

Yi Jin LIEW

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EDUCATION

- PhD **Trinity Hall, University of Cambridge, UK (Oct 2008–Dec 2012)**
PI: Dr. Gos Micklem, Department of Genetics
Small RNA studies in *Drosophila melanogaster*, *Stylophora pistillata* and *Symbiodinium* sp.
- BA **Magdalene College, University of Cambridge, UK (Oct 2005–Jun 2008)**
First-Class Honours in Genetics

POSTGRADUATE TRAINING & PAST APPOINTMENTS

- 2013 – **Postdoctoral Fellow in King Abdullah University of Science and Technology (KAUST), Saudi Arabia. PI: Prof. Manuel Aranda**
– 4+ years
- Investigated the role of epigenetics in corals as a mechanism to keep pace with climate change
 - Contributed to genome projects of five marine organisms
 - Created and maintained an online data portal for reef organisms, <http://reefgenomics.org>
 - Reviewed six papers
 - Provided academic guidance for five PhD students, two interns, and two high school students
 - Co-chair of organising committee for RSRC Open Science Conference
 - Designed and delivered lectures about bioinformatics as a stand-in as part of a Masters-level Genomics course
 - Taught three mini-courses (programming & statistics) to lab members
- 2009– **Lab demonstrator, University of Cambridge, UK**
2011 – various stints
- Demonstrated general lab skills to first- to third-year undergraduates, and graded lab reports
- 2005 **Relief teacher, The Chinese High School, Singapore**
– 5 months
- Taught Chemistry to gifted students aged 13–15
 - Designed course materials and exams, graded student work

ORAL PRESENTATIONS AT CONFERENCES

- 2017 European Coral Reef Symposium 2017, Oxford, UK
RSRC Open Science Conference, Thuwal, KSA
KAUST Research Conference: Environmental Epigenetics, Thuwal, KSA
- 2016 KAUST Research Conference: International Conference on the Marine Environment of the Red Sea, Thuwal, KSA
13th International Coral Reef Symposium, Honolulu, Hawaii, USA
- 2014 3rd Asia-Pacific Coral Reef Symposium, Kenting, Taiwan
- 2012 12th International Coral Reef Symposium, Cairns, Australia

AWARDS AND PRIZES

- 2008 Special Malaysia University Composition Fee Bursary (offsets university fee, £12,000 annually for 3 years)
Trinity Hall Research Bursary (offsets college fee, £4,000 annually for 3 years)
- 2007 Gold award and Best BioBrick award for "BOL: Bacteria OnLine" (International Genetically Engineered Machines Competition, MIT)
- 2006 Scholarship from College Governing Body
College Prize for Natural Sciences
- 2005 Jardine Scholarship (full-ride scholarship, £30,000 annually for 3 years)
Honorary Cambridge Commonwealth Trust Scholarship

OUTREACH ACTIVITIES

- 2017 Co-chair of two-day departmental seminar titled "Red Sea Research Center Open Science Conference 2017"
Interviewed for published work about RNA editing in *Symbiodinium microadriaticum*: <https://discovery.kaust.edu.sa/en/article/345/tweaking-the-transcriptome-to-tackle-stress>
- 2016 Interviewed by KAUST about why I chose to work there. Article and video: <https://www.kaust.edu.sa/en/news/a-place-for-big-ideas>
Maintained lab website: <https://coralsymbiomics.kaust.edu.sa>
- 2015 Co-wrote an opinion piece featured in Nature Middle East on epigenetic adaptation in corals:
<http://www.natureasia.com/en/nmiddleeast/article/10.1038/nmiddleeast.2015.194>

POSTGRAD & UNDERGRAD SUPERVISION

Postgraduate students: **five**. My advice ranges from

- Bioinformatics basics e.g. using the UNIX command-line; how to write scripts in Python to analyse data etc.
- Statistical concepts e.g. what tests to carry out if the data is not Gaussian; how to propagate standard errors; why multiple testing correction is important etc.
- Good lab practices, especially when working with RNA e.g. ensuring bench is RNase-free; work quickly on ice to prevent RNA degradation; avoid freeze-thawing of samples etc.
- Scientific writing e.g. when to use past or present tense; how to structure their ideas etc. I have read through and edited the PhD proposals from all five students; and manuscripts from three.

Undergraduate interns: **four**. Guidance provided is similar in theme as postgrad students, but in a more directed fashion. Examples include

- Performing initial experiments with them
- Providing an outline of how data analysis should proceed
- Editing their written reports and advising them over their presentations

PUBLICATIONS (REVERSE CHRONOLOGY)

Voolstra CR, Li Y, **Liew YJ**, Baumgarten S, Zoccola D, et al. Comparative analysis of the genomes of *Stylophora pistillata* and *Acropora digitifera* provides evidence for extensive differences between species of corals. *Sci Rep*. 2017; **7(1)**:17583.

Chen JE, Cui G, Wang X, **Liew YJ**, Aranda M. Recent expansion of heat-activated retrotransposons in the coral symbiont *Symbiodinium microadriaticum*. *ISME*, published online 20 Oct 2017, doi:10.1038/ismej.2017.179.

Brüwer JD, Agrawal S, **Liew YJ**, Aranda M, Voolstra CR. Association of coral algal symbionts with a diverse viral community responsive to heat shock. *BMC Microbiol*. 2017; **17(1)**:174.

Wang X, **Liew YJ**, Li Y, Zoccola D, Tambutte S, et al. Draft genomes of the corallimorpharians *Amplexidiscus fenestrafer* and *Discosoma* sp. *Mol Ecol Resour*. 2017; **00**:1–9.

Voolstra CR, **GIGA Community of Scientists**, Wörheide G, Lopez JV. Advancing Genomics through the Global Invertebrate Genomics Alliance (GIGA). *Invertebr Syst*. 2017; **31**:1–7.

Liew YJ, Li Y, Baumgarten S, Voolstra CR, Aranda M. Condition-specific RNA editing in the coral symbiont *Symbiodinium microadriaticum*. *PLOS Genet*. 2017; **13(2)**:e1006619.

Liew YJ, Aranda M, Voolstra CR. Reefgenomics.Org - a repository for marine genomics data. *Database*. 2016; **2016**:baw152.

Aranda M, Li Y, **Liew YJ**, Baumgarten S, Simakov O, et al. Genomes of coral dinoflagellate symbionts highlight evolutionary adaptations conducive to a symbiotic lifestyle. *Sci Rep*. 2016; **6**:39734.

Bhattacharya D, ..., **Liew YJ**, et al. Comparative genomics explains the evolutionary success of reef-forming corals. *eLife*. 2016; **5**:e13288.

Liew YJ, Ryu T, Aranda M, Ravasi T. miRNA Repertoires of Demosponges *Stylissa carteri* and *Xestospongia testudinaria*. *PLOS ONE*. 2016; **11**(2):e0149080.

Ryu T, Seridi L, Moitinho-Silva L, Oates M, **Liew YJ**, et al. Hologenome analysis of two marine sponges with different microbiomes. *BMC Genomics*. 2016; **17**(1):1.

Baumgarten S, Simakov O, Esherick LY, **Liew YJ**, Lehnert EM, et al. The genome of *Aiptasia*, a sea anemone model for coral symbiosis. *PNAS*. 2015; **112**(38):11893-11898.

Liew YJ, Aranda M, Carr A, Baumgarten S, Zoccola D, et al. Identification of microRNAs in the coral *Stylophora pistillata*. *PLOS ONE*. 2014; **9**(3):e91101.

Baumgarten S, Bayer T, Aranda M, **Liew YJ**, Carr A, et al. Integrating microRNA and mRNA expression profiling in *Symbiodinium microadriaticum*, a dinoflagellate symbiont of reef-building corals. *BMC Genomics*. 2013; **14**:704

OTHER PUBLICATIONS (POPULAR ARTICLES)

Liew YJ, Aranda M. Epigenetic adaptation of corals: A new hope? *Nature Middle East*. 2015; doi:10.1038/nmiddleeast.2015.194

LANGUAGE AND COMPUTING SKILLS

Languages	Fluent in English and Mandarin Proficient in Malay and Cantonese
Computing	Extremely familiar with Windows and UNIX environments Expert in Python, Bash Competent in Perl, R, Visual Basic, HTML and CSS