

## EDUCATION

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- **University of the Sunshine Coast** QLD, Australia  
*Doctor of Philosophy (PhD) ; Comparative Genomics* Feb. 2016 – August. 2019
- **Queensland University of Technology** QLD, Australia  
*Master of Applied Science (MsAppSc) ; Molecular Genetics* May. 2013 – May. 2015
- **International University, Ho Chi Minh National University Vietnam** HCMC, Vietnam  
*Bachelor of Science (Bsc) ; Major: Aquaculture Biotechnology* 2008 – 2012

## PROFESSIONAL EXPERIENCE

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- **Agriculture Victoria Research** VIC, Australia  
*Research Scientist in Computational Biology* April. 2020 – Now
  - Applying short-read and ultra long-read sequencing in bovine research
  - Creating efficient, scalable, reproducible pipeline for automated processing of genomics data (Genotyping by sequencing/microarray, Imputation, GWAS, RNAseq)
  - Maintaining coding and data integrity
  - Curating and exporting data for related project in DairyBio 2021-2026
  - Troubleshooting and bug-fixing for genomics pipeline
  - Liase and perform data analysis, drafting figures and reports for project stakeholders
- **Zymo Research/Pacific Informatics** Remote - USA and Vietnam  
*Technical consultant* Dec. 2021 – Now
  - Creating efficient, scalable, reproducible pipeline for automated processing of genomics data as per customer request
  - Recruit and training bioinformaticians
  - Assist in maintaining coding and data integrity
  - Troubleshooting and bug-fixing for genomics pipeline
- **University of the Sunshine Coast** QLD, Australia  
*Postdoctoral Researcher* Aug. 2019 – Dec. 2019
  - Applying RNA-seq studies in crustacean research
  - Assisted researchers with wet/dry lab tasks
  - Scientific consultation for next generation sequencing experiments
  - Drafting figures and reports for project stakeholders
- **University of the Sunshine Coast** QLD, Australia  
*Research Assistant — Teaching Assistant* Aug. 2015 – August 2019
  - Co-taught undergraduate level course for a variety of subjects
  - Assisted researchers with bioinformatics tasks
  - Scientific consultation for next generation sequencing experiments
- **Queensland University of Technology** QLD, Australia  
*Research Assistant — Teaching Assistant* Feb. 2014 – Jul. 2015
  - Co-taught undergraduate level course for a variety of subjects
  - Shared responsibility for lab works, homework assignments and grades
  - Assisted researchers with bioinformatics tasks
- **International University, Ho Chi Minh National University Vietnam** HCMC, Vietnam  
*Research Assistant* Feb. 2012 – Mar. 2013
  - Experimental design and scientific consultations
  - Responsible for various tasks in lab according to lab manager

- [1] Thu Thi Minh Vo, **Nguyen, Tuan Viet**, Gianluca Amoroso, Tomer Ventura, and Abigail Elizur. Deploying new generation sequencing for the study of flesh color depletion in atlantic salmon (*Salmo salar*). *BMC Genomics*, 22(1):545, 2021.
- [2] Cameron Hyde, **Nguyen, Tuan Viet**, Quinn Fitzgibbon, Abigail Elizur, Gregory Smith, and Tomer Ventura. Neural remodelling in spiny lobster larvae is characterized by broad neuropeptide suppression. *General and Comparative Endocrinology*, 2020.
- [3] **Nguyen, Tuan Viet**, Luke Ryan, Josephine Nocillado, Marc Le Groumellec, Abigail Elizur, and Tomer Ventura. Transcriptomic changes across vitellogenesis in the black tiger prawn (*Penaeus monodon*), neuropeptides and g protein-coupled receptors repertoire curation. *General and Comparative Endocrinology*, 298, 2020.
- [4] Tomer Ventura, Jennifer C Chandler, **Nguyen, Tuan Viet**, Cameron J Hyde, Abigail Elizur, Quinn P Fitzgibbon, and Gregory G Smith. Multi-tissue transcriptome analysis identifies key sexual development-related genes of the ornate spiny lobster (*Panulirus ornatus*). *Genes*, 11, 2020.
- [5] **Nguyen, Tuan Viet**, Guiomar E Rotllant, Scott F Cummins, Abigail Elizur, and Tomer Ventura. Insights into sexual maturation and reproduction in the Norway lobster (*Nephrops norvegicus*) via *in silico* prediction and characterization of neuropeptides and G Protein-coupled Receptors. *Frontiers in Endocrinology*, 9, 2018.
- [6] **Nguyen, Tuan Viet**, Hyungtaek Jung, Guiomar Rotllant, David Hurwood, Peter Mather, and Tomer Ventura. Guidelines for RNA-Seq projects: applications and opportunities in non-model decapod crustacean species. *Hydrobiologia*, 825(1):5–27, 2018.
- [7] Guiomar Rotllant†, **Nguyen, Tuan Viet**†, David Hurwood, Valerio Sbragaglia, Tomer Ventura, Silvia Joly, Abigail Elizur, Peter B Mather, et al. Evaluation of genes involved in Norway lobster (*Nephrops norvegicus*) female sexual maturation using transcriptomic analysis. *Hydrobiologia*, 825(1):137–158, 2018.
- [8] Guiomar Rotllant, **Nguyen, Tuan Viet**, Joseph Aizen, Saowaros Suwansa-ard, and Tomer Ventura. Toward the identification of female gonad-stimulating factors in crustaceans. *Hydrobiologia*, 825(1):91–119, 2018.
- [9] Guiomar Rotllant†, **Nguyen, Tuan Viet**†, Valerio Sbragaglia, Lifat Rahi, Kevin J Dudley, David Hurwood, Tomer Ventura, Vincent Chand, Jacopo Aguzzi, Peter B Mather, et al. Sex and tissue specific gene expression patterns identified following *de novo* transcriptomic analysis of the Norway lobster, *Nephrops norvegicus*. *BMC Genomics*, 18(1):622, 2017.
- [10] Dania Aziz, **Nguyen, Tuan Viet**, Md Lifat Rahi, David A Hurwood, and Peter B Mather. Identification of genes that potentially affect social dominance hierarchy in adult male giant freshwater prawns (*Macrobrachium rosenbergii*). *Aquaculture*, 476:168–184, 2017.
- [11] **Nguyen, Tuan Viet**, Hyungtaek Jung, Thanh Minh Nguyen, David Hurwood, and Peter Mather. Evaluation of potential candidate genes involved in salinity tolerance in striped catfish (*Pangasianodon hypophthalmus*) using an RNA-Seq approach. *Marine Genomics*, 25:75–88, 2016.
- [12] **Nguyen, Tuan Viet**, Scott F Cummins, Abigail Elizur, and Tomer Ventura. Transcriptomic characterization and curation of candidate neuropeptides regulating reproduction in the eyestalk ganglia of the Australian crayfish, *Cherax quadricarinatus*. *Scientific Reports*, 6:38658, 2016.
- [13] Azam Moshtaghi, Md Lifat Rahi, **Nguyen, Tuan Viet**, Peter B Mather, and David A Hurwood. A transcriptomic scan for potential candidate genes involved in osmoregulation in an obligate freshwater palaemonid prawn (*Macrobrachium australiense*). *PeerJ*, 4:e2520, 2016.
- [14] Nguyen Minh Thanh, Hyungtaek Jung, Russell E Lyons, Isaac Njaci, Byoung-Ha Yoon, Vincent Chand, **Nguyen, Tuan Viet**, Vo Thi Minh Thu, and Peter Mather. Optimizing *de novo* transcriptome assembly and extending genomic resources for striped catfish (*Pangasianodon hypophthalmus*). *Marine Genomics*, 23:87–97, 2015.
- [15] Nguyen Minh Thanh, Hyungtaek Jung, Russell E Lyons, Vincent Chand, **Nguyen, Tuan Viet**, Vo Thi Minh Thu, and Peter Mather. A transcriptomic analysis of striped catfish (*Pangasianodon hypophthalmus*) in response to salinity adaptation: *De novo* assembly, gene annotation and marker discovery. *Comparative Biochemistry and Physiology Part D: Genomics and Proteomics*, 10:52–63, 2014.

† Equal contribution author

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## PROJECTS

- Efficient and scalable pipeline for automated processing of long read sequencing data with Oxford Nanopore
- Haplotype-based genotyping of bovine genomics data for the search of recessive lethal mutations
- Empirical testing of imputation accuracy in crossbreed bovine species
- Decoding the genome of the Tropical rock lobster, *Palinurus ornatus*

- The neuropeptidome and putative G-Protein Coupled Receptors (GPCRs) in the Tropical rock lobster, *Palinurus ornatus*
- Understanding molecular mechanism of flesh coloration in Atlantic salmon (*Salmo salar*)
- Insights on the molecular basis of sexual maturation in the Black tiger prawn (*Penaeus monodon*)
- Understanding the neurohormonal pathway in the Australian Red claw crayfish (*Cherax quadricarinatus*)
- Unlocking the neuropeptidome and their putative G-Protein Coupled Receptors (GPCRs) in the Norway lobster, *Nephrops norvegicus*
- Development of genomic tools for assessing nutrition, growth and reproduction issues in Norway lobster, *Nephrops norvegicus* (DeNuGReC FP7-PEOPLE-612296)
- Differential morphological characteristic/sexual characteristic of the giant fresh water prawn *Macrobrachium rosenbergii*
- Transcriptomic analysis involving salinity tolerance in fresh water palaemonid prawn *Macrobrachium australiense*
- Transcriptomic response related to salinity elevation in Tra catfish (*Pangasianodon hypophthalmus*)
- Effect of salinity on growth performance of Tra catfish (*Pangasianodon hypophthalmus*) fingerlings

## FUNDING

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- **Vietnam National Foundation for Science and Technology Development (NAFOSTED)** — Understanding the differences in reproductive traits between wild and captive populations of female black tiger shrimp (*Penaeus monodon*) using RNA-Sequencing approach — Role: Co-PI — Value: 55.000 AUD
- **Biotechnology center of Ho Chi Minh City** — Transcriptomics analysis of tilapia for molecular marker involved in resistance of Tilapia Lake virus (TiLV) — Role: Co-PI — Value: 90.000 AUD

## CONFERENCES AND WORKSHOPS

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- **24th Association for the Advancement of Animal Breeding and Genetics conference - AAABG 2021** — Virtual - Adelaide, Australia — Nov 2020 — *Presenter*
- **Reproducible genomics workflows using Nextflow and Nf-core** — Virtual - Barcelona, Spain — Nov 2020 — *Flash talk presenter*
- **Introduction to RNA-sequencing : Opportunities and challenges in applied transcriptomics studies** — Ho Chi Minh city, Vietnam — Mar 2019 — *Course coordinator*
- **RNA sequencing in a nutshell : Perspectives and applications in marine biology** — Barcelona, Spain — Jun 2017 — *Course coordinator*
- **The Crustacean mid-year meeting** — Barcelona, Spain — Jun 2017 — *Invited Presenter*
- **University Research Week: Local research, Global impact** — University of the Sunshine Coast, Australia — Jun 2016 — *Presenter*
- **Big Biology and Bioinformatics Symposium (B3)** — Queensland University of Technology, Australia – Nov 2015 — *Poster*
- **Workshop on application of blended learning** — International University, Vietnam — Aug 2012 — *Attendee*

## HONOURS AND AWARDS

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- 3 Minutes thesis winner – USC School of Science and Engineering 2019
- Best HDR presentation – USC Faculty of Science, Health, Electrical Engineering Research Day 2016
- University of the Sunshine Coast International Research Scholarship (USCIRS) 2016
- Best HDR presentation – QUT Earth, Environment and Biological Science Seminar 2013
- International University, Ho Chi Minh National University Entrance scholarship 2008

## KEY SKILLS

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- **Molecular biology skills:** DNA/RNA/protein extraction, PCR, qRT-PCR, Next generation sequencing (WGS, RNAseq)
- **Bioinformatics skills:** QC, assembly, mapping, variant analysis (Small variants/Structural variants), differential expression analysis, gene data mining, protein modelling, imputation (SNParray, Whole genome sequencing, GWAS), DNA methylation
- **Coding skills:** Unix shell scripts, R, Python, RMarkdown, NextFlow, Git/GitHub, Docker, LaTeX
- **Computer skills:** Microsoft Office, Adobe Photoshop, Lightroom
- **Interpersonal skills:** Leadership, Public speaking, Multi-tasking, Cross-cultural communication

## REFERENCES

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- **Dr Iona MacLeod** — Agriculture Victoria Research . *Email: [iona.macleod@agriculture.vic.gov.au](mailto:iona.macleod@agriculture.vic.gov.au)*
- **Dr Tomer Ventura** — University of the Sunshine Coast, Australia . *Email: [tventura@usc.edu.au](mailto:tventura@usc.edu.au)*
- **Prof Abigail Elizur** — University of the Sunshine Coast, Australia . *Email: [aelizur@usc.edu.au](mailto:aelizur@usc.edu.au)*
- **Dr Guiomar Rotllant** — Institut de Ciències del Mar (CSIC), Spain . *Email: [guio@icm.csic.es](mailto:guio@icm.csic.es)*