

Kit Yu Karen Chan
Biology Department, Swarthmore College
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Research Interests:

Combining lab-experiments, field observations, and engineering techniques, my research focuses on ecology and functional morphology of marine invertebrate larvae. Specifically, impact of climate change on larval behaviors and physiological performance and their implications for population dynamics. As an educator, I am interested in developing instructional techniques that would improve students' understanding of and interest in scientific inquiry.

Academic Positions:

2019 -	Assistant Professor, Biology Department, Swarthmore College
2018-2022	Adjunct Assistant Professor, Division of Life Science, Hong Kong University of Science and Technology
2014-2018	Assistant Professor, Division of Life Science, HKUST
2017-2018	Visiting Associate, Division of Biology and Biological Engineering, California Institute of Technology
Jul 2016	Visiting Fellow, South African Institute of Aquatic Biodiversity, South Africa
2014-2016	Guest Investigator, Applied Ocean Physics and Engineering, Woods Hole Oceanographic Institution (WHOI)
2012-2014	Postdoctoral Scholar of the Coastal Ocean Institute and Croucher Foundation Fellow, WHOI
Summer 11 &13	Visiting Scientist, Sven Lovén Center of Marine Sciences and Research, University of Gothenburg, Sweden
2006-2012	Research Assistant, Prof. Daniel Grünbaum, Univ. of Washington

Education

2009-2012	PhD, School of Oceanography, University of Washington
2006-2009	MSc, School of Oceanography, University of Washington
2005-2006	Exchange student, Dept. Ecology and Evolution, University of California, Davis
2003-2006	BSc, 1 st class honors, Environmental Life Science, University of Hong Kong

Research Grants:

2018-2019	Chau Hoi Shuen Foundation Women in Science Program, co-PI (USD \$50,000) How Body Form Affects the Hydrodynamics of Swimming and Feeding by Zooplankton
2018-2019	COTS Research Grant, Australian Museum Lizard Island Research Station, PI (AUD\$25,472) Swimming behaviors of larval Crown-of-Thorns-Seastars: implications for distribution and dispersal modeling
2017-2019	Hong Kong Research Grant Council, General Research Fund, PI (HKD\$1,048,903) From physiology to predictions in a changing world: an application of dynamic energy budget model to bivalve veligers
2016-2018	Environmental Conservation Grant, PI (HKD \$499,850) Marine invertebrate larvae in Hong Kong waters: Development of sampling and photo identification guides for larval decapods and stomatopods
2016-2020	Hong Kong Research Grant Council, Early Career Scheme, PI (HKD \$ 816,634) Effect of warming, acidification & hyposalinity on marine invertebrates larvae
2015-2018	Environmental Conservation Grant, Co-PI (HKD \$ 4,233,490) Assessing the marine biodiversity and ecology of Tolo Harbour and Channel

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- 2014-2017 National Science Foundation US, Biological Oceanography, co-PI (USD \$395,000)
Functional Diversity and Performance of Ciliated Marine Invertebrate Larvae: measuring
and modeling larval swimming, feeding and hydrodynamic signaling
- 2014-2016 HKUST, Initiation Grant, PI (HKD\$ 200,000)
Project: Effects of climate change stressors on performance of larval marine invertebrates
- 2014-2015 HKUST, Research Equipment Competition, PI (HKD\$ 356,360)
Project: Carbonate Chemistry analysis for coastal waters
- 2014-2016 Smithsonian Institution Competitive Grant Program for Science, co-PI (USD \$ 96,479)
Project: Effects of hypoxia on planktonic larval distribution in tropical Caribbean
- 2014 ASSEMBLE On-Site Assess Call, PI (2-week trip to Kristenberg, Sweden)
Project: Impact of ocean acidification on egg and sperm physiology
- 2012-2013 Royal Swedish Academy of Science SEK350,000, PI (approx. USD \$53,200)
Project: Impacts of changing ocean conditions on planktonic larval stage of marine
invertebrates

Education Research Grant:

- 2015-2017 HKUST Teaching Development Grant (HKD \$186,980)
Project: Enhancing Students' Self-efficacy through Inquiry – based assessment techniques

Research Grants Under Review:

National Science Foundation, Integrative Organismal Systems, PI (USD\$387,748)
Project: RUI: Collaborative Research: PMB: Hydrodynamic consequences of spines
on zooplankton: Functional morphology of horns and tails on barnacle
nauplii

National Science Foundation, Biological Oceanography, co-PI (USD\$141,131)
Project: Collaborative Research: Population-level variation and adaptation
along a latitudinal gradient in response to a changing environment in
a model barnacle

Publications: (+ Indicates co-first authors, ^ Indicates students)

- 2020 ^Liu, T.X., ^Kinn-Gurzo, S., Chan, K.Y.K. Resilience of invasive tubeworm (Hydroides
dirampha) to warming and salinity stress and its implications for biofouling community
dynamics. *Mar. Biol.* 167:145. doi: 10.1007/s00227-020-03758-y
- ^Wong, J.Y., Chan, B.K.K., Chan, K.Y.K. Evolution of feeding shapes swimming kinematics
of barnacle naupliar larvae: a comparison between trophic modes. *Integr. Org. Biol.* 2. doi:
10.1093/iob/obaa011
- ^Mabaloc, E.A., Batzel, G., Grünbaum, D., Chan, K.Y.K. Vertical distribution of echinoid
larvae in pH stratified water columns. *Mar. Biol.* 167:13. doi: 10.1007/s00227-019-3629-7
- Chan, K.Y. K, ^ Tong, D. Temporal variability modulates pH impact on larval sea urchin
development. *Cons Phys.* 8. doi: 10.1093/conphys/coaa008
- 2019 Collin,R., Venera-Pontón, D.E, Driskell, A.C., Macdonald, K.S., Chan, K.Y.K, Boyle, M.J.
Documenting neotropical diversity of phoronids with DNA barcoding of planktonic larvae.
Invert. Biol. 128:e12242.
- 2018 ^Wong, J.Y., Chan, K.Y.K., Chan, B.K.K. Phylogenetic, ecological and biomechanical
constraints on larval form: A comparative morphological analysis of barnacle nauplii.
PLOS One 13:e0206973. doi: 10.1371/journal.pone.0206973
- Dorey, N, ^Mabaloc, E.A, and Chan, K.Y.K. Development of the sea urchin *Heliocidaris
crassispina* from Hong Kong is robust to ocean acidification and copper contamination.
Aquat. Toxicol. 2015:1-10

- Chan, K.Y.K., Swelle, M., Bryne, M. Revisiting the larval dispersal black box in the Anthropocene. *ICES. J. Mar. Sci.* 75:1841. doi: 10.1093/icesjms/fsy097
- ^ Mak, K. K.Y. and Chan, K.Y.K. Interactive effects of warming and hyposalinity stress on early life stages of the sea urchin *Heliocidaris crassispina*. *Mar. Biol.* 165:57
- ^ Leung, J. and Chan, K.Y.K. Microplastics reduce posterior regeneration rate of the polychaete *Perinereis aibuhitensis*. *Mar. Poll. Bull.* 129:782
- 2017 ^Lo, H. K. and Chan, K.Y.K. Negative and concentration-dependent effects of microplastic exposure on growth and development of *Crepidula onyx* amid selective feeding. *Env. Poll.* 233:588
- ^ Mabaloc, E.A. and Chan, K.Y.K. Resilience of the larval slipper limpet *Crepidula onyx* to direct and indirect-diet effects of ocean acidification. *Sci. Rep.* 7:12062
- ^ Pecquet, A., Dorey, N. and Chan, K.Y.K. Ocean acidification impact swimming and development of *Bugula neritina*. *Mar. Poll. Bull.* 124:903.
- ^Zhang, SW., Chan, K.Y.K., Shen, Z., Cheung, S.Y., Landry, M.R. and Liu, H.B. Feeding behavior of a cryptic marine ciliate on progametes of *Noctiluca scintillans*. *Protist.* 168:1-11. doi: 10.1016/j.protis.2016.08.005.
- 2016 Collin, R. and Chan, K.Y.K. (2016) Negligible safety factors for early development of the sea urchin *Lytechinus variegatus* in a tropical lagoon. *Ecol. Evol.* 6:5623-5634.
- +Wheeler, J.D, Chan, K.Y.K., Anderson, E., Mullineux, L. 2016. Ontogenetic changes in larval swimming and orientation of pre-competent sea urchin *Arbacia punctulata* in turbulence. *J. Exp. Biol. Inside JEB Featured Article.* 219:1303-1310
- 2015 Chan, K.Y.K., Gracis, E., Dupont, S.T. Swimming of urchin larvae unaffected by acidification-induced developmental delay. *Sci. Rep.* 5:9764.
- Chan, K.Y.K., Grünbaum, D, Arnberg, M., Dupont, S.T. Impacts of ocean acidification on survival, growth, and swimming behaviors differ between larval urchins and brittlestars. *ICES. Mar. Sci. Invited contribution.* 73:951-961.
- 2013 Chan, K.Y.K., Jiang, HS, Padillia, DK .2013. Swimming speed of larval snail does not correlated with size and ciliary beat frequency. *PLOS One.* 8:e82764
- Chan, K.Y.K, Grünbaum, D, Arnberg, M., Thorndyke, M., Dupont, S.T. Ocean acidification induces budding in larval sea urchins. *Mar. Biol.* 160:2129-2135
- Durkin, C. A., Bender, S.J., Chan, K.Y.K., Gaessner, K., Grünbaum, D, Armbrust, V. 2013. Silicic acid supplied to coastal diatom communities influences cellular silicification and the potential export of carbon. *Limnol. Oceanogr.* 58:1707-1726
- 2012 Chan, K.Y.K. Biomechanics of larval morphology affect swimming: insights from the sand dollars *Dendraster excentricus*. *Integr. Comp. Biol.* 52:458-469
- CHAN, K.Y.K, Yang, S., Maliska, M.E., Grünbaum, D. Interdisciplinary, guided inquiry on estuarine transport using a computer model in high school classrooms. *Am. Biol. Teach.* 74:26-33
- 2011 Chan, K.Y.K, Grünbaum, D., O Donnell, M. J. Effects of ocean acidification-induced morphological changes on larval swimming and feeding. *J. Exp. Biol.* 214:3857-3867
- 2010 Chan, K.Y.K, Grünbaum, D. Temperature and diet modified swimming behaviors of larval sand dollar. *Mar. Ecol. Prog Ser.* 415:49-59
- 2008 Grünbaum, D, CHAN, K., Tobin, E and Nishizaki, M.T. Non-linear advection–diffusion equations approximate swarming but not schooling populations. *Math. BioSci.* 204:38-48
- Høeg, J.T., Achituv, Y., Chan, B.K.K., Chan, K.Y.K, Jensen, P.G. and Pérez-Losada, M. 2008. Cypris morphology in the barnacles *Ibla* and *Paralepas* (Crustacea: Cirripedia Thoracica) implications for cirripede evolution. *J. Morph.* 270:241-255
- 2005 Chan, B.K.K., Chan, K.Y.K. and Leung, M.C. 2005. Burrow architecture of ghost crab *Ocyropsis ceratophthalma* on a sandy shore of Hong Kong. *Hydrobiol.* 560:43-49

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Publications in press: (^ Indicates students, in order of submission)

^ Wong, J.Y. , Chan, B.K.K., Chan, K.Y. K. Swimming kinematics and hydrodynamics of barnacle larvae throughout development. *Proc. Royal Soc. B*

Publications in review: (^ Indicates students, in order of submission)

^Xu, M.R., ^Akkipeddi, S.M., Chan, K.Y. K. Halogenated compound secreted by marine bacteria halts larval urchin development. *J. Exp. Mar. Biol. Ecol.*

Teaching Experience

Teaching at Swarthmore College

Spring 2020 BIOL2 Organismal and Population Biology
Fall 2019 BIOL139 Global Ocean Change Biology
Spring 2019 BIOL039 Marine Biology

Teaching at The Hong Kong University of Science and Technology

Fall 2018 LIFS 2060 Biodiversity. Course Coordinator
*General education course/ Flagship for BSc in Biological Science
Spring 2017 ENVS3003 Global Change Science. Course Coordinator
Co-instructor: Dr. Leon Cheung
* New course offering in 2017
Fall 2016,2017,
Spring 2017 SUST 1000 Introduction to Sustainability
Cross discipline team taught class with 7 faculty members
* New course offering in 2016; Flipped classroom
Fall 2014, 2015, 2016 ENVS3004 Ocean Sciences. Course Coordinator.
Constructor: Prof. Liu Hongbin
* New course offering in 2014
Fall 2015, 2016,2018 LIFS 3160 Ecology. Course coordinator in 2016
Co-instructors: Prof Stanley Lau (15), Dr. Ice Ko (16)
* Syllabus restricting to include case study in 2016
Summer 2016 SCIE 1050 Science of Gastronomy
Co-instructor: Prof. King Lau Chow
* Extended flip classroom with MOOC component on Coursesa

Teaching at the University of Washington

Spring 2012 Field Methods in Oceanography
Pre-doctoral Instructor
Spring 2011 Scientific Process in Practice, an activity based seminar
Course instructor
Summer 2009, 2010 Larval Biology, Graduate level course in Friday Harbor Labs
Teaching Assistant
Course instructor: Prof. Richard Stratmann, Prof. Richard Emlet, Prof.
Daniel Grunbaum
Fall 2007 Introduction to Biological Oceanography
Teaching Assistant ; Course instructor: Prof. Jody Deming

Mentoring

Starting at the Hong Kong University of Science and Technology

Postdoctoral Fellows

May 2015- Jul 2016 Dr. Narimame Dorey
Jan 2015 Dr. Paul Patrick (Visiting from South African Institute of Aquatic Biodiversity)

Postgraduate Supervision (Students listed in chronological order of start date)

3 PhDs, 3 MPhil, 4 visiting PG interns,

- 2015 PhD in Marine Environment Science. Mr. Elizaldy Acebu Mabaloc.
Thesis title: Ocean acidification impact on ecology and evolution of slipper limpets
Visiting PG intern. Mr. Antonie Pecquet. (University of La Rochelle, France)
Project title: Effect of ocean acidification and metal pollution on *Bugula nertina*
- 2016 PhD in Life Science. Miss Lo Hau Kwan.
Working thesis title: Impact of emerging pollutants on coastal invertebrates of Hong Kong
MPhil in Life Science. Miss Ng Pui Lam
Working thesis title: Effect of microplastics in Hong Kong waters
Visiting PG Intern. Mr. Wong Jin Yung (Academia Sinica, thesis committee)
Project title: Functional morphology of barnacle nauplii
- 2017 MPhil in Life Science. Mr. Yeung Lap Yin
Working thesis title: Dynamic energy budget of larval mussel
PhD in Life Science. Miss Liu Tingxuan
Working thesis title: Maternal provision and resilience towards ocean acidification
- 2018 Visiting PG Intern. Mr. Jan Schinete (University of Strathclyde, co-supervision)
Project title: HiLo Imaging and Mesolens
Visiting PG Intern. Miss Tasha Say (University of Queensland)
Project title: Effect of microbiomes on swimming behavior of sponge larvae
Visiting PG Intern. Mr. Jake Lawlor (University of Western Washington)
Project title: Effect of acidification on behavior of larval oysters

Undergraduate Supervision

Swarthmore College

- 2019 - Miss Emily Branam' 21
Honors thesis title: Biomechanics of the of barnacle nauplii tail spines
Miss Veronica Chau' 21
Honors thesis title: Interactive effects of ocean acidification and fluoxetine on larval behaviors
Mr. Moey Rojas' 22
Honors thesis title: Effect of temporal variability on ocean acidification responses of larval echinoderms
- 2019-2020 Mr. Jeffery Mun' 20
Project title: Swimming behavior and biomechanics of *Hydractinia echinata* larvae
Miss. Meagan Currie'20
Project title: Effect of ocean acidification on fertilization kinetics of sea urchins

Hong Kong University of Science and Technology

HKUST Final Year Project (Senior thesis)

- 2018-2019 Mr. Cheung Ho Tin (Toby)
Project title: Limpet's preference on surface smoothness and its strength of attachment
Miss Eva Lam
Project title: Effect of turbulence on growth and development of larval sea urchins
Mr. Jacky Tang
Project title: Effect of warming on gaping behaviors of native clams
- 2017-2018 Mr. Cheng Hok Chi Edwin
Project title: Biomechanical role of rostral spine on larval decapods

- 2016-2017 Miss. Lo Hiu Ting Jessica
Project title: Effect of temperature and salinity on larval development of red crabs
- Miss Julia Leung
Project title: Effect of microplastics on segment regeneration of polychaete worms
(Paper published in Marine Pollution Bulletin)
- Mr. Yeung Lap Yin
Project title: Larval crab in Port Shelter: seasonal variation and identification
- Mr. Kelvin Chu
Project title: Effect of the anthropogenic noise on the growth of Hong Kong purple sea urchin larvae
- Mr. Joshua Ng
Project title: Larval development of a Haminoeid gastropod
- Mr. Rinaldi Gotama
Project title: Effects of physical disturbance on epibenthic community dynamics in Port Shelter
- 2015-2016 Miss Chan Lok Kwan.
Project title: Gyrotaxis in larval sea urchin – a possibility of active orientation
(Results included in Oral presentation at Microscale Ocean Biophysics Meeting, Oct 31 - Nov 4 2016, Eilat, Israel)
- Miss Lo Hau Kwan.
Project title: Effect of ingestion of microplastics on the growth and development of larval and juvenile *Crepidula onyx*
(Paper published in Environmental Pollution)
- Mr. Li Tak Hou.
Project title: The effects of ocean acidification on survival, growth and swimming performance of *Tigriopus japonicus*
- Miss Chan Tsum Yuet.
Project title: Phototaxis of zooplanktons towards different light frequencies
- Miss Ng Pui Lam.
Project title: Ingesting microplastics extracted from toothpaste has limited impacts on larval sea urchin, *Heliocidaris crassispina*
- Miss Yueng Hui Ching.
Project title: Impacts of polystyrene microbeads ingestion on larval sea urchin, *Heliocidaris crassispina*
- 2014-2015 Miss Wong Hoi Nai.
Project title: Thermal tolerance of *Daphnia magna* under acute and chronic exposure to high temperature
(Best Student Posters for BISC Program)

Capstone Project (Desktop research)

- 2018-2019 Mr. Yip Yiu Kwong
Project title: Biomechanics of marine invertebrate larvae
- 2016-2017 Mr. Wong Wai Chun Marco
Project title: Defining Beauty: Geometric Morphometric Analysis of Miss Hong Kong
- 2015-2016 Mr. Wong Cheuk Yin.
Project title: Thermal Tolerance of Marine Invertebrates: Latitude difference and Adaptation Potentials

Undergraduate Research Opportunities Program (Independent studies)

- 2015-2017 Miss Ivana Surdja
Project title: Development of alkalinity titration approach to quantify calcification

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Spring 2016 Mr. Vasishak Anirudh
Project title: Role of carbonate chemistry on the growth of *Crepidula onyx*
Summer 2016 Miss Jessamyn Chiu
Project title: Role of temporal fluctuation on stress response of the tidepool
copepod
Mr. Preston Chu
Project title: Effect of ocean acidification on ingestion rate of larval *Crepidula
onyx*

Summer Internship Program at the Hong Kong Science Museum

Summer 2017 Miss Helen Wong; Miss Heidi Pong; Mr. Li Hok Lam; Miss Norris Li; Miss Claris
Cheung

Invited Talks:

Phenotypic plasticity in marine species as a response to climate change Feb 19,2019. Stony Brook
University, NY. Department of Ecology and Evolution.
Growing up in the Anthropocene. Nov 11, 2019. University of Vermont Biology Seminar Series.
New Perspectives on the Response to Multiple Interacting Stressors in the Marine Environment. Jul 15-
20, 2018. Ocean Global Change Biology Gordon Research Conference. Waterville Valley, NH
Secret lives of plankton: diversity in Hong Kong Waters. Jul 29, 2017. Hong Kong Cultural Center.
Environmental Protection Department. HKSAR Government.
Growing up in a sea of change. Life Science Seminar Series. Nov 24, 2016. Chinese University of Hong
Kong.
Underwater engineers: habitat changing aquatic organisms. Oct 8, 2016. Wetland Park. Hong Kong
Growing up in a Changing World, Stories of larvae and a larval ecologist. Aug 11, 2016. South African
Institute of Aquatic Biodiversity. South Africa
Going with the flow: Quantification of fluid-organisms interactions and their ecological implication. Oct
23, 2014 Academia Sinica, Taipei.
Growing up in a sea of change. Oct 24, 2014, Academia Sinica, Taipei.
Larvae in the changing ocean. Aug 24, 2014, Xiamen University, China
Marine invertebrate larvae in the changing ocean. May 9,2013 Environmental, Earth and Ocean Sciences
Department, University of Massachusetts, Boston, MA.
Larvae in the changing ocean: Integrating observational and modeling studies of larval echinoderms.
March 11,2013 California State University Long Beach, CA.
Larvae in the changing ocean: Observational and modeling case studies of larval echinoderms. March 7,
2013, Department of Ecology and Evolution, Stony Brook University, NY.

Conference Oral presentations (* Indicated invited presentations, with KC as presenter only)

Chan, K.Y. K., Wong, J.Y., Wong, E., Xu, K., Koehl, M. Hydrodynamics of barnacle nauplii shape
evolution of body form at SICB Annual Meeting, Austin, TX.
Chan, K.Y. K. 2019 Size does matter: Respiratory response of twin urchin embryos to acidification
crassispina at SICB Annual Meeting, Tampa, FL
* Chan, K.Y. K. 2017. Interactive stress of temperature and salinity on coral associated urchin larvae at
XIth Larval Biology Symposium
Chan, K.Y. K. and Ngo, K. 2017. Is it mom's or dad's fault? Effects of ocean acidification on gametes
and fertilization success of the tropical sea urchin *Heliocidaris crassispina* at SICB Annual Meeting,
New Orleans, LA.
* Chan, K.Y.K, Dupont S. 2016. Ocean acidification induce changes in larval urchins behaviours:
implications for transport. International Symposium on the Ocean in a High-CO2 World at Hobart,
Australia.
Chan, K.Y.K., Collin R. 2016. Effect of acclimation on physiological and behavioral responses of larval
urchins to warming at SICB Annual Meeting, Portland, OR

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- Chan, K.Y.K.* 2015. Effect of ocean acidification on larval swimming and implications for dispersal. Annual Meeting of American Fisheries Society, Portland, OR
- Chan, K.Y.K., 2015. Sublethal Impacts of ocean acidification on larval urchins: Inter- and Intraspecific comparisons and implications for population dynamics at BeCOME. Hong Kong.
- Collin, R. Chan, K.Y.K. 2015 Living on the edge: Small thermal safety factors for fertilization and development in the tropical sea urchin *Lytechinus variegates* at SICB Annual Meeting, West Palm Beach, FL.
- McCan, J. C. Chan, K.Y.K. , McAlister J. A. 2015. Geometric morphometric analysis of larval shape: a comparative study of geminate *Echinometra* spp. from tropical Central America at SICB Annual Meeting, West Palm Beach, FL.
- Wheeler, J., Chan, K.Y.K., Anderson, E., Mullineux, L. 2015. Keep swimming and start spinning: Effects of turbulence on swimming and orientation in larval urchins at SICB Annual Meeting, West Palm Beach, FL.
- Chan, K.Y.K., Garcia,E., Dupont, S.. 2014. Effects of ocean acidification on larval green urchin swimming in flow at Ocean Sciences Meeting. Honolulu, HI
- Chan, K.Y.K, Stern, S., Anderson,J. 2014 Communicating ocean and climate change: role of and benefits for scientists in the community of practice at Ocean Sciences Meeting. Honolulu, HI.
- Chan, K.Y.K, Padilla,D.K., Jiang, H.S. 2014. Organismal-, ciliary- motion and resulting fluid disturbances of freely swimming veligers at SICB Annual Meeting, Austin, TX
- Chan, K.Y.K, Grünbaum, D. 2013. Assessing effects of starvation-induced morphological variations on swimming of larval sand dollars with a novel biomechanical model and video motion analysis at SICB Annual Meeting, San Francisco, CA.
- Lewis, C., Chan, K.Y.K., Dupont, S. 2012. Physiological responses of invertebrate sperm to contaminated, high CO₂ ocean: mechanisms and consequences? Third International Symposium on the Ocean in a High CO₂ World. Monterey, California.
- *Chan, K.Y.K., Grünbaum, D, O'Donnell, M.J., Thorndyke, M.,Dupont, S.T. 2012. Ocean acidification impacts on early life history stages of echinoids. 2nd ICES/PICES Conference for Early Career Scientists Oceans of Changes. Majorca, Spain.
- Chan, K.Y.K., Grünbaum, D, O'Donnell, M.J., Thorndyke, M.,Dupont, S.T. 2012. Effects of ocean acidification on physiological and swimming performance of larval echinoids at Ocean Sciences Meeting, Salt Lake City, Utah.
- Chan, K.Y.K., Clay, T.W.,Grünbaum, D. 2012. Physical constraints on larval swimming and their implications for dispersal at Society for Integrative and Comparative Biology Annual Meeting, Charleston, South Carolina
- Bowman, J., Chan, K.Y.K., Durkin, C., Hennon, G., Smith, D., Sullivan, B. 2011. Is diversity related to service provision across an Ecosystem? An estuarine case study at World Conference on Marine Biodiversity, Aberdeen, Scotland.
- Chan, K.Y.K, Grünbaum, D., O'Donnell, M.J. 2011. Effects of ocean acidification on swimming performance of in larval sand dollars at Society for Integrative and Comparative Biology Annual Meeting, Salt Lake City, Utah.
- Chan, K.Y.K, Grünbaum, D., O'Donnell, M.J. 2010. Effects of ocean acidification on larval swimming behaviors of sand dollar, *Dendraster excentricus* at Ocean Sciences Meeting, Portland, Oregon.
- Chan, K.Y.K, Grünbaum, D. 2010. Larvae of sand dollar behaviorally compensate for temperature constraints on swimming at Society for Integrative and Comparative Biology Annual Meeting, Seattle, Washington
- Chan, K.Y.K, 2007. Responses of geoduck larvae to halocline and food patches at Annual Meeting of National Shellfisheries Association Pacific Coast Section, Welches, Oregon.

Science education presentations

- Chan, K.Y.K., Rocap, G. 2012. Scientific process in practice, an activity based seminar for beginning oceanography majors at Ocean Sciences Meeting, Salt Lake City, Utah.

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- Chan, K.Y.K. 2012. Scientific process in practice, an activity based seminar for beginning science majors at Society for Integrative and Comparative Biology Annual Meeting, Charleston, South Carolina
- Chan, K.Y.K, Branch, M.C, Yang, S. 2011. Using Computer Models for Guided Inquiry: A Case Study of Biological and Physical Interactions in Estuaries. NSTA Seattle Area Conference on Science Education. Seattle, Washington.
- Chan, K.Y.K, Grünbaum, D. 2011. Hydrodynamic model of estuary flow and biology in a high school marine science classroom at Society for Integrative and Comparative Biology Annual Meeting, Salt Lake City, Utah.

Fellowships and Awards

2012-2014	Croucher Foundation Fellowship for Post-doctoral Research
2012	Woods Hole Oceanographic Institution Postdoctoral Scholarship
2011-2012	University of Washington College of Environment Travel Fund
2011-2012	Boeing International Fellowship
2010-2011	Huckabay Teaching Fellowship
2009-2010	Clarence H. Campbell Endowed Lauren Donaldson Scholarship
2006-2009	Sir Edward Youde Memorial Fellowship for Overseas Studies
2008-2009	Stephen and Ruth Wainwright Endowed Fellowship

Profession Services:

2020-2023	Program Officer, Division of Invertebrate Zoology, Society for Integrative and Comparative Biology
2020-2022	Member at Large, American Microscopical Society
2019-present	Guest Editor, Science of the Total Environment
2018-present	Academic Editor, PeerJ — the Journal of Life and Environmental Sciences
2018- 2019	Convener and co-Chair, Gordon Research Conference on Urbanization, Water and Food Security
	Organizing committee, Crustacean Society Annual Meeting
2018	Ad hoc review for the National Science Foundation (Biological Oceanography) Ocean acidification and echinoderm expert panel, Southern California Coastal Water Research Project
2017	Discussion leader, Gordon Conference on Marine Molecular Ecology Ad hoc review for the National Science Foundation (3 Programs) Scientific Advisory Committee, Ocean Park Conservation Fund Hong Kong Nomination Committee, Division of Invertebrate Zoology, SICB
2016	Guest editor, Regional Studies of Marine Science Ad hoc review for the National Science Foundation (2 Programs) Discussion leader, Interdisciplinary Symposium on Ocean acidification and climate change
2015	International evaluation committee of the French National Research Agency (ANR) Organizing committee, International Conference on Biodiversity, Ecology and Conservation of Marine Ecosystems 2015 (BECOME 2015)
2013-2016	Editor, Invertebrate Zoology Section, Digital Library, SICB Student/ Postdoc representative for Division of Invertebrate Zoology, SICB

Journal Reviewer

Nature Climate Change, Nature Physics, Nature Reports, Royal Society Proceedings B., Royal Society Interface, Royal Society Open, Global Change Biology, Marine Ecology Progress Series, Integrative and Comparative Biology, Limnology and Oceanography, Marine Biology, Journal of Experimental Marine Biology and Ecology, PLOS One, Water

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University Service:
Swarthmore College

2019-2020 Health Science Advisory Committee

Hong Kong University of Science and Technology

2017-2018 Undergraduate Coordinator, Environmental Science Program

Committee

2017-2019 Steering Committee, Sustainability Education
2015-2018 Curriculum Committee, Division of Life Science
2014-2018 UG Committee, Environmental Science Program
Fall 2016 Finance Committee, Division of Life Science
Spring 2016 Division of Life Science Rep (stand in for Prof. A. Miller), University Rankings Committee
Fall 2015 Ad hoc search committee, Teaching Associate, School of Science
2014-2015 Seminar Committee, Division of Life Science

Science Outreach:

2020 Teaching Assistant, National Network on Ocean and Climate Change Interpretation Crash Course
2018-2019 Convener and scientific advisor , Ocean X STEM
(Whole-school ocean literary program for local elementary school)
2017-2018 Collaborator, Miffy and the Ocean, Children’s Gallery Exhibit at the Hong Kong Science Museum
(Exhibit and demonstration design, student intern and staff training)
Scientific consultant, Discover Ocean Drifter Program, World Wide Fund Hong Kong
(Teacher training and student workshops)
2016-2018 Member, HKUST Media Expert List
2015- 2018 Faculty host, School of Science Summer Camp
(Lab tour , Hands on activities, Seminar)
2014-2018 Speaker, School of Science Promotional Talks for Target Schools
(3-4 talks in local high school every year)
Speaker, Discovering Science @ HKUST
Speaker, Science Booster Day @ HKUST
Science Editor, Science Focus magazine
2016-2017 Co-chairperson of Organizing Committee, WiSE Camp 2016
Mentor, HKUST 25th Anniversary “Innovating Today, Imagining Tomorrow”
Mentorship Program
Speaker, Meet a Faculty Sharing Session (May 2016)

Other Community Service:

2014- 2019 Steering Committee, Hong Kong Outstanding Students Award, Youth Arc Foundation

Media Coverage (2014-present):

Science 360, Eurek Alert, Science Newslines Biology, Phys.org, Science Codex, Ming Pao, SingTao Daily, HK01, Headline news, South China Morning Post, HKSAR Gov. News., TVB, Tai Kung Po, RTHK CIBS Program Guest

Professional Affiliations:

Society for Integrative and Comparative Biology (SICB)
American Society for Limnology and Oceanography
American Microscopical Society
Sigma Xi