危険性を指摘している。そこで国際的に評価されている統合評価モデルや世界農業経済モデルを使い、2050年までの気候変化と温室効果ガス（GHG）排出削減策が食料安全保障に与える影響を評価した。国際的に信頼性の高いシミュレーションモデルはいくつかあり、日本の統合評価モデルAIM（Asian-Pacific Integrated Model）もその一つだが、AIMに加えて7つのモデルを使い、気候変動やGHG排出削減策が農作物の生産や消費、食料価格に及ぼす影響を評価した。このように複数のモデルを駆使して数多くの新しい知見を生み出したことは特筆すべき点である。これらの成果が評価され、2019年、2020年には高被引用論文著者（クラリベイト・アナリティクス **Web of Science Group**）に選出され、2021年には文部科学大臣表彰若手科学者賞を受賞している。

近年は、在籍している立命館大学工学部環境都市工学科に「地球環境モデリング研究室」を持ち、自らの研究活動を基軸としながら、独創的な問題設定や事象の適切な把握とそこへ向けたアプローチの選定、効果的な結論の導出までを完遂できる国際的リーダーを目指せる人材育成や教育にも貢献している。

## 主要論文

- (1) Bauer N, Rose S, Fujimori S, Vuuren D, Weyant J, Wise M, ..., Hasegawa T, et al. Global energy sector emission reductions and bioenergy use: overview of the bioenergy demand phase of the EMF-33 model comparison. *Climatic Change* 2020, 163
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- (1) Valin H, Hertel T, Bodirsky BL, Hasegawa T, Stehfest E, Achieving Zero Hunger by 2030 – A Review of Quantitative Assessments of Synergies and Tradeoffs amongst the UN

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- (2) Hasegawa T. An estimation method for the emission accounting table of global agricultural activities. Interim Report; 2009: International Institute for Applied and Systems Analysis (IIASA). 2009.
- (3) Hanaoka T, Akashi O, Kanamori Y, Hasegawa T. Hibino G, Fujiwara K, Kainuma M, Matsuoka Y, Global Greenhouse Gas Emissions Reduction Potentials and Mitigation Costs in 2020 - Methodology and Results, CGER-REPORT, ISSN 1341-4356, 2008.
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- (5) 長谷川知子, 新しいシナリオフレームワークを用いた飢餓リスクに対する温暖化影響と適応策の研究, 国立環境研究所 地球環境研究センターニュース, 2014 年 2 月号, Vol.24 No.11, 通巻第 279 号 201402\_279012.
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- (7) 長谷川知子, 国際応用システム分析研究所での海外研修を通して, 国立環境研究所ニュース, 2018 年度 37 巻 1 号

### 招聘講演等

- (1) Hasegawa T. (2021), How do we reconcile a long-term climate goal and sustainable development? SDGs Symposium 2021: Interdisciplinary science solutions for food, water, climate and ecosystems Sustainable Development Goals, 2021, Zoom Webinar
- (2) Hasegawa T., Fujimori S. (2017) Food security under climate mitigation. Measuring Progresses towards the 2030 Agenda: an Updated Assessment.
- (3) Masui T, Fujimori S, Hasegawa T., Takahashi K, Hanasaki N, Kainuma M. (2013) Next Generation Scenarios for Climate Assessment, the SSPs. 36th Annual IAEE International Conference

### 受賞歴

- |            |   |
|------------|---|
| 2006 年 6 月 | ポスター発表賞 (International Association for Urban Climate より) (主著) |
| 2009 年 9 月 | 平成 21 年度地球環境論文賞 (土木学会地球環境委員会より) (共著)                          |
| 2014 年 9 月 | 平成 26 年度地球環境論文賞 (土木学会地球環境委員会より) (主著)                          |

2015年9月	平成27年度地球環境論文奨励賞（土木学会地球環境委員会より）(共著)
2016年10月	平成28年度環境システム論文奨励賞（土木学会環境システム委員会より）(主著)
2017年9月	Best Paper Award（The Second Global Conference on Theory and Applications of OR/OM for Sustainability）(共著)
2019年11月	Highly Cited Researchers 2019 高被引用論文著者に選出（クラリベイト・アナリティクス Web of Science Group）
2020年12月	Highly Cited Researchers 2020 高被引用論文著者に選出（クラリベイト・アナリティクス Web of Science Group）
2021年4月	文部科学大臣表彰 若手科学者賞

### **Selected grants acquired during the past five years**

(1)	KAKENHI, Grant-in-Aid for Science Research, Grant-in-Aid for Scientific Research (B)
Number	19H02273
Year	FY2019 - present,
Role	Co-Investigator
Institute	Ritsumeikan University
(2)	KAKENHI, Postdoctoral Fellowships for Research Abroad
Year	FY2016 – 2018
Role	Project leader
Institute	National Institute for Environmental Studies, Japan
(3)	KAKENHI, Grant-in-Aid for Science Research, Grant-in-Aid for Young Scientists (B)
Number	15K16164
Year	FY2015 – 2017
Role	Project leader
Institute	National Institute for Environmental Studies, Japan
(4)	KAKENHI, Grant-in-Aid for Research Fellowships of the Japan Society for the Promotion of Science for Young Scientists
Number	11J07066
Year	FY2011 – FY2013,
Role	Project leader
Institute	National Institute for Environmental Studies, Japan