

J-P. Bingham
College of Tropical Agriculture and Human Resources
Molecular Biosciences and Bioengineering (MBBE)
FTE Distribution: 25% I; 75% R; 0% E

Education

<u>Degree</u>	<u>University</u>	<u>Major</u>
• Bachelors (1989-1991),	School of Science, Griffith University, Brisbane, Australia;	Biochemistry/Biological Chemistry
• Bachelors with Honours (1992)	School of Science, Griffith University, Brisbane, Australia;	Clinical Chemistry/Toxinology
• PhD (1993 – 1998)	Center for Drug Design and Development, Dept of Biochemistry, University of Queensland, Brisbane, Australia;	Peptide synthesis/Proteomics

Professional Appointments

<u>Title</u>	<u>Employer</u>	<u>Dates Employed</u>
• Associate Professor	– Dept. of Molecular Bioscience and Bioengineering, University of Hawaii, Honolulu, HI,	2019 - present
• Associate Professor & Graduate Chair	– Dept. of Molecular Bioscience and Bioengineering, University of Hawaii, Honolulu, HI,	2014 - 2019
• Assistant Professor	– Dept. of Molecular Bioscience and Bioengineering, University of Hawaii, Honolulu, HI,	2007-2014
• Assistant Research Professor	– Dept. of Biology, Clarkson University, Potsdam, NY	2003-2007
• Post-doctoral position II	– Dept. of Pharmacology, Yale School of Medicine, New Haven, CT	2000-2003
• Post-doctoral position I	– Mass Spectrometry Facility, Dept of Pharmaceutical Chemistry, University of California, San Francisco, CA,	1998-2000

Courses Taught at UHM

- MBBE 402 Biochemistry (4 Cr)*
- MBBE 402L Biochemistry Laboratory (2 Cr)
- MBBE 610 Building a Better Graduate Community (1-3 Cr)
- MBBE 610 Graduate Seminar (1 Cr)
- MBBE 611 Professional Development Seminar (1 Cr)*
- MBBE 691 Special Topics: Fermentation Biochemistry (3 Cr)
- MBBE 666 Fermentation Biochemistry (3 Cr)*
- MBBE 691 Lectureship Preparation (1-2 Cr)

(* present yearly teaching load)

UH Awards:

- CTAHR Teaching Excellence Award
- Peter V. Garrod Distinguished Graduate Mentoring Award

Leadership Roles (Committees, Boards, Advisory, etc.)

- INBRE PATHway Director – State-wide oversight for UG research and professional development (2017 – Present)
- UHCC (U54) Co-Director Genomic Work Force Development Core (Present)
- INBRE UHM Campus Coordinator (2017 – Present)
- Bayer Faculty and Campus Coordinator (2022 – Present) – Chair for Bayer-CTAHR Internships Prg.
- Organizer of the INBRE Biomedical Research Symposium, a yearly event (2017 – Present)
- Program Advisor and Evaluator for the PaCoN Project, PI: Dr Mohammad Arif – (present)
- Program Reviewer and Evaluator of JABSOM Graduate Programs
- UH Search Committee Advocate (2022 – Present)
- Appointed to UH Institutional Review Entity (IRE) for DURC (Dual Use Research of Concern) (2023), 4th Term
- Advisee to UH CTAHR Office of Communication Services Advisory Council (2020 – present)
- Recruitment Search committee member: MBBE Plant Biochemistry, Position # #82027 (2023)
- Chaired Recruitment Search committees
 - MBBE Plant Biochemistry, Position # 82027 (2016)
 - MBBE Biomolecular Interactions, Position # #84193 (2019)
- Faculty mentorship NIH CORBA (2020-2022) – Dr Mohammad Arif
- Faculty Advisory Committee for REEU (2020 - present) Drs. Michael Muszynski and Nhu Nguyen
- Appointed member of the CTAHR Associate Dean of Students Advisory Council (2017-2018)
- Advisory Committee Dr Ingelia White – Agripharmatech Windward CC
- Governor Appointed member of the Hawaii State Oversight Committee for Medical Marijuana (2016 - 2020)
- Govern Appointment member of the Hawaii State Pesticide Board (2016 – present, re-appointed present)
- Co-organizer of the inaugural CTAHR 3MEP (2016)
- Co-organizer of the Office of Graduate Education Three Minute Thesis competition (3MT) (2016, 2017, 2018)
- Vice-President of the CTAHR Faculty Senate, 2013 – 2014
- Member of the CTAHR Faculty Senate Executive, 2011– 2014, Instructional Review Committee
- Participant in the UH-Manoa Strategic Planning Process Focus Group session (October 2010)
- Represented CTAHR at Teaching “SURVIVAL SKILLS” AND ETHICS 16th Annual Trainer-of-Trainers Conference Supported by NIH, June 21-26, 2010, Santa Fe, New Mexico
- Member of the CTAHR Faculty Senate, 2009 – 2010, Member of the Instructional Review Committee
- Represented CTAHR on Faculty Panel—Striking a Balance: Teaching, Research, Service-for the New Faculty Orientation (Jan. 2009)
- Member of MBBE Graduate Steering Committee (2009)
- Member of MBBE Curricula Committee (2009 - 2020)
- Represented MBBE on Biology Steering Committee (2008-2009)

Graduate Chair of MBBE (2014 - 2019): Overseeing one of the most extensive Graduate programs in the UH system requires significant effort in student recruitment and retention. In 2020 the MBBE program produced 48% of all CTAHR’s PhD graduates, typically 3-5/semester. The MBBE Graduate program usually comprises 65-114 students, 45% MS, and 55% PhD. The efforts of the Graduate Chair encompass many different tasks and coordination between various UH offices to ensure our students are

advised correctly and progress through the degree in a minimal time. Student compliance and resolving student issues is a significant part of the position. As we improve and advance the MBBE program, we have been specifically recognised by faculty and UHM Graduate Division as an innovator in graduate education and management. Dedication to these activities has been recognised by being the only CTAHR faculty member to receive the Peter V. Garrod Distinguished Graduate Mentoring Award.

Graduate Chair 2014-2019, implementation of new student tools:

- Student recruitment and orientation to the program; 1:1 interaction with each GR student
- Recent MBBE Student orientation seminar
- MBBE Academic Planner (MS and PhD.)
- MBBE Student Handbook
- MBBE Student Guidebook
- MBBE Student Filling Handbook
- MBBE PhD. and MS – Proposal calculator
- MBBE PhD and MS Proposal Rubric and Student evaluation sheet
- MBBE PhD. Flyer
- How Well do you know the rules that govern your graduate degree?
- MBBE Individual Professional Development Plan (IDP)

This appointment has provided essential mentoring, managerial skills, and networks to advance my skills as an accomplished graduate mentor, student advisor, and listener.

(ii) Director of the INBRE V PATHways Program: INBRE (IDeA Networks of Biomedical Research Excellence) is a Hawaii statewide grant program involving most of our undergraduate-based institutions and nearly all of our UH community colleges. The core mission of INBRE is to get UG students involved in biomedical research right from the beginning of their college experience. INBRE also supports a cadre of young investigators (new tenure-track faculty) as sites for the INBRE UG experiences. http://inbre.jabsom.hawaii.edu/?page_id=11. Interactions include students, faculty, campus administrators, and the INBRE administration.

INBRE V represents UH’s second largest NIH grant, equally \$22 million (05/2023-04/2028).

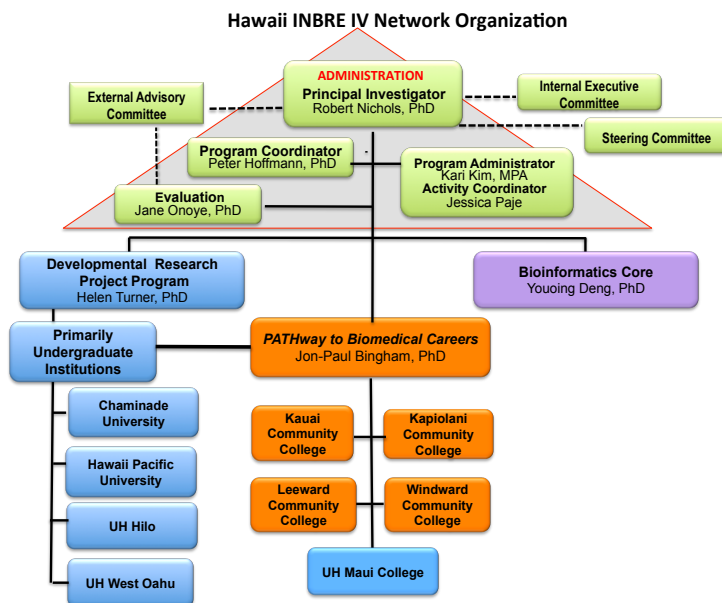


Figure 2. Organizational Chart

As INBRE PATHways Director, I coordinate **all** UG research activities in Hawaii. I have implemented many new programs that have seen increased student participation and retention across the state.

Row Labels	Year 1			Year 2			Year 3			Year 4			Year 5			Grand Total
	1 - Summer	2 - Fall	3 - Spring	1 - Summer	2 - Fall	3 - Spring	1 - Summer	2 - Fall	3 - Spring	1 - Summer	2 - Fall	3 - Spring	1 - Summer	2 - Fall	3 - Spring	
UH (Institution of Enrollment)	36	41	39	46	43	40	34	27	31	22	25	22	22	30	35	493
Kapiolani Community College (KCC)	8	8	7	8	8	8	6	5	4	5	3	2	5	3	3	83
Leeward Community College (LCC)	13		6	17	5	3	8		3	4	1	2	3	3	3	71
University of Hawaii at Manoa (UHM)	13	20	22	20	22	21	18	19	21	12	16	13	12	17	22	268
University of Hawaii Maui College (UHMC)		4	3		2	4		1	2		3	3		4	3	29
Windward Community College (WCC)	2	9	1	1	6	4					2	2	1	3	4	35
Other							2	2	1	1			1			7
PUH (Institution of Enrollment)	27	34	39	21	28	31	17	13	19	17	25	41	18	37	41	408
Chaminade University (CUH)	3	4	1	1	2	4	2	2	2		4	4	1	5	3	38
Hawaii Pacific University (HPU)	10	10	18	11	11	13	10	6	10	9	13	19	6	14	18	178
University of Hawaii at Hilo (UHH)	13	16	16	5	10	11	5	1	3		4	12	5	13	17	131
University of Hawaii West Oahu (UHWO)	1	4	4	4	5	3		4	4	8	4	6	5	5	3	60
Hawaii Community College (HAWCC)													1			1
Grand Total	63	75	78	67	71	71	51	40	50	39	50	63	40	67	76	901

This appointment has allowed me to build vital leadership skills by forming a collaborative network with faculty across nine Hawaiian institutes and providing a solid foundational network with senior UH administration. It has also allowed me to promote the MBB/BE (UG) and MBBE Graduate programs and develop novel pilot UG educational milestones to advance and prepare Hawaii’s UGs for the workforce and professional graduate education.

(iii) INBRE Summer Program (2020, 2021 and 2023 – COVID online education) – 45 participants from INBRE programs from Hawaii; 10 lectures on Professional Development, 15 on Bioinformatics, and ten on Research Seminars. INBRE students gain access to a three-step Certified Bioinformatics course.

(iv) Implementation of Responsible Conduct of Research (RCR) training as a semester graduate program within MBBE (MBBE 611 Seminar – When a PhD is not enough), which is now being adapted as a template to meet the needs of the whole UHM system.

(v) Professional Development Program – Continuous education platform, including topics: Establishing your professional identity; Professional Membership has its benefits; Graduate Degree – what it means; What can you do with a Graduate Degree; What the Medical School Admissions did not tell you; Preparation of your CV; How to do well in job interviews.

NIH U54 – Pacific Center for Genome Research (PCGR) \$11 million (08/2023-06/2028) – Co-Director Genomic Work Force Development Core (Present)

This program aims to train the next generation of genomic scientists to meet the demands of personalised medicine. This encompasses UG, GR and Post-Doctoral Fellows scientific training, professional development and career development.

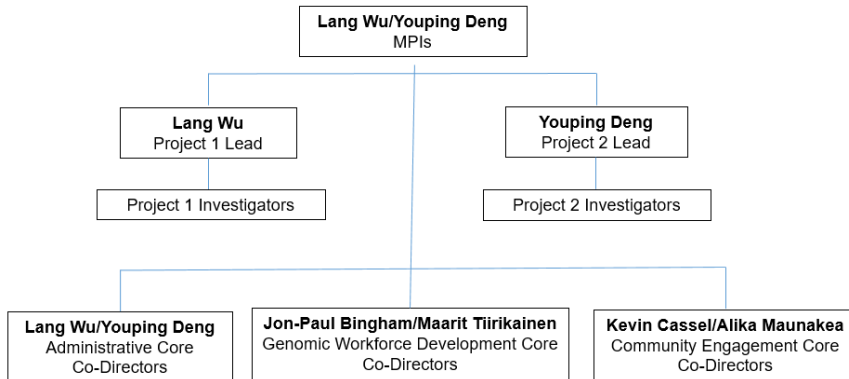


Figure 1. Center organization chart

Bingham Lab product collaborative development

'Olena (turmeric) Daily Wellness Inc



Working with scientific separation and analytical abilities, the Bingham Laboratory assisted in developing and validating unique extraction techniques and processing methodologies that add significant value to the fledging Hawaii 'Olena Industry. Collaborating with Dr Radovich (TPSS), our research efforts also have examined stock materials and the favourable environment to ensure

the production of high-quality materials. This industry has a potential worth of millions of dollars to Hawaii'i.

'Awapuhi (Ginger) Bitter Root Brewery



Proprietary extraction techniques development in the Bingham Laboratory allows Bitter Root Brewery (BRB) to produce several unique, high-grade products that demonstrate different uses of the unique flavour profiles available within Ginger. These Hawaiian-made products include Ginger Beer, Ginger syrups, and ginger cookies. BRB was born out of a UHM student entrepreneurship research class. Several UH Graduates now run this small business.

'Ulu (Breadfruit) Ulu Cooperative / La Tour Bakery



Together with the Hawaii'i 'Ulu Cooperative (<https://eatbreadfruit.com/>), the Bingham Laboratory has recently developed value-added products that primarily contain 'Ulu as a primary carbohydrate base. This includes a unique bread pudding and, more recently, a unique favoured 'Ulu Vodka. The Bingham Laboratory is discussing a partnership to further 'Ulu products with La Tour Bakehouse. This

is a graduate student-based concept.

Graduate Students (2023)

<u>Category</u>	<u>Current Number of Students</u>	<u>Number Graduated (Career)</u>
Chair of Master's Committees.	4	26
Chair of Ph.D. Committees	2	6
Member of Master's Committees	2	18
Member of Ph.D. Committees	6	27

Present Bingham Laboratory Graduate Students

PhD (Chair)

- Nicholas Sinclair
- Emory Zitello

MS (Plan A) (Chair)

- Angelica Valdez
- June Jackson (TPSS)
- Yichen Du
- Jessie Ngu

Present Graduate Students Committees (member)

Ph.D.

- Mathew Riek (Chemistry) (UR)
- Emily Teng (TPSS) (UR)
- Rina Carrillo
- Justin Padron
- Ludwig Mayerlen (TRMD)
- Hongwen Wu

MS (Plan A)

- Nicolas Cetraro
- Wanderley Vital De Sousa Junior

Past Students

PhD (Chair)

- Anthony Mau
- Ray Zhang
- Michael Espiritu
- Parasha Thapa
- Zachary Bergeron

MS (Plan A) (Chair)

- Erick Delgado
- Sean Wiere
- Chino Cabaltea
- Elizabeth Andrews
- Christopher Sugai
- Jeffery Milisen
- Kristen Wheeler
- Zeb Philips
- JoyceIn Chun
- Cliff Kapon
- Justin Calpito (HNFAS)
- Vinany Menony
- Mahrukh Khaw

MS (Plan B)

- Elizabeth Mau
- Akash Reddy

Past Graduate Students Committees

Ph.D.

- James Dorthey
- Peter Toves (TPSS)
- Joey Ooak
- David Maison (TRMD)
- Bjarne Barlett
- Frank Urena
- Michael Honda
- Francis Saka-Kawada
- Sreeramul Kalluri (Chemistry)
- E.J. Cho
- Maribel Zaportza
- Hilario Luzminda
- Devin Takara
- Samson Souza (Chemistry)
- Archana Pal
- Vishal Singh Nugi
- Sandro Jube
- Zhibin Liang
- Margarat Baker
- Nhan Hua
- Normal Wang
- Alejandro Preciada (Chemistry)
- Steffen Oeser
- Abdulla Ali (PEPS)
- Sliva Moriano Gutierrez
- Kazue Ishihara
- Camila Ortega Ramirez
- Archana P Pant (TPSS)
- James Murphy

MS (Plan A)

- Kento Segal (NHFAS)
- David Knittel
- Todd Anderson (TPSS)
- Vincent Tree
- Rina Carrillo
- Rick Shimshock
- Elizabeth Feldever
- Adam Baker
- Sofia Doello Roman
- Jannai Yafusu
- Majdouline Le Roy
- James Carrillo
- Maia Corpuz

MS (Plan B)

- Arby Baron
- Daniel Roettger
- Molly (Qing's student)
- Amiha Carlson

Undergraduate Teaching Philosophy:

Higher education is a valuable and significant endeavor that deserves respect. As a Biochemistry Professor, my objective is to help students grasp the foundational principles of Biology and Organic Chemistry and extend them into Biochemistry. This discipline illuminates the metabolic mechanisms within plants, animals, and ourselves, providing insights into health and disease.

Reflecting on my own experience in learning biochemistry, I recognize the importance of the people and skills that helped me understand it. Biochemistry often requires a holistic perspective to connect individual biochemical events. To foster this understanding, I incorporate various technologies such as webcasts, YouTube videos, DVDs, and television documentaries that showcase the world of biochemistry, encouraging discussions on its interconnectedness.

As a guide through the complexities of biochemistry, I emphasize that motivation and interest drive learning. Though textbooks may sometimes seem tedious, they play a crucial role in education, while homework reinforces understanding. These principles shape my teaching style.

Classroom education lays the foundation for students learning, application, and comprehension. The limited class hours carry immense value, demanding a disciplined learning process. While this can be intimidating, I provide ample support, safety nets, and progress monitoring mechanisms that students can rely on.

In my lecturing role, I deliver essential information, support, and encourage students to explore the subject. My expectations are clear, and although some may find them demanding, many students rise to the challenge and surpass their expectations. Witnessing their growth fills me with pride. When students invest their hearts and minds into biochemistry, every one of them can succeed, and this experience prepares them for life beyond the classroom. It is rewarding to maintain contact with students even after the course; seeing their astonishment at what they have learned, retained, and applied has benefited their graduate degrees and standardised tests.

By reviewing student feedback on improving the course, I consider critical and constructive comments and implement suggestions to use our lecture time effectively.

Ultimately, my focus is guiding students towards greater opportunities. Many are still exploring the possibilities with a science degree and may benefit from career planning guidance. Although it may not be explicitly part of my job description, I take the initiative to get to know my students better, offering valuable advice and comments. I maintain contact with these students, who often share stories of pursuing higher degrees, reflecting on the stories and illustrations commonly used in the biochemistry class. Most importantly, they remark, "You told us that biochemistry will come back and haunt us – and it certainly does!"

Knowing that I have successfully taught the fundamental principles of biochemistry brings me great satisfaction, as I have laid the groundwork for students' future endeavours.

Graduate Teaching Philosophy:

To help graduate students understand what it means to be a professional scientist or researcher, it is crucial to instill in them the principles of thorough research, ethical behavior, collegiality, mentorship,

and research focus and commitment. However, many graduate students find this journey overwhelming and challenging, with seemingly insurmountable obstacles and a need for clear guidance. They often require specific directions to navigate their training, sometimes realizing the importance of certain experiences or fragments of information much later, especially when faced with high-pressure situations.

In this context, my training approach, which includes coursework, laboratory supervision, and mentorship, significantly impacts the development of graduate students within my department, college, and university. I aim to create a lasting effect on those under my guidance by providing comprehensive skills training, including practical techniques that make them employable, offering valuable guidance, and fostering a supportive 'Ohana style' environment. My undergraduate and graduate students have attested to the effectiveness of this approach.

As a research professor, my ultimate goal is to equip graduate students with a strong professional identity, a clear career focus, essential survival skills, and the ability to become mentors themselves over time. This encapsulates my Graduate Teaching Philosophy. However, it is important to acknowledge that this approach, with its strengths and weaknesses, reflects my experiences and growth as a researcher and educator. Through this framework, I aim to provide valuable guidance to help graduate students achieve their career goals.

Upon arriving in Hawaii, I took the initiative to engage with numerous graduate students, actively listening to their experiences as emerging professionals, their concerns about educational development, and their perceptions of areas that needed improvement within the department, college, and university. Based on their feedback, I conducted a pilot course titled "When a PhD is Not Enough" under the MBBE 610 Seminar in 2008. With a small group of students, we explored various aspects of professional development (refer to Syllabus Appendix III). To my surprise, the demand for such a course was substantial. After further refinement, the course was officially offered in 2009 and quickly gained immense popularity, reaching full enrollment capacity. The program successfully achieved its primary objectives of fostering student confidence and professionalism. To further enhance their professional career development, we introduced individual portfolios, which laid the foundation for their future growth and examined the transition and requirements of becoming a principal investigator, whether in academia or industry. This program now primarily targets PhD students, providing them with valuable insights into career opportunities, directions, and the importance of effective planning. Starting in 2011, these courses have been offered bi-annually and are open to all graduate students, regardless of their department. Over the past decade, this enduring success reinforces one of my core beliefs as a graduate educator: "If we equip students with a reliable compass, they will find their path to success – our role is to teach them how to use that compass effectively."

Select a few student comments (eCAFE, MBBE 611):

"I feel I have matured professionally through the development of a portfolio. This portfolio will hopefully follow me through many successful interview processes and get me where I want to be."

"I will remember this course every time I revise my CV or write a cover letter or grant...or when I think about/evaluate my career goals."

I had better tools to increase my chances of getting the job of my choice. My mom just told me she wished she had taken this class. :)

Teaching Activities:

- One of the primary teaching activities revolves around establishing a strong foundation and expanding on biochemical principles in the MBBE/BIOL 402 Biochemistry course. The successful development of the MBBE 402 Biochemistry Laboratory, now designated as a writing-intensive course, along with the standardisation of core content, is a significant achievement. This emphasis on building a solid foundation has gained recognition for my teaching style and standards. Students acknowledge it as "one of the most challenging courses in the Biology program, yet also one of the most rewarding." The course is taught with passion and sets realistic expectations.
- To broaden our focus on Biochemistry, I introduced a graduate-level course: Fermentation Biochemistry (3 Crs; MBBE 666), as a special topic. This course has received positive feedback and is highly popular among our graduate students. Through multiple iterations of the pilot class, we have developed and refined the syllabus based on student feedback to ensure it meets the desired learning objectives. In Fall 2022, this course was officially included as a new offering in the MBBE Graduate Program. It provides instruction on developing new STEM technology-based start-ups and entrepreneurship for small businesses. Its success has already led to the creation of a small company led by several graduate students.
- Another integral class within MBBE is the MBBE 611 (610) Professional Development seminar, specifically designed for students nearing completion of their degree within 12 months. This seminar significantly impacts students' understanding of workforce readiness and the transition from being a student to becoming an employee. By preparing our students through this class, we equip them for success beyond UHM. A recent student shared that they achieved a higher salary by utilising the techniques learned in this class's negotiation exercises and job interview activities.
- In 2022, we initiated a pilot lectureship internship for PhD students to foster classroom teaching and management skills (MBBE 691 Special Topics). Students developed active learning plans, designed curricula, refined course syllabi, and crafted personal teaching statements. This class focuses on enhancing professional expertise for potential lectureship employment. While still in its early stages as a graduate-level course, I recognize the need to incorporate this content within the college. Other colleges have already expressed interest in the development of this class.

Publications

Book Chapters:

Bingham, J-P., Likeman, R.K., Hawley, J.S., Yu, P.Y.C., & Halford, Z.A. (2014). Conotoxins. In D. Liu (Ed.), *Manual of Security Sensitive Microbes and Toxins* (pp. 467-484). CRC Press.

Bingham, J., Jones, A., Alewood, P.F., & Lewis, R.J. (1996). Conus Venom Peptides (Conopeptides): Inter-Species, Intra-Species and Within Individual Variation Revealed by Ionspray Mass Spectrometry. In P. Lazarovici, M. E. Spira, & E. Zlotkin (Eds.), *Biochemical Aspects of Marine Pharmacology* (pp. 13-27). Alaken Inc.

Refereed Journal Publications:

Bartlett B., Stitt-Bergh M., Kantar M., Bingham J-P.(2023) A Data Science Practicum to Introduce Undergraduate Students to Bioinformatics for Research. *Biochemistry and Molecular Biology Education* <https://doi.org/10.1002/bmb.21762>

- Espiritu, M.J., Taylor, J.K., Sugai, C.K., Thapa, P., Loening, N.M., Gusman, E., Baoanan, Z.G., Baumann, M.H., & Bingham, J-P. (2023). Conotoxin PnID: Implications for Further Increasing Conotoxin Diversity. *Mar. Drugs*, 21(2), 61. <https://doi.org/10.3390/md21020061>
- Calpito, J., Bingham, J-P., Kirk, E., Tavares, K., Motomura-Wages, S., Ahmad, A., Kantar, M.B., & Radovich, T. (2023). QUANTIFICATION OF CURCUMINOIDS IN NOVEL TURMERIC (*Curcuma longa*) GERMPLASM. Submitted to *Agronomy*.
- DeLude, A., Wells, R., Boomla, S., Chuang, S.C., Urena, F., Shipman, A., Rubas, N., Kuehu, D.L., Bickerton, B., Peterson, T., Dobhal, S., Arizala, D., Klair, D., Ochoa-Corona, F., Ali, M.E., Odani, J., Bingham, J-P., Jenkins, D.M., Fletcher, J., Stack, J.P., Alvarez, A.M., & Arif, M. (2022). Loop-mediated isothermal amplification (LAMP) assay for specific and rapid detection of *Dickeya fangzhongdai* targeting a unique genomic region. *Sci Rep*, 12, 19193. <https://doi.org/10.1038/s41598-022-22023-4>
- Wiere, S., Sugai, C., Espiritu, M.J., Aurelio, V.P., Reyes, C.D., Yuzon, N., Whittal, R.M., Tytgat, J., Peigneur, S., & Bingham, J.P. (2022). Research into the Bioengineering of a Novel α -Conotoxin from the Milked Venom of *Conus obscurus*. *Int J Mol Sci*, 23(20), 12096. <https://doi.org/10.3390/ijms232012096>
- Tavares, K., Kirk, E., Motomura-Wages, S., Calpito, J., Bingham, J.-P., Ahmad, A.A., Flanagan, K., Uyeda, J., Kantar, M.B., & Radovich, T.J.K. (2022). Genotypic and Environmental Influence on Fresh Rhizome Yield of Turmeric (*Curcuma longa* L.). *Agronomy*, 12, 2703. <https://doi.org/10.3390/agronomy12112703>
- Domingo, R., Perez, C., Klair, D., Vu, H., Candelario-Tochiki, A., Wang, X., Camson, A., Nicole, J., Salameh, M., Arizala, D., Dobha, S., Boluk, G., Bingham, J.P., Ochoa-Corona, F., Ali, M.E., Stack, J.P., Fletcher, J., Odani, J., Jenkins, D., Alvarez, A.M., & Arif, M. (2021). Genome-informed loop-mediated isothermal amplification assay for specific detection of *Pectobacterium parmentieri* in infected potato tissues and soil. *Sci Rep*, 11(1), 21948. <https://doi.org/10.1038/s41598-021-01196-4>
- Senga, K., Ho, K., & Bingham, J.P. (2021). Nutritional and Phytochemical Analysis of Different Colored Taro Varieties in Hawaii. *Journal of the American Oil Chemists' Society*, 98, 105.
- Mau, A., Franklin, E.C., Nagashima, K., Huss, G.R., Valdez, A.R., Nicodemus, P.N., & Bingham, J.P. (2021). Near-daily reconstruction of tropical intertidal limpet life history using secondary-ion mass spectrometry. *Communications Earth & Environment*, 2(1), 171. <https://doi.org/10.1038/s43247-021-00251-2>
- Anderson, T., Radovich, T., Bingham, J.P., Sinclair, N., Bryant, G., & Kantar, M.B. (2021). Evaluation of Hawaiian Heritage Sweet Potato (*Ipomoea batatas* (L.) Lam.) Breeding Lines. *Agronomy*, 11, 1545. <https://doi.org/10.3390/agronomy11081545>
- Laurora, A., Bingham, J.P., Poojary, M.M., Wall, M.M., & Ho, K.K.H.Y. (2021). Carotenoid composition and bioaccessibility of papaya cultivars from Hawaii. *Journal of Food Composition and Analysis*, 101, 103984. <https://doi.org/10.1016/j.jfca.2021.103984>
- Laurora, A., Ho, K.K., Bingham, J.P., & Poojary, M. (2020). Varietal Differences in Carotenoid Composition and Their Bioaccessibility from Papaya (*C. papaya*) Cultivars in Hawaii. *Journal of the American Oil Chemists' Society*, 97, 64.

Teng, E.S., Bingham, J.-P., & Amore, T.D. (2019). Identifying and Quantifying Anthocyanidins in Modern Poinsettia Cultivars Using High-Performance Liquid Chromatography (HPLC). *HortScience*, 54(9), S58-S59.

Toves, P.J., Bingham, J.-P., & Amore, T.D. (2019). Identification of Anthocyanidins in Anthurium Hybrids by High-Performance Liquid Chromatography. *HortScience*, 54(9), S305-S306.

Anderson, T.W., Kantar, M., Radovich, T.J.K., & Bingham, J.-P. (2019). Assessing Commercial Cultivar Potential in Sweet Potato (U'ala) Derived from Hawaiian Germplasm Using Phenotypic Data. *HortScience*, 54(9), S318-S319.

Tavares, K.L.T., Radovich, T.J.K., Bingham, J.-P., Calpito, J., Amjad, A., Kirk, E., Teves, G., Motomura, S., Silva, J., Uyeda, J., & Nakamura-Tengan, L. (2019). Yield and Quality of Turmeric and Related Germplasm on Maui. *HortScience*, 54(9), S319-S320.

Laczko, R., Chang, A., Watanabe, L., Petelo, M., Kahaleua, K., Bingham, J.P., & Csiszar, K. (2019). Anti-inflammatory activities of *Waltheria indica* extracts by modulating expression of IL-1B, TNF-alpha, TNFR2 and NF-kappa B in human macrophages. *Inflammopharmacology*. Advanced online publication. <https://doi.org/10.1007/s10787-019-00658-6>

Oeser, S.G., Bingham, J.-P., & Collier, A.C. (2018). Regulation of Hepatic UGT2B15 by Methylation in Adults of Asian Descent. *Pharmaceutics*, 10(1), 6. <https://doi.org/10.3390/pharmaceutics10010006>

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Other works

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Videos on toxins and Cone Shells that will compliment every chapter of their new Miller and Levine High School Biology textbook (print 7 million copies a year for 9th graders); Animal Planet (2006): 'Buggin' With Ruud (New Zealand Natural History); Flipside (UK; 2006): 'Killer Sea Snails' – Louise Murray; Radio 4, BBC Scotland (2005): 'Danger! Venomous snails' – Louise Yeoman – CD available; Discovery Channel (2005; Canada): Daily Planet – Exploration Productions Inc.; Associate Press (2005): 'Farming killer cone snails for research is a risky affair' – A. Chang; National Public Radio (2005; USA): 'Pulse of the Planet': 'Cone Shells – Poison Tongued; Cone Shells – Fascination; Cone Shells – medical uses'; ScienCentral, Inc.: Medical textbook: A Colour Atlas of Tropical Medicine and Parasitology; ODYSSEY, Cobblestone Publishing – Children's Science Magazine: 'Possibility is everywhere...even in poisonous snails' – Steven R. Wills.

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Bergeron ZL., Sandall DW., Livett BG. and **Bingham J-P.** (2013) Analysis of Milked Venom from the Mollusc-hunting Cone Snail, *Conus textile*. Abstract #: 86032; 23rd American Peptide Symposium & 6th International Peptide Symposium, Hilo HI, June 22-27, 2013.

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Cleveland V., **Bingham J-P.** and Kan E. (2013) Simultaneous Adsorption and Heterogeneous Oxidation of Endocrine Disrupting Compounds in Wastewater Using Nano Metal Catalyst- Deposited Carbon Nanotubes. Abstract # 325879 AICHE (American Institute of Chemical Engineers) National Meeting, San Francisco, November 3-8, 2013.

Williams N., Pineda F., Lam TT., Bruce C., Bergeron ZL., **Bingham J-P.**, Cantely L., et al. (2013) Edman Sequencing and Amino Acid Analysis in the Modern Age. Abstract # C161 ASBMB 2013 Annual Meeting, Experimental Biology Boston Convention and Exposition Center in Boston, MA, April 20-24, 2013.

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Kiyabu S., Cabalteja C., Chun J., Sandall D., Livett B., and **Bingham J-P** (2011) Selective Disulfide Bond Formation in α -conotoxins INBRE SURI program, University of Hawaii, Honolulu, July 29th.

Chun JBS., Kim DH. and **Bingham J-P.** (2011) "Exploring different approaches to identify novel drug lead candidates within *Conus purpurascens*". Abstract #32. 23rd CTAHR and COE Research Symposium, University of Hawaii, Honolulu, April 8-9. (MS. Student).

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Milisen J., Mahi E., Leong J. and **Bingham J-P.** (2011) "Venom variability in *Conus striatus*" Abstract #50. 23rd CTAHR and COE Research Symposium, University of Hawaii, Honolulu, April 8-9. (MS. Student).

Nordschow A., Milisen J. and **Bingham J-P.** (2011) "Developmental analysis through protein quantification of *Conus striatus* veliger" Abstract #53. 23rd CTAHR and COE Research Symposium, University of Hawaii, Honolulu, April 8-9. (Undergraduate).

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Thapa P. and **Bingham J-P.** (2011) "Optimization of Thiol-ester mediated ligation for peptide synthesis and bioengineering" Abstract #60. 23rd CTAHR and COE Research Symposium, University of Hawaii, Honolulu, April 8-9. (MS. Student).

Wheeler K., McDonald T., Griffis J., Radovich TJK., **Bingham J-P.** and Manners. M.M (2011) "Flavonol and Anthocyanin Analyses of Purple-fruited Selections of *Eugenia uniflora* L. (Pitanga) by High-Performance Liquid Chromatography". Abstract #63. 23rd CTAHR and COE Research Symposium, University of Hawaii, Honolulu, April 8-9. (MS. Student).

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Spann N. and **Bingham J-P.** (2011) "Non-Translationally Modified Toxins as Molluscicides" Abstract #96. 23rd CTAHR and COE Research Symposium, University of Hawaii, Honolulu, April 8-9. (Undergraduate).

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Milisen J., Nordschow A., Maldonado A. and **Bingham J-P.** (2010) Aquaculture and protein quantification of *Conus striatus* veliger. 22nd Annual CTAHR Student Research Symposium, University of Hawaii, Honolulu, April 9-10. Abstract No. 46 (MS. Student)

Leong JL., Chun J., Milisen J., Biggs J., Rivera C., LeRoy M. and **Bingham J-P.** (2010) Venom differentiation within the milked venom of *Conus striatus*. 22nd Annual CTAHR Student Research Symposium, University of Hawaii, Honolulu, April 9-10. Abstract No. 71 (Undergraduate Student)

Thapa P. and **Bingham J-P.** (2010) Alpha conotoxin peptide truncation as a potential novel means of post-translational modification for phyla selectivity and pharmacological selectivity 22nd Annual CTAHR Student Research Symposium, University of Hawaii, Honolulu, April 9-10. Abstract No. 80 (Undergraduate Student) (oral).

Chun J., Bergeron Z. and **Bingham J-P.** (2010) Application of mass spectrometry in the analysis of novel conotoxins. 22nd Annual CTAHR Student Research Symposium, University of Hawaii, Honolulu, April 9-10. Abstract No. 87 (MS. Student) (oral).

Kim DH., Marangoudakis S., Lipscombe D., and **Bingham J-P.** (2010) Bioengineering of ω - conotoxin GVIA: Probes for the N-type neuronal Ca^{2+} channel. 22nd Annual CTAHR Student Research Symposium, University of Hawaii, Honolulu, April 9-10. Abstract No. 90 (MS. Student).

Bergeron ZL., Collier A., Cummins TR. and **Bingham J-P.** (2010) Design development and application of a fluorescent probe to study changes in hERG channel density and trafficking; a mechanistic basis for cardiac arrhythmia J. FASEB, 24 (Meeting Abstract Supplement) Abstract No. 490.2

Thapa P., Morrison K., **Bingham J-P.** (2009) Alpha conotoxin peptide truncation – a potential novel means of post-translational modification for phyla and pharmacological specificity. 21st Annual CTAHR Student Research Symposium, University of Hawaii, Honolulu, April 3-5. Abstract No. 6 (undergraduate/high school intern). *Recipient of the Gamma Sigma Delta, Award of Merit, awarded in the Undergraduate Student Poster Presentation category.

Kim DH., Welling P.A., Slesinger PA., **Bingham J-P.** (2009) Targeting RomK Channels; Tertiapin, a novel template for peptide toxin fluorophore bioengineering. 21st Annual CTAHR Student Research Symposium, University of Hawaii, Honolulu, April 3-5. Abstract No. 33 (MS. Student).

Chun JB., Sandall D., Livett BG., **Bingham J-P.** (2009) Assignment of disulfide bond connectivity within a ζ -Conotoxin Vg1.0 using partial reduction, differential thiol-alkylation, and MS/MS. 21st Annual CTAHR Student Research Symposium, University of Hawaii, Honolulu, April 3-5. Abstract No. 19 (MS. Student).

Phillips EE., **Bingham J-P.** (2009) Thiol-ester Ligation of Huwentoxin-I Peptide Fragments: Increasing Synthetic Applications of a Novel Voltage-gated Sodium Channel Inhibitor. John A. Burns School of Medicine Biomedical Science Symposium, Honolulu, April 14th, 2009. Abstract No. 104.

Bergeron. ZL., Collier A., **Bingham J-P.** (2009) Correlation of Cardiac Arrhythmias and Drug Safety: Development of a toxin-fluorophore based hERG channel Screen. John A. Burns School of Medicine Biomedical Science Symposium, Honolulu, April 14th, 2009. Abstract No. 86.

Ishibashi J. and **Bingham J-P.** (2008) Peptide probes: Addressing Problems in design and synthesis. Pacific Region Diabetes Education Program NIDDK, NIH Diabetes conference, Ala Moana Hotel, Honolulu, August 10-11, 2008.

Bergeron Z., Collier A and **Bingham J-P.** (2008) The Correlation of Cardiac Arrhythmias and Drug Safety: Bioengineering of a Toxin-fluorophore High-throughput hERG Screen. 20th Annual CTAHR Student Research Symposium, University of Hawaii, Honolulu, April 11-12. Abstract No. 27.

Kim DH., Toribio P. and **Bingham, J-P.** (2008) Quantification of milked venom Conopeptide variability in *Conus purpurascens*. 20th Annual CTAHR Student Research Symposium, University of Hawaii, Honolulu, April 11- 12. Abstract No. 3.

Phillips E., Cummins T. and **Bingham J-P.** (2008) Bioengineering of Huwentoxin-I: A Novel Pharmacological Probe for Isoforms of the Voltage-Gated Sodium Channel. 20th Annual CTAHR Student Research Symposium, University of Hawaii, Honolulu, April 11-12. Abstract No. 21.

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Krishnan, MN., **Bingham J-P.**, Lee S.H. and, Moczydlowski E. (2005) Role and Affinity of Inorganic Cations in Tetramer Stabilization of the KcsA K⁺ Channel. Biophysical Society Meeting, Long Beach, CA.

Cummins, TR., Moczydlowski E., **Bingham J-P.** (2004) Differential Block of Voltage-gated Sodium Currents by a Tarantula toxin. Neuroscience, 34th Annual Meeting, Oct. San Diego.

Bian, S., **Bingham, J-P.**, Yan, Y., Sigworth, F., Moczydlowski, E. BK Channel Clustering On HEK293 Cells. Abstracts of the Biophysical Society 48th Annual Meeting, Feb. 14 – 18, 2004, Baltimore, Maryland. Biophysical Journal Supplement, Jan. 2004, Vol. 86(1), Part 2 of 2, p430a.

Bingham, J-P., Bian, S., and Moczydlowski E. (2003) Synthesis of iberiotoxin-D19K-LC-Biotin: application to BK channels. *Biophys. J.* 84: abstract. **2002**

Bingham, J-P., Whittal, R., Semchuk, P., Moczydlowski, E., (2002) The Milked venom from *Conus geographus* holds many surprises—6th Asia-Pacific Congress on Animal, Plant and Microbial toxins, Cairns, Australia.

Sandall, D., Keays, D., Down, J., **Bingham, J-P.**, Livett, B. and Gayler, K. (2001) Conotoxin diversity in venom from Australian Cone shells. Proc. 26th Annual Conference on Protein Structure and Function, 7 – 11 February, Lorne, Australia, 26: A56.

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Bingham J-P., Medzihradszky K. F., Gilly W. F. and Burlingame A. L. (1999) The Venom of *Conus californicus* – its complexity and diversity as studied by various methods of Mass Spectrometry. UCSF Dept. meeting. Asilomar CA.

Broxton, N., Down, J., Loughnan, M., Miranda, L., Gehrman, J., **Bingham, J-P.**, Alewood, P. and Livett, B.G. (1997) Potent alpha-conotoxins with selectivity for nicotinic receptor subtypes in muscle and

chromaffin cells. Proc. 9th Int. Symposium on Chromaffin Cell Biology. May 29 – 30, 1997., Sapporo, Japan. p. 113.

Down J., Bingham J-P., Miranda L., Alewood P., Gehrmann J., Livett BG., Broxton N., and Loughnan M. alpha-Conotoxins with Selectivity Towards Neuronal- and Muscle-type Nicotinic Acetylcholine Receptors. Lorne Protein Conference, Lorne, Australia 1997.

Broxton NM., Bingham J-P., Alewood P., Capon R., Down J., and Livett B.G. Search for Marine Natural Products and Conotoxins That Target Neuronal-Type Nicotinic Receptors. 2nd Australian Peptide Symposium, Kingfisher Bay., Australia 1996.

Bingham J-P., Jones A., Lewis RJ., and Alewood PF. A Comparative Study of Venom Components From *Conus textile* by Ion Spray Spectrometry (ISMS). 1st Australian Peptide Symposium, Day Dream Is., Australia 1995.

Jones A., Bingham J-P., Lewis RJ., and Alewood PF. HPLC/MS and MS/MS in Drug and Receptor Discovery. Mass Spectrometry Workshop, Lorne Protein Conference, Lorne, Australia 1995.

Bingham J-P., Jones A., Lewis R.J., and Alewood PF. Novel Conotoxins in the Milked Venom of Cone Shells, Lorne Protein Conference, Lorne, Australia 1995.

Jones A., Bingham J-P., and Alewood PF. Application of HPLC/MS and MS/MS in Drug Receptor Discovery, 15th ANZMS Sydney, Australia 1995.

Jones A., Bingham J-P., Lewis RJ., and Alewood PF. Characterising Peptides Isolated from *Conus* Venoms Using Ionspray HPLC/MS and MS/MS. ASMS, Atlanta USA 1995.

Alewood PF, Bingham J-P., Jones A., and Lewis RJ. Rapid Analysis of *Conus* Venoms Peptides by Ionspray Mass Spectrometry. Eilat Conference 1994.

Bingham J-P., Jones A., Alewood PF., and Lewis RJ. Bioactive Peptides from *Conus* Venom by ionspray HPLC/MS Lorne Protein Conference, Lorne, Australia 1994.

Jones A., Bingham J-P., and Alewood PF. Disulfide Bond Connectivity Analysis in Small, Multiply Disulfide Bonded Peptides by Ionspray Mass Spectrometry, Lorne Protein Conference, Lorne, Australia 1994.

Bingham J., Jones A., Lewis RJ., and Alewood PF. Rapid Analysis of *Conus* Venoms Peptides by Ionspray Mass Spectrometry. Proceedings from the Eilat Conference 1994.

Jones A., Bingham J-P., and Alewood PF. Determination of Bioactivity from *Conus* Venoms by Ionspray HPLC/MS and MS/MS. 41st Annual Conference on Mass Spectrometry and Allied Topics, San Francisco, ASMS, Santa Fe, USA 1993.

Jones A., Bingham J-P., Lewis RJ., and Alewood PF. 43rd Annual Conference on Mass Spectrometry and Allied Topics, Atlanta, ASMS, Santa Fe, USA 1993.

Jones A., Bingham J-P., Lewis R.J., and Alewood P.F. Characterisation of an Array of Bioactive Peptides from *Conus* Venoms by Liquid Chromatography/Mass Spectrometry. Twelfth International Symposium on HPLC of Peptides, Proteins and Polynucleotides, Sydney, Australia, 1992.

Grant Support Pending

Title of Grant: Creation of a Cooperative BS Degree Program (Coop-BSDP) for the Marianas Islands & Beyond

Source of Grant: USDA; NeXGeN

Total Dollar Value: \$10 Million

Dates of Grant: Oct 2023 - 2028

Role (CoPI): UHM Project Leader (~ \$ 0.9 Million)

[Grant is awarded, pending sub-contract finalization]

Grant Support

Title of Grant: Hawaii INBRE V

Source of Grant: NIH NIGMS

Total Dollar Value: \$22 Million

Dates of Grant: Aug 2023 - 2028

Role (Key personnel): PATHway Program Director (~\$ 2 Million)

Title of Grant: Pacific Center for Genome Research

Source of Grant: NIH NHGRI

Total Dollar Value: \$11 Million

Dates of Grant: Aug 2023 - 2028

Role (Key personnel): Co-Director of the Genomic Workforce Development Core (~\$1.5 Million)

Title of Grant: Mushroom Cultivation

Source of Grant: UHM UROP

Total Dollar Value: \$9,000.00

Dates of Grant: August 2023

Role (PI, CoPI): PI

Title of Grant: Mushroom Cultivation and Peptide Discovery

Source of Grant: INBRE

Total Dollar Value: \$4,000.00

Dates of Grant: May 2023

Role (PI, CoPI): PI

Title of Grant: Mushroom Cultivation and Peptide Discovery

Source of Grant: INBRE

Total Dollar Value: \$4,000.00

Dates of Grant: Jan 2023

Role (PI, CoPI): PI

Title of Grant: Mushroom Cultivation and Peptide Discovery

Source of Grant: INBRE

Total Dollar Value: \$6,000.00

Dates of Grant: Aug 2022

Role (PI, CoPI): PI

Title of Grant: Induced Spawning of 'Opihi Using Novel Peptide and a Phosphodiesterase-5 (PDE5)
Inhibitor Source of Grant: UROP
Total Dollar Value: \$4,986.00
Dates of Grant: Jan 2022
Role (PI, CoPI): PI

Title of Grant: Discovery of a Novel Anesthetic from *Conus*
Source of Grant: UROP
Total Dollar Value: \$ 4,846.00
Dates of Grant: Jan 2022
Role (PI, CoPI): PI

Title of Grant: The design and modification of larvae rearing tanks for 'Opihi settlement
Source of Grant: UROP
Total Dollar Value: \$4,784.00
Dates of Grant: August 2021
Role (PI, CoPI): PI

Title of Grant: Circadian Rhythm Based In Vivo Guppy Bioassay For Novel Drug Discovery
Source of Grant: UROP
Total Dollar Value: \$2,973.00
Dates of Grant: August 2021
Role (PI, CoPI): PI

Title of Grant: Conoventomic Analysis of the milked venom from *Conus retifer* in Captivity
Source of Grant: UROP
Total Dollar Value: \$4,982.00
Dates of Grant: May 2021
Role (PI, CoPI): PI

Title of Grant: *Conus pulicarius* as a novel source of anthelmintics for targeting rat lungworm
Source of Grant: UROP - 2020 Faculty Mentoring Grants for Summer Undergraduate Research and Creative Works
Total Dollar Value: \$ \$4822.00
Dates of Grant: May 2020
Role (PI, CoPI): PI

Title of Grant: Proteomic Analysis of Nonconforming Conopeptide Profiles in *Conus Striatus* to Uncover Novel Classification
Source of Grant: UROP
Total Dollar Value: \$4,626.00
Dates of Grant: May 2019
Role (PI, CoPI): PI

Title of Grant: INBRE IV - Hawaii Statewide Research and Education Partnership (HiSREP)
Source of Grant: NIH NIGMS
Total Dollar Value: \$140,000.00 (Total Grant: \$19,010,077.00)
Dates of Grant: 04/01/2018 - 2023
Role (PI, CoPI): Director of INBRE PATHways

Title of Grant: Expanding the Market for Hawaiian Turmeric with High Yielding and High Curcumin Varieties.

Source of Grant: AGRICULTURE, DEPT-HI

Total Dollar Value: \$20,000.00

Dates of Grant: 02/23/2018

Role (PI, CoPI): Co-PI

Title of Grant: Investigation of Peptide Toxin Cyclotides as a Novel Approach to Insecticide Development

Source of Grant: Hatch Supplement Funding

Total Dollar Value: \$56,000.00

Dates of Grant: FY 2018- 2019

Role (PI, CoPI): PI

Title of Grant: Exploring the life-history of Hawaiian limpets using oxygen isotope records

Source of Grant: UROP

Total Dollar Value: \$9,493.00

Dates of Grant: Nov 2018

Role (PI, CoPI): PI

Title of Grant: Impact of configurations in α -conotoxins in *Conus virgo* in the development of anthelmintic drugs

Source of Grant: UROP

Total Dollar Value: \$8,727.00

Dates of Grant: Nov 2018

Role (PI, CoPI): PI

Title of Grant: Chemical Synthesis of Novel GnRH-like Peptides for Aquaculture of Hawaiian limpets (*Cellana spp.*)

Source of Grant: UROP

Total Dollar Value: \$6,988.00

Dates of Grant: Nov 2017

Role (PI, CoPI): PI

Title of Grant: Opihi Aquaculture Year 5 & 6: Improving hatchery technology and production.

Source of Grant: OCEANIC INSTITUTE-CTR FOR TOP & SUB TROP AQUA (CTSA)

Total Dollar Value: \$50,000.00

Dates of Grant: 09/13/2017

Role (PI, CoPI): PI

Title of Grant: Opihi Project Year 5 & 6: Improving hatchery technology and Production

Source of Grant: OCEANIC INSTITUTE-CTR FOR TOP & SUB TROP AQUA (CTSA)

Total Dollar Value: \$98,098.00

Dates of Grant: 06/05/2017

Role (PI, CoPI): PI

Title of Grant: Aquaculture of Opihi YR2 (YR4)

Source of Grant: OCEANIC INSTITUTE-CTR FOR TOP & SUB TROP AQUA (CTSA)

Total Dollar Value: \$5,302.00

Dates of Grant: 05/19/2017

Role (PI, CoPI): PI

Title of Grant: Aquaculture of Opihi
Source of Grant: OCEANIC INSTITUTE-CTR FOR TOP & SUB TROP AQUA (CTSA)
Total Dollar Value: \$20,128.00
Dates of Grant: 04/07/2017
Role (PI, CoPI): PI

Title of Grant: Aquaculture of Opihi
Source of Grant: OCEANIC INSTITUTE-CTR FOR TOP & SUB TROP AQUA (CTSA)
Total Dollar Value: \$500.00
Dates of Grant: 02/07/2017
Role (PI, CoPI): PI

Title of Grant: Aquaculture of Opihi
Source of Grant: OCEANIC INSTITUTE-CTR FOR TOP & SUB TROP AQUA (CTSA)
Total Dollar Value: \$18,582.00
Dates of Grant: 01/15/2016
Role (PI, CoPI): PI

Title of Grant: Investigation of Peptide Toxin Cyclotides as a Novel Approach to Insecticide Development
Source of Grant: Hatch Supplement Funding
Total Dollar Value: \$54,000.00
Dates of Grant: FY 2016-2017
Role (PI, CoPI): PI

Title of Grant: Isolation, Sequence, Synthesis, and Pharmacological Analysis of a Novel Peptide from *Conus striatus*
Source of Grant: UROP
Total Dollar Value: \$4,970.00
Dates of Grant: Nov 2014
Role (PI, CoPI): PI

Title of Grant: From Chemistry to Consumption: Exploiting the unique chemical constituency of hot peppers (*Capsicum spp*) to develop a novel Pacific Island crop.
Source of Grant: HI Dept. Ag.
Total Dollar Value: \$20,000.00
Dates of Grant: Nov 2014
Role (PI, CoPI): PI

Title of Grant: Evaluating pesticides and contaminants' physical and biological availability in agricultural ecosystems (W2082 / project No. HAW00595-R): Development and evaluation of cyclotide molluscicides.
Source of Grant: HATCH
Total Dollar Value: \$76,421.00
Dates of Grant: 2013-2015
Role (PI, CoPI): PI

Title of Grant: Discovery of new peptide pesticides

Source of Grant: USDA-HATCH
Total Dollar Value: \$28,000.00
Dates of Grant: 2007-2014
Role (PI, CoPI): PI

Title of Grant: Mechanism of Selenoprotein Synthesis
Source of Grant: NIH (R01)
Total Dollar Value: \$54,000.00
Dates of Grant: 04/01/2011- 03/31/2016
Role (PI, CoPI): Subcontract

Title of Grant: Post-Harvest Management of Slugs and snails potentially carrying Rat Lungworm (*Angiostrongylus cantonensis*) in Hawaii
Source of Grant: USDA-NIFA
Total Dollar Value: \$35,000.00
Dates of Grant: 09/01/2011- 08/31/2014
Role (PI, CoPI): Co-director

Title of Grant: Comparative Study of Korean Natural Farming vs Conventional and Organic Farming
Source of Grant: RMA TRIX-PCR project.
Total Dollar Value: \$12,000.00
Dates of Grant: 2014
Role (PI, CoPI): Co-director

Title of Grant: Increasing instrumental detection capacity for Research, Instruction and Training in Bioanalytical Chromatography – a proven shared resource within CTAHR
Source of Grant: CTAHR Instructional, Extension or Research Awards
Total Dollar Value: \$14,861.00
Dates of Grant: 2013
Role (PI, CoPI): PI

Title of Grant: Travel Award – American Peptide Symposium
Source of Grant: UHRC
Total Dollar Value: \$1,000.00
Dates of Grant: 2013
Role (PI, CoPI): PI

Title of Grant: Investigating the application of peptide pesticides: Diversifying Molluscicide targeting capabilities and Enhancing Bidelivery.
Source of Grant: USDA-CSREES
Total Dollar Value: \$100,000.00
Dates of Grant: 2010-2012
Role (PI, CoPI): PI

Title of Grant: Evaluating the Risk of Diphacinone Rodenticide Pellets to Hawaiian Trigger Fish
Source of Grant: Fisheries and Wildlife Services & Dept. of Land and Natural Resources (HI)
Total Dollar Value: \$19,200.00
Dates of Grant: 2011-2012
Role (PI, CoPI): PI

Title of Grant: Strengthening CTAHR educational, teaching and research capabilities in analytical

Biochemistry

Source of Grant: USDA- HATCH/CTAHR

Total Dollar Value: \$31,150.00

Dates of Grant: 2012

Role (PI, CoPI): PI

Title of Grant: Venom variation in *Conus*

Source of Grant: SeaGrants

Total Dollar Value: \$10,000

Dates of Grant: 01/01/08– 12/31/08

Role (PI, CoPI): PI

Title of Grant: Application of Fluorescent Peptide Toxins in Cellular Imaging of Selective Ion Channels Underlining LQT Syndromes

Source of Grant: American Heart Association

Total Dollar Value: \$260,000

Dates of Grant: 01/01/05– 12/31/09

Role (PI, CoPI): PI

Title of Grant: Development of isoform-specific sensory neuronal sodium channel blockers

Source of Grant: NIH/NINDS – R21

Total Dollar Value: \$90,000

Dates of Grant: 02/01/07 – 02/01/10

Role (PI, CoPI): Subcontract

Title of Grant: Value-added Processing of Sugarcane-Ethanol Vinasse: Production of Protein-rich Fungal Biomass as a Fish Feed Ingredient

Source of Grant: USDA – Specific Cooperative Agreement

Total Dollar Value: \$8,000.00

Dates of Grant: 09/29/08 – 9/29/10

Role (PI, CoPI): CoPI