

Adrean Webb

CONTACT INFORMATION	Kyoto University Disaster Prevention Research Institute Coastal Disaster Research Section Gokasho, Uji, Kyoto, 611-0011, Japan	<i>Phone:</i> (+81) 0774-38-4141 <i>E-mail:</i> adrean.webb@gmail.com <i>URL:</i> www.adreanwebb.com
RESEARCH INTERESTS	Mathematical modeling of geophysical flow and turbulence, nonlinear waves, numerical analysis, asymptotic analysis, and climate change.	
EDUCATION	<p>Ph.D. Applied Mathematics, University of Colorado Boulder, Aug 2013. Advisor: B. Fox-Kemper. Committee: M. Ablowitz, B. Fornberg, N. Flyer, K. Julien, and P. Sullivan. Dissertation Title: Stokes Drift and Meshless Wave Modeling.</p> <p>M.S. Applied Mathematics, University of New Hampshire, May 2007. Advisor: M. Shubov. Thesis Title: Mathematics of Carbon Nanotube Vibrations: An Eigenvalue Problem.</p> <p>B.S. Physics, University of Oklahoma, May 1998. <i>Attended Kings College (Aberdeen, Scotland) and Ritsumeikan University (Kyoto, Japan) in 1997 and 1995.</i></p>	
RESEARCH EXPERIENCE	<p>Project Assistant Professor: Disaster Prevention Research Institute (DPRI), Coastal Disaster Research Section, Kyoto University (Kyoto, Japan), Sep 2017–present. <i>A Tougou project to investigate waves and storm surges in a coupled climate system on long time scales.</i></p> <p>Project Researcher: Department of Ocean Technology, Policy, and Environment, The University of Tokyo (Kashiwa, Japan), Oct 2014–Aug 2017. <i>A NEDO project to estimate the available wave energy resources for Japan and an ArCS project to forecast the Arctic wave field.</i></p> <p>Postdoctoral Research Scientist: Department of Ocean Sciences, Tokyo University of Marine Sciences and Technology (Tokyo, Japan) under H. Yamazaki, Aug 2013–Sep 2014. <i>A multi-project appointment to model estuarine dynamics in Iwate, Japan.</i></p> <p>Research Assistant: Cooperative Institute for Research in the Environmental Sciences (CIRES), University of Colorado Boulder under B. Fox-Kemper, Jan 2009–Dec 2012. <i>A NASA grant to model Langmuir turbulence on a global scale.</i></p> <p>Research Assistant: National Center for Atmospheric Research (Boulder, CO), Jul 2010. <i>Designed a student lab to use the MIT Integrated Global System Model for the IMAGE Theme of the Year, Summer Graduate School on Mathematics of Climate Change.</i></p> <p>Visiting Scholar: Institute for Pure and Applied Mathematics (IPAM), University of California, Los Angeles, Mar–Jun 2010. <i>Three-month program on model and data hierarchies for simulating and understanding climate.</i></p> <p>Research Assistant: CIRES, University of Colorado Boulder under B. Fox-Kemper, May–Dec 2008. <i>A CIRES Innovative Research Grant to estimate the importance of Langmuir turbulence in global ocean models.</i></p>	
REFEREED JOURNAL PUBLICATIONS	[R.1] J. Morim, M. Hemer, X.L. Wang, N. Cartwright, C. Trenham, A. Semedo, I. Young, L. Bricheno, P. Camus, M. Casas-Prat, L. Erikson, L. Mentaschi, N. Mori, T. Shimura, B. Timmerman, O. Aarnes, Ø. Breivik, A. Behrens, M. Dobrynin, M. Menendez, J. Staneva, M. Wehner, J. Wolf, B. Kamranzad, A. Webb , J. Stopa, and F. Andutta, 2019. Robustness and uncertainties in global multivariate wind-wave climate projections. <i>Nature Climate Change</i> , 9 :711–718. URL https://doi.org/10.1038/s41561-019-0488-1	

1038/s41558-019-0542-5.

[R.2] N. Mori, T. Yasuda, T. Arikawa, T. Kataoka, S. Nakajo, K. Suzuki, Y. Yamanaka, **A. Webb**, and 2018 Typhoon Jebi Coastal Disaster Survey Team, 2019. 2018 Typhoon Jebi Post-Event Survey of Coastal Damage in the Kansai Region, Japan. *Coastal Engineering Journal*, **61**(3):278–294. URL <https://doi.org/10.1080/21664250.2019.1619253>.

[R.3] W. Fujimoto, T. Waseda, and **A. Webb**, 2018. Impact of the four-wave quasi-resonance to freak wave shapes in the ocean. *Ocean Dynamics*, **(2018)**:1–21. URL <https://doi.org/10.1007/s10236-018-1234-9>.

[R.4] Y. Kita, T. Waseda, and **A. Webb**, 2018. Development of waves under explosive cyclones in the Northwestern Pacific. *Ocean Dynamics*, **(2018)**:1–16. URL <https://doi.org/10.1007/s10236-018-1195-z>.

[R.5] T. Nose, **A. Webb**, and T. Waseda, 2018. Predictability of storm wave heights in the ice-free Beaufort Sea. *Ocean Dynamics*, **(2018)**:1–20. URL <https://doi.org/10.1007/s10236-018-1194-0>.

[R.6] T. Waseda, **A. Webb**, K. Sato, J. Inoue, A. Kohout, B. Penrose, and S. Penrose, 2018. Correlated Increase of High Ocean Waves and Winds in the Ice-Free Waters of the Arctic Ocean. *Scientific Reports*, **8**(4489):1–9. URL <https://doi.org/10.1038/s41598-018-22500-9>.

[R.7] K. Sasmal, E. Masunaga, **A. Webb**, O. Fringer, E. Gross, M. Rayson, and H. Yamazaki, 2017. A three dimensional numerical study of river plume mixing processes in Otsuchi Bay, Japan. *Journal of Oceanography*, **74**(2):169–186. URL <https://doi.org/10.1007/s10872-017-0446-9>.

[R.8] L. Qing, B. Fox-Kemper, Ø. Breivik, and **A. Webb**, 2017. Statistical models of global Langmuir mixing. *Ocean Modelling*, **113**:95–114. URL <https://doi.org/10.1016/j.ocemod.2017.03.016>.

[R.9] T. Waseda, **A. Webb**, K. Kiyomatsu, W. Fujimoto, Y. Miyazawa, S. Varlamov, K. Horiuchi, T. Fujiwara, T. Taniguchi, K. Matsuda, and J. Yoshikawa, 2016. Marine energy resource assessment at reconnaissance to feasibility study stages; wave power, ocean and tidal current power, and ocean temperature power (in Japanese). *Journal of the Japan Society of Naval Architects and Ocean Engineers*, **23**:189–198. URL <https://doi.org/10.2534/jjasnaoe.23.189>.

[R.10] S. Haney, B. Fox-Kemper, K. Julien, and **A. Webb**, 2015. Symmetric and Geostrophic Instabilities in the Wave-Forced Ocean Mixed Layer. *Journal of Physical Oceanography*, **45**(12):3033–3056. URL <https://doi.org/10.1175/JPO-D-15-0044.1>.

[R.11] Q. Li, **A. Webb**, B. Fox-Kemper, A. Craig, G. Danabasoglu, W.G. Large, and M. Vertenstein, 2015. Langmuir mixing effects on global climate: WAVE-WATCH III in CESM. *Ocean Modelling*, **103**:145–160. URL <https://doi.org/10.1016/j.ocemod.2015.07.020>.

[R.12] **A. Webb** and B. Fox-Kemper, 2015. Impacts of wave spreading and multidirectional waves on estimating Stokes drift. *Ocean Modelling*, **96**:49–64. URL <https://doi.org/10.1016/j.ocemod.2014.12.007>.

[R.13] **A. Webb** and B. Fox-Kemper, 2011. Wave spectral moments and Stokes drift estimation. *Ocean Modelling*, **40**(3):273–288. URL <https://doi.org/10.1016/j.ocemod.2011.08.007>.

REFEREED
CONFERENCE
PUBLICATIONS

[C.1] **A. Webb**, T. Shimura, and N. Mori, 2019. Global Tropical Cyclone Track Detection and Analysis of the d4PDF Mega-ensemble Projection. *The 66th Coastal Engineering Lectures*, **75**(2).

[C.2] **A. Webb**, T. Shimura, and N. Mori, 2018. A High-Resolution Future Wave

Climate Projection for the Coastal Northwestern Atlantic. *The 65th Coastal Engineering Lectures*, **74**(2). URL <http://arxiv.org/abs/1807.02958>.

[C.3] T. Waseda, T. Nose, and **A. Webb**, 2018. Comparison of the Long-Term Trends of the Largest Waves in the Ice-Free Arctic Waters From Different Reanalysis Products. *ASME 2018 37th International Conference on Ocean, Offshore and Arctic Engineering; Vol. 3: Structures, Safety, and Reliability*. URL <https://doi.org/10.1115/OMAE2018-77971>.

[C.4] T. Waseda, **A. Webb**, K. Sato, J. Inoue, A. Kohout, B. Penrose, and S. Penrose, 2017. Arctic Wave Observation by Drifting Type Wave Buoys in 2016. *The 27th International Ocean and Polar Engineering Conference, International Society of Offshore and Polar Engineers*. URL <https://www.onepetro.org/conference-paper/ISOPE-I-17-569>.

[C.5] **A. Webb**, T. Waseda, W. Fujimoto, K. Horiuchi, K. Kiyomatsu, K. Matsuda, Y. Miyazawa, S. Varlamov, and J. Yoshikawa, 2016. A High-Resolution, Wave and Current Resource Assessment of Japan: The Web GIS Dataset. *Proceedings of the 3rd Asian Wave and Tidal Energy Conference (AWTEC 2016)*. URL <http://tinyurl.com/AAWEBB002>.

OTHER PUBLICATIONS

[O.1] M. Hemer, X.L. Wang, **A. Webb**, and COWCLIP contributors, 2018. Report of the 2018 Meeting for the WCRP-JCOMM Coordinated Ocean Wave Climate Project (COWCLIP), Paris, 21-23 May, 2018. *JCOMM Technical Report*, **92**. URL <https://tinyurl.com/AAWEBB004>.

[O.2] Q. Li, B. Fox-Kemper, and **A. Webb**, 2017. WAVEWATCH III in CESM and Langmuir mixing. *POP2 Reference Manual Addendum*, LANL Tech Note LAUR-10-018253, in press. URL <http://tinyurl.com/AAWEBB003>.

[O.3] **A. Webb**, 2013. Stokes Drift and Meshless Wave Modeling. *Ph.D. Thesis*, University of Colorado Boulder, 251 pages. URL <http://tinyurl.com/AAWEBB001>.

PUBLICATIONS IN PROGRESS

[P.1] **A. Webb**, T. Waseda, and K. Kiyomatsu, 2019. A High-Resolution, Long-Term Wave Resource Assessment of Japan with Wave-Current Effects. Submitted to *Renewable Energy* (2019/05).

HONORS AND AWARDS

Outstanding Young Scientist Award: First Place, 7th International Workshop on Modeling the Ocean (Canberra, Australia), **Jun 2015**.

Best Presentation Award: Third Place, 7th International Workshop on Modeling the Ocean (Canberra, Australia), **Jun 2015**.

Outstanding Student Presentation Award, 2012 Ocean Sciences Meeting (Salt Lake City, UT), **Feb 2012**.

GRANTS

ICERM Travel, ICERM Workshop on Localized Kernel-Based Meshless Methods for Partial Differential Equations (Providence, RI), **Aug 2017**.

NSF Travel, IPAM Workshop on Geophysical and Astrophysical Turbulence (Los Angeles, CA), **Oct 2014**.

CIRES, SIAM, and Departmental Travel, SIAM Conference on Mathematical and Computational Issues in the Geosciences (Padova, Italy), **Jun 2013**.

NSF Travel, IPAM Climate Modeling Reunion Conference (Lake Arrowhead, CA), **Dec 2012**.

Department Travel, European Centre for Medium-Range Weather Forecasts Workshop on Ocean Waves (Reading, England), **Jun 2012**.

NSF Travel, IUGG Conference on Mathematical Geophysics (Edinburgh, Scotland), **Jun 2012**.

NSF Travel, IPAM Climate Modeling Reunion Conference (Lake Arrowhead, CA), **Dec 2011**.

Department Travel, 12th International Workshop on Wave Hindcasting and Forecasting (Waikoloa, HI), **Nov 2011**.

NSF Funding, Model and Data Hierarchies for Simulating and Understanding Climate, IPAM (Los Angeles, CA), **Mar–Jun 2010**.

NSF Travel, 1st PRIMA Congress: Special Session on the Mathematics of Climate Change (Sydney, Australia), **Jul 2009**.

NSF Travel, SIAM Conference on Mathematical and Computational Issues in the Geosciences (Leipzig, Germany), **Jun 2009**.

NSF Funding, Climate Change Summer School, Mathematical Sciences Research Institute (Berkeley, CA), **Jul–Aug 2008**.

NSF Travel, SIAM Minisymposia on Climate Change, Joint Mathematics Meeting (San Diego, CA), **Jan 2008**.

SOFTWARE AND
TOOLBOXES

Stokes Drift MATLAB Toolbox: A complete set of Stokes drift functions for calculating depth-dependent and depth-integrated approximations. URL <http://www.mathworks.com/matlabcentral/fileexchange/48678-stokes-drift-for-directional-random-seas>.

SERVICE
EXPERIENCE

Seminar Coordinator: Long Program, IPAM (Los Angeles, CA), **Mar–May 2010**. *Organized weekly informal seminars for visiting scholars.*

REFEREE WORK

National Science Foundation Grant; Proceedings of the Royal Society A; Geophysical Research Letters; Journal of Climate; Journal of Geophysical Research: Oceans; Ocean Modelling; Physics of Fluids; Coastal Engineering Journal; Journal of Waterway, Port, Coastal, and Ocean Engineering; Conference Proceedings (AWTEC2016).

PRESENTATIONS
(SELECTED)

Oral: *A High-Resolution Future Wave Climate Projection for the Northwestern Atlantic*. 2019 Japan Geoscience Union Meeting (Chiba, Japan), **May 2019**.

Poster: *Wave Climate Projection for the Northwestern Atlantic*. 2019 Waves In Shallow Water Meeting (Jyozankei, Japan), **May 2019**.

Oral: *A High-Resolution Future Wave Climate Projection for the Coastal Northwestern Atlantic*. JSCE 65th Coastal Engineering Lectures (Tottori, Japan), **Nov 2018**.

Oral: *Projected Changes in Ocean Wave Climate*. 2nd Kyoto University-Universität Hamburg Symposium 2018 (Kyoto, Japan), **Oct 2018**.

Oral: *A High-Resolution Wave Climate Projection for the Northwestern Atlantic and Coastal Eastern USA*. AOGS 15th Annual Meeting (Honolulu, HI), **Jun 2018**.

Oral: *A Regional Wave Climate Projection for the Coastal Northwestern Atlantic*. 2018 COWCLIP Workshop (Paris, France), **May 2018**.

Oral (Invited): *A Meshless Approach to Spectral Wave Modeling*. Civil and Construction Engineering Seminar, Oregon State University (Corvallis, OR), **Feb 2018**.

Oral: *A High-Resolution Wave Climate Projection for the Coastal Northwestern Atlantic*. DPRI Annual Meeting 2018, Kyoto University (Kyoto, Japan), **Feb 2018**.

Oral: *A Meshless Approach to Spectral Wave Modeling*. Workshop on Mathematical Aspects and Applications of Nonlinear Wave Phenomena, Research Institute of

Mathematical Sciences (Kyoto, Japan), **Oct 2017**.

Poster: *First steps toward a wave forecasting system for the Northern Sea Route.* International Workshop on Wave Hindcasting and Forecasting/Coastal Hazards Symposium (Liverpool, UK), **Sep 2017**.

Oral (Invited): *A Meshless Numerical Approach to Spectral Wave Modeling.* ICERM Localized Kernel-Based Meshless Methods for Partial Differential Equations Workshop (Providence, RI), **Aug 2017**.

Oral: *Arctic wave field model analysis and observation in 2016.* 9th International Workshop on Modeling the Ocean (Seoul, Korea), **Jul 2017**.

Oral: *Ocean wave forecasting system for the Northern Sea Route.* Spring 2017 Meeting of JASNAOE (Tokyo, Japan), **May 2017**.

Oral: *Arctic wave field reanalysis and observation in 2016.* The 32nd International Symposium on Okhotsk Sea & Polar Oceans (Monbetsu, Japan), **Feb 2017**.

Oral: *A High-Resolution, Wave and Current Resource Assessment of Japan: The Web GIS Dataset.* AWTEC 2016 (Singapore), **Oct 2016**.

Oral: *A Wave and Current Resource Assessment of Japan: Web GIS Dataset.* Fall 2016 Meeting of the Oceanographic Society of Japan (Kagoshima, Japan), **Sep 2016**.

Oral (Invited): *A Meshless Numerical Approach to Spectral Wave Modeling.* Workshop on Theoretical and Computational Methods of Nonlinear Water Waves, Waseda University (Tokyo, Japan), **May 2016**.

Oral: *A 20-Year High-Resolution Wave Resource Assessment of Japan.* Spring 2016 Meeting of the Oceanographic Society of Japan (Tokyo, Japan), **Mar 2016**.

Oral: *A 20-Year High-Resolution Wave Resource Assessment of Japan with Wave-Current Interactions.* 2016 Ocean Sciences Meeting (New Orleans, LA), **Feb 2016**.

Oral: *Progress on a 20-Year High-Resolution Wave Resource Assessment of Japan.* International Workshop on Wave Hindcasting and Forecasting/Coastal Hazards Symposium (Key West, FL), **Nov 2015**.

Oral: *Impacts of wave spreading and multidirectional waves on estimating Stokes drift.* Joint Wave Seminar: JAMSTEC and The University of Tokyo (Tokyo, Japan), **Nov 2015**.

Oral: *Update on a 20-Year High-Resolution Wave Resource Assessment of Japan.* Fall 2015 Meeting of the Oceanographic Society of Japan (Ehime, Japan), **Sep 2015**.

Oral (Invited): *The role of wave-current interactions in marine renewable energy near Japan.* Disaster Prevention Research Institute, Kyoto University (Kyoto, Japan), **Jul 2015**.

Oral: *The role of wave-current interactions in marine renewable energy near Japan.* 7th International Workshop on Modeling the Ocean (Canberra, Australia), **Jun 2015**.

Oral: *Progress on a 20-Year High-Resolution Wave Resource Assessment of Japan.* Spring 2015 Meeting of the Oceanographic Society of Japan (Tokyo, Japan), **Mar 2015**.

Oral (Invited): *Meshless and Unstructured Wave Modeling.* Joint Wave Seminar: JAMSTEC and The University of Tokyo (Tokyo, Japan), **Apr 2014**.

Oral: *A Meshless Approach to Global Ocean Wave Modeling.* 2014 Ocean Sciences Meeting (Honolulu, HI), **Feb 2014**.

Oral: *Development of a Three-Dimensional SUNTANS Model of Ōtsuchi Bay, Japan.* Tokyo University of Marine Science and Technology (Tokyo, Japan), **Feb 2014**.

Oral (Invited): *A Meshless Approach to Global Ocean Wave Modeling.* Disaster Prevention Research Institute, Kyoto University (Kyoto, Japan), **Oct 2013.**

Poster: *A First Step Towards Modeling the Impact of the 2011 Tōhoku Earthquake and Tsunami on Internal Dynamics in Ōtsuchi Bay, Japan.* 6th CJK IMBER Symposium (Tokyo, Japan), **Oct 2013.**

Oral: *A Meshless Approach to Ocean Wave Modeling.* SIAM Conference on Mathematical and Computational Issues in the Geosciences (Padova, Italy), **Jun 2013.**

Oral (Invited): *A Meshless Approach to Ocean Wave Modeling.* Lawrence Berkeley National Laboratory (Berkeley, CA), **Apr 2013.**

Oral: *Waves and Langmuir Mixing in Climate Models.* CESM Ocean Model Working Group Meeting, NCAR (Boulder, CO), **Jan 2013.**

Oral: *An Unstructured Approach to Ocean Wave Modeling.* Frontiers in Computational Physics: Modeling the Earth System (Boulder, CO), **Dec 2012.**

Oral: *An Unstructured Approach to Ocean Wave-Generation Modeling.* IPAM Climate Modeling Reunion Conference (Lake Arrowhead, CA), **Dec 2012.**

Poster: *An Unstructured Approach to Surface Ocean Wave Modeling.* CIRES' 45th Anniversary Celebration, University of Colorado Boulder, **Sep 2012.**

Poster: *An Unstructured Approach to Surface Ocean Wave Modeling.* UGG Conference on Mathematical Geophysics (Edinburgh, Scotland), **Jun 2012.**

Poster: *Global Stokes Drift and Climate Wave Modeling.* CIRES Science Rendezvous, University of Colorado Boulder, **Apr 2012.**

Oral: *Global Stokes Drift and Climate Wave Modeling.* 2012 Ocean Sciences Meeting (Salt Lake City, UT), **Feb 2012.**

Oral: *Global Stokes Drift and Climate Wave Modeling.* CIRES Graduate Student Seminar Series, University of Colorado Boulder, **Feb 2012.**

Oral: *Global Stokes Drift and Climate Wave Modeling.* IPAM Climate Modeling Reunion Conference (Lake Arrowhead, CA), **Dec 2011.**

Oral: *Global Stokes Drift and Climate Wave Modeling.* Applied Mathematics Dynamical Systems Seminar, University of Colorado Boulder, **Dec 2011.**

Poster: *Global Stokes Drift and Climate Wave Modeling.* 12th International Workshop on Wave Hindcasting and Forecasting (Waikoloa, Hawai'i), **Nov 2011.**

Oral: *Impacts of Wind-Wave Interaction on Climate.* Graduate Student SIAM Chapter, University of Colorado Boulder, **Apr 2011.**

Oral: *Preliminary Linear Stability Analysis of Langmuir Circulation with Aligned and Misaligned Wind-Wave Components.* IPAM Climate Modeling Culminating Workshop (Lake Arrowhead, CA), **Jun 2010.**

Oral: *Demonstrated Sensitivity to Langmuir Mixing in a Global Climate Model (CCSM).* IPAM Long Program Seminar (Los Angeles, CA), **May 2010.**

Oral: *Demonstrated Sensitivity to Langmuir Mixing in a Global Climate Model (CCSM).* 2010 Ocean Sciences Meeting (Portland, OR), **Feb 2010.**

Oral: *Wave Modeling and Langmuir Mixing.* CCSM Ocean Model Working Group, NCAR (Boulder, CO), **Dec 2009.**

Poster: *Windrows in global models: Does Langmuir mixing matter for climate?* ATOC Poster Conference, University of Colorado Boulder, **Nov 2009.**

Poster: *Global Model Sensitivity to Parameterizing Langmuir Circulation*. CIRES Science Rendezvous, University of Colorado Boulder, **Apr 2009**.

Poster: *Global Model Sensitivity to Parameterizing Langmuir Circulation*. ESSL Advisory Poster Session, NCAR (Boulder, CO), **Nov 2008**.

Oral (Invited): *Mathematical Analysis of the SIR Model*. Department of Health and Human Services (Concord, NH), **Apr 2007**.

TEACHING
EXPERIENCE

Teaching Assistant: Department of Applied Mathematics, University of Colorado Boulder. Calculus II (**Spring 2013**).

Instructor: Department of Applied Mathematics, University of Colorado Boulder. Calculus II Workgroup (**Fall 2008**).

Teaching Assistant: Department of Applied Mathematics, University of Colorado Boulder. Calculus II (**Summer & Fall 2008**), Differential Equations (**Spring 2008**), Calculus III (**Fall 2007**).

Instructor: Department of Mathematics, University of New Hampshire. Calculus II (**Summer 2007**), online course in Pre-Calculus (**Summer 2006**), Pre-Calculus (**Spring 2006**).

Teaching Assistant: Department of Mathematics, University of New Hampshire. Calculus II (**Spring 2007**), Calculus I (**Fall 2006**), Finite Mathematics (**Fall 2005**).

Instructor: Kyoto City Board of Education (Kyoto, Japan), **Apr 2002–Mar 2005**. *Responsible for improving the English communicative skills of eight junior high schools.*

Instructor: GEOS (Kansai & Chubu, Japan), **Apr 2000–Apr 2002**. *Regional English instructor at two private schools.*

PROFESSIONAL
EXPERIENCE

System Analyst: MCI WorldCom/EDS Communications (Tulsa, OK), **Apr 1998–Apr 2000**. *Migrated mainframe software for business expansion into local markets.*

PROFESSIONAL
ASSOCIATIONS

Society for Industrial and Applied Mathematics (**2007–2017, 2019**); American Geophysical Union (**2010–2016, 2018**); Oceanographic Society of Japan (**2015–2016**); Japan Society for Industrial and Applied Mathematics (**2016–2017**).

LANGUAGES

Japanese (JLPT N3 level certification), C, Fortran, Mathematica, Matlab, Python, UNIX.