Tuan Viet Nguyen
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Education

- **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

- **Agriculture Victoria Research** — VIC, Australia
  Research Scientist in Computational Biology — *April. 2020 – Now*
  - Application of long-read sequencing (Oxford Nanopore) in dairy cattle
  - Creating efficient, scalable, reproducible pipeline for automated processing of genomics data (Genotyping by sequencing/microarray, Short-read Phasing, Imputation, GWAS, RNAseq and Long-read structural variant discovery)
  - Maintaining coding and data integrity
  - Curating and exporting data for related project in DairyBio 2021-2026
  - Troubleshooting and bug-fixing for genomics pipeline
  - Assisted researchers/PhD student with dry lab tasks
  - Perform data processing, analysis, drafting figures and reports for project stakeholders
- **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

Publication

[1] **Nguyen, Tuan Viet**, Christy J Vander Jagt, Jianghui Wang, Hans D Daetwyler, Ruidong Xiang, Michael E Goddard, Loan T Nguyen, Elizabeth M Ross, Ben J Hayes, Amanda J Chamberlain, et al. In it for the long run: perspectives on exploiting long-read sequencing in livestock for population scale studies of structural variants. *Genetics Selection Evolution*, 55(1):9, 2023.

[2] **Nguyen, Tuan Viet**, J Wang, AJ Chamberlain, and IM MacLeod. Cost effective detection of structural variants in long-read sequence – how deep is enough? In *Association for the Advancement of Animal Breeding and Genetics*, volume 25, pages 218–221, 2023.

[3] A Chamberlain, **Nguyen, Tuan Viet**, J Wang, and I Macleod. Discovering the missing variation in the bovine genome; a long-read sequencing pilot study into the structural variation in two dairy breeds. In *Association for the Advancement of Animal Breeding and Genetics*, volume 25, pages 274–277, 2023.

[4] IM MacLeod, **Nguyen, Tuan Viet**, J Wang, CJ Vander Jagt, and AJ Chamberlain. Population scale long-read sequence databases: are they useful for accurate snp and indel discovery? In *Association for the Advancement of Animal Breeding and Genetics*, volume 25, pages 202–205, 2023.

[5] Irene van den Berg, Phuong N Ho, **Nguyen, Tuan Viet**, Mekonnen Haile-Mariam, Iona M MacLeod, Phil R Beatson, Erin O'Connor, and Jennie E Pryce. GWAS and genomic prediction of milk urea nitrogen in Australian and New Zealand dairy cattle. *Genetics Selection Evolution*, 54(1):15, 2022.

[6] S **Nguyen, Tuan Viet**and Bolormaa, CM Reich, AJ Chamberlain, A Medley, C Schrooten, HD Daetwyler, and IM MacLeod. Exploring imputation accuracy across the bovine x chromosome. In *Proc. Assoc. Advmt. Anim. Breed. Genet*, volume 24, pages 264–268, 2022.

[7] IM MacLeod, S Bolormaa, CJ Vander Jagt, **Nguyen, Tuan Viet**, AJ Chamberlain, Daetwyler, and HD. Current challenges for imputation of snp chips to whole- genome sequence in cattle and sheep. In *Proc. Assoc. Advmt. Anim. Breed. Genet*, pages 212–216. http://www.aaabg.org/aaabghome/AAABG24papers/54MacLeod24212.pdf, 2022.

[8] Irene van den Berg, Phuong N Ho, **Nguyen, Tuan Viet**, Mekonnen Haile-Mariam, Timothy DW Luke, and Jennie E Pryce. Using mid-infrared spectroscopy to increase GWAS power to detect QTL associated with blood urea nitrogen. *Genetics Selection Evolution*, 54(1):1–8, 2022.

[9] 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.

[10] 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.

[11] **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.

[12] 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.

[13] **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.

[14] **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.

[15] 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.

[16] 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.

[17] 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.

[18] 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.

[19] **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.

[20] **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.

[21] 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.

[22] 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.

[23] 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**

Conferences and workshops

- **25th Association for the Advancement of Animal Breeding and Genetics conference - AAABG 20253** — Perth, Australia — 2023 — *Presenter*
- **London Calling 2023** — Virtual - London, UK — 2023 — *Invited Lightning Presenter/Poster*
- **Plant and Animal Genome conference - PAG 2023** — In Person - San Diego, USA — 2023 — *Invited Presenter/Poster*
- **12th World Congress on Genetics Applied to Livestock Production - WCGALP 2022** — Virtual - Rotterdam Netherland — July 2022 — *Attendee*
- **24th Association for the Advancement of Animal Breeding and Genetics conference - AAABG 2021** — Virtual - Adelaide, Australia — Nov 2020 — *Presenter*
- **Reproducible genomics workflows using Nextflow** — 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

- 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

- **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
- **Coding skills**: Unix shell scripts, R, Python, RMarkdown, NextFlow, Git/GitHub, Container (Docker/Shifter/Singularity), LaTeX, Cloud computing (AWS), ML/AI
- **Computer skills**: Microsoft Office, Adobe Photoshop, Lightroom, Canva
- **Interpersonal skills**: Leadership, Public speaking, Multi-tasking, Cross-cultural communication