Curriculum Vitae 2016

J. Sook Chung

Associate Professor of Comparative Molecular Endocrinology

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I. EDUCATION

1991 Ph.D. Department of Entomology, Texas A & M University
(Supervisor: Professor L. L. Keeley)
1981 M. Sc. Department of Zoology, Seoul National University, S. Korea
(Supervisor: Professor Wan-kyoo, Cho)
1979 B.Sc. Busan National University, S. Korea

Professional Training

2013 Developmental Genetics, Biological Sciences, UMBC, Baltimore, USA
2010 Environmental Genomics, MDIBL, Maine, USA
1998 Molecular Biology, School of Biological Sciences, Liverpool University, UK
1996 Bioinformatics course, Biochemistry Department, Leeds University, UK
1994 NMR course, Chemistry Department, Birkbeck College, University of London, UK
1991-1994: Molecular immunology and protein engineering courses, Crystallography Department, Birkbeck College, University of London, UK

II. EMPLOYMENT

2012-present Associate professor, UMCES-IMET, Baltimore, MD

2010-2012 Assistant professor, UMCES-IMET, Baltimore, MD

2004-2010 Assistant professor, Center of Marine Biotechnology,
University of Maryland Biotechnology Institute, Baltimore, MD

1994-2003 Research Scientist, School of Biological Sciences, University of Wales, UK

1991-1994 Research Associate, Dept. of Biology, Birkbeck College, Univ. of London, London, UK

1986-1991 Research Assistant, Dept. of Entomology, Texas A & M University,
College Station, TX

III. RESEARCH

A. AREAS OF PROFESSIONAL EXPERTISE

The overarching theme of my research is unraveling the endocrine and neuroendocrine mechanisms regulating the growth, molting, sex differentiation, and reproduction of decapod crustaceans (crabs, shrimps, crayfish, lobsters, etc). My research particularly focuses on the regulatory system controlling biological processes of molting, before and after ecdysis of the blue crab, sex differentiation, female ovarian development and shell hardening process at the cellular, tissue, and organismal levels. Primarily, I aim to localize, identify and characterize the

necessary hormones in order to study their mode of actions, receptor characterization and signal transduction. The specific research areas are as follows:

1. Hormonal regulation of the grow growth and molting
2. Hormonal control of sex differentiation, vitellogenesis, ovarian development, spermatogenesis and spawning
3. Hormonal regulation of shell hardening process
4. Stress and environmental physiology and endocrinology

B. RESEARCH FUNDING, Active* and Previous : green highlights: 2016; cyan: pending

2016: Stock Assessment Support for North Atlantic Crab Fisheries, LMRCSC TAB (Co-PI, $34,690) funded

2016: The blue crab genome initiative, $90,000, Private funding

2016*: The blue crab genome initiative, Maryland Sea Grant, $9,999.

2015-17: Crustacean metabolomics: Identification of potential growth and reproductive indicators for aquaculture using NMR and MS approaches: NIST-IMET fellowship grant (IMET-PI with NIST-PI: T. Schock, $274,732 (IMET-PI)

2015*: Improving management of deep-sea red crabs (*Chaceon quinquedens*): Reproductive biology, maturity, and stock structure. NOAA-EPP, LMRCSC TAB, $37,529 (total $56,721) to UMCES-PI as B. Stevens at UMES PI)

2016-2020: NSF-CREST Center for Integrated Study of Coastal Ecosystem Processes and Dynamics in the Mid-Atlantic Region $109,949. Funded, Co-PI at IMET (P. Chigbu at UMES, the leader PI).

2014-15: Improving management of deep-sea red crabs (*Chaceon quinquedens*): Reproductive biology, maturity, and stock structure. NOAA-EPP, LMRCSC TAB, $32,879 (total 58119) to UMCES-PI as B. Stevens at UMES PI)

2013-14: Improving management of deep-sea red crabs (*Chaceon quinquedens*): Reproductive biology, maturity, and stock structure. NOAA-EPP, LMRCSC TAB, $30,545 to UMCES-PI (B. Stevens at UMES PI)

2013: Blue crab larvae to Stratus ($12,668)

2013-14: Establishing the management of living marine resources using molecular marine biotechnological approaches- Understanding the molecular endocrine mechanism regulating the growth of *Chionoecetes japonicus*: KIOST-IMET international collaborative project $16,666 to USPI, (total $ 33,332)/8 months)

2012-3: Understanding chronic impacts of dispersants and dispersed oil on molting, endocrine status and behavior of the blue crab larvae: inputs for recruitment and population models. CRRC funded (Co-PI, $36,559, total $150,000) PI E. Schott

2012-3: Examining the acute toxicity of field-collected oiled sediments from the Gulf-of Mexico to juvenile blue crabs (*Callinectes sapidus*), Co-PI $18, 934, Stratus.

2012-6*: Functional roles of a novel crustacean female sex hormone in sex differentiation and developing female features of crustaceans. PI, NSF ($630,527/ 4yrs)

2012-5: Uptake and effects of dispersed oil droplets and emulsified oil by estuarine crustaceans (blue crab and grass shrimp) in the Gulf of Mexico. Co-PI with Drs. D. Lee at SkIO and H. Perry at GCRL, EPA ($139,393/500,000/ 2yrs)

2012: KORDI &UMCES-IMET collaborative project: "대게 *Chionoecetes opilio* 및 꽃게: An integrated research project of basic biology, hatchery technology, and the potential stock enhancements" with Dr. Dong Sung, Kim at Korean Ocean Research and Development Institute (KORDI) (30,000,000 won= $28,000/one year)

2011-5: NSF-Center for Research Excellence in Science & Technology (CREST): Center for the Integrated Study of Coastal Ecosystem Processes and Dynamics in the Mid-Atlantic Region UMES. Collaborator of Dr. J. Pitula. ($15,000/yr for 5 yrs)

2010-11: Determining critical stages of *Hematodinium sp*. infection, and measuring environmental and physiological stress impact on infection of the blue crab, *Callinectes sapidus.* PI, NOAA-EPP LMRCSC-TAB ($21,964/$37,415)

2009-10: Measuring environmental and physiological stress and its impact on the infection of the blue crab, *Callinectes sapidus* by *Hematodinium sp*. PI NOAA-EPP, LMRCSC-TAB ($21,215/ $43,741)

2009: Mount Desert Island Biological Laboratory, Maine: New Investigator Award Fellowship: awarded ($15,800)

2008-2012: Endocrine and molecular manipulations of the crustacean molt to control growth and synchronize ecdysis, funded by Binational Agricultural Research and Development ($144,000/$288,000, US-PI)

2006-2007: The blue crab, *Callinectes sapidus*: an integrative research program of basic biology, hatchery technologies and the potential for replenishing stocks. NOAA, Chesapeake Bay Office. Renewed funding for Blue Crab Advanced Research Consortium (BCARC) 5,000,000 ($247,700 to J. Sook Chung, co-PI)

2005-2006: The blue crab, *Callinectes sapidus*: an integrative research program of basic biology, hatchery technologies and the potential for replenishing stocks. NOAA, Chesapeake Bay Office Renewed funding for Blue Crab Advanced Research Consortium (BCARC) $2,200,000 ($100,700 to J. Sook Chung, co-PI)

2004-2005: The blue crab, *Callinectes sapidus*: an integrative research program of basic biology, hatchery technologies and the potential for replenishing stocks. NOAA, Chesapeake Bay Office Renewed funding for Blue Crab Advanced Research Consortium (BCARC) $1,900,000 ($98,000 to J. Sook Chung, co-PI)

C. SCIENTIFIC PUBLICATIONS: Peer-reviewed scientific journals

[+ indicates corresponding author (the first as well as the corresponding author]

63. S. Bembe, Dong Liang, **J. Sook Chung**[+] (2017) Optimal environmental conditions for the spawning of the blue crab, *Callinectes sapidus*, in captivity. **Aquaculture Res** In production

62. Xiaoshuai Huang, Sun-Hye Bae, Tsvetan R. Bachvaroff, Eric J. Schott, Haihui Ye, **J. Sook Chung**[+] **(2016)** Does a blue crab putative insulin-like peptide binding protein (ILPBP) play a role in a virus infection?" **Fish and Shellfish Immunol** 58: 340-348

61. Chiara Manfrin, Giovanni Comisso, Saul Ciriaco, Andrea dall'Asta, Nicola Bettoso, **J. Sook Chung** (2016) The return of the blue crab (*Callinectes sapidus*, Rathbun, 1896) after 70

years from its first appearance in the Gulf of Trieste (Northern Adriatic Sea). **J Biodiversity Data** DOI: 10.15560/12.6.2006

60. A. S. Vinagre and **J. Sook Chung** (2016) Effects of starvation on energy metabolism and crustacean hyperglycemic hormone (CHH) of the Atlantic ghost crab *Ocypode quadrata* (Fabricius, 1787). **Mar Biol** 163: 3 DOI 10.1007/s00227-015-2797-3 (IF: 2.39)

59. **J. Sook Chung+**, J. S. Pitula, E. Schott, J. V. Alvarez, L. Maurer and K. Lycett (2015) Elevated water temperature induced viral replication in adult female blue crab, *Callinectes sapidus* and upregulation of selected innate immunity genes in hemocytes and hepatopancreas. **Fish and Shellfish Immunol** 47: 511-520

58. Javier Alvarez and **J. Sook Chung+** (2015) The involvement of hemocyte prophenoloxydase in the shell-hardening process of the blue crab, *Callinectes sapidus.* **PLoS One**. 10 (9), e0136916

57. Chiara Manfrin, Edoardo Turolla, **J. Sook Chung**, Piero G. Giulianini (2015) First occurrence of *Callinectes sapidus* (Rathbun, 1896) within the Sacca di Goro (Italy) and surroundings. **J Biodiversity Data** 11 doi: http://dx.doi.org/10.15560/11.3.1640

56. S. Techa and **J. Sook Chung+** (2015) Ecdysteroids regulate the levels of molt-inhibiting hormone (MIH) expression in the blue crab, *Callinectes sapidus*, **PLoS ONE** 10(4): e0117278. doi:10.1371/journal. pone.0117278

55. W. Thongda, **J. Sook Chung+**, N. Tsutsui, N. Zmora, A. Katenta* (2015). Seasonal variation in the reproductive activity of the blue crab, *Callinectes sapidus*: vitellogenin expression and levels of vitellogenin in the hemolymph during ovarian development. **Comp Biochem Physiol -Molecular and Integrative Physiology A** 179: 35-43. *LMRCSC intern

54. **J. Sook Chung+**, O.H. Yu, I. S. Ahn and D. S. Kim (2015) Crustacean hyperglycemic hormones of two cold water crab species, *Chionoeceteces opili*o and *C. japonicus:* isolation of cDNA sequences and localization of CHH neuropeptide in eyestalk ganglia. **Gen Comp Endocrinol** 214: 177-185.

53. Moshe Tom[a], Chiara Manfrin[b], **J. Sook Chung**[d], Amir Sagi[c], Marco Gerdol[b], Gianluca De Moro[b,] Alberto Pallavicini[b], Piero G. Giulianini[b](2014) Expression of cytoskeletal and molt-related genes is temporally scheduled in the hypodermis of the crayfish *Procambarus clarkii* during premolt. **J Exp Biol** 217, 4193-4202.

52. Sirinart Techa, Javier V. Alvarez and **J. Sook Chung+** (2014) Changes in ecdysteroid levels and expression patterns of ecdysteroids-responsive factors and neuropeptide hormones during the embryogenesis of the blue crab, *Callinectes sapidus.* **Gen Comp Endocrinol** 214: 157-166.

51**. J. Sook Chung+** (2014) An insulin-like growth factor found in hepatopancreas implicates carbohydrate metabolism of the blue crab *Callinectes sapidus.* **Gen Comp Endocrinol** 199: 56-64**.**

50. Q. Shi and **J. Sook Chung+** (2014) Functional dimorphism of trehalose metabolism in the blue crab *Callinectes sapidus:* cloning of trehalose-6-phosphate synthase and expression in muscles. **Gene** 536: 105-113. **(IF: 2.2; 8)**

49. N. Zmora, and **J. Sook Chung+** (2014) A novel hormone is required for the development of reproductive phenotypes in adult female crabs. **Endocrinology** 155:230-239.

    Highlighted in Science (2014) 343, p7

    Highlighted in Endocrinology (2014) 155(1), pp. 10–11

48. J. Alvarez and **J. Sook Chung+** (2013) Cloning of prophenoloxidase from hemocytes of the blue crab, *Callinectes sapidus* and its expression and enzyme activity during the molt cycle. **Fish Shellfish Immunol** 35: 1349-1358. ***(IF: 3.04,)***

47. S. Techa and **J. Sook Chung+** (2013). Ecdysone and retinoid-X receptors of the blue crab, *Callinectes sapidus*: cloning and temporal expression patterns in eyestalks and Y-organs during the molt cycle. **Gene** 527:139-153 ***(IF: 2.2; 16)***

46. **J. Sook Chung+**, H. Katayama and H. Dircksen (2012). New functions of arthropod bursicon in the deposition and thickening of new cuticle and haemocyte granulation in the blue crab, *Callinectes sapidus*. **PLoS ONE** http://dx.plos.org/10.1371/journal.pone.0046299 **(*IF: 3.73; 9*)**

45. **J. Sook Chung+**, L. Maurer*, M. Bratcher*, J. S. Pitula, and M. B. Ogburn (2012) Cloning of aquaporin-1 of the blue crab, *Callinectes sapidus*: its expression during the larval development in hyposalinity. **Aquatic Biosystems** 8:21

    * Undergraduate interns

44. Ramachandra Reddy Pamuru, Rivka Manor, **J. Sook Chung**, Nili Zmora, Lilah Glazer, Eliahu D. Aflalo, Simy Weil, Ohad Rosen and Amir Sagi (2012). Stimulation of molt by RNA interference of the molt-inhibiting hormone in the crayfish *Cherax quadricarinatus*. **Gen Comp Endocrinol** 17: 227-236. ***(IF: 3.018; 11)***

43. Tsutsui, N. and **J. Sook Chung**+ (2012). A novel putative lipoprotein receptor (*CasLpR*) in the hemocytes of the blue crab, *Callinectes sapidus:* cloning and up-regulated expression in the hemocytes after immune challenge. **Fish Shellfish Immunol** 32: 469-475 (***IF: 3.04***)

42. **J. Sook Chung+**, T. R. Bachvaroff, A. Place and J. Trant (2012). A second copper zinc superoxide dismutase (CuZnSOD) in the blue crab *Callinectes sapidus*: cloning and up-regulated expression in the hemocytes after immune challenge. **Fish Shellfish Immunol** 32: 16-25 ***(IF: 3.04, 16)***

41. **J. Sook Chung+**, R. Manor, and A. Sagi (2011). Molecular cloning of the full length cDNA encoding an insulin-like androgenic gland factor (*IAG)* from the androgenic gland of adult male blue crab, *Callinectes sapidus*: an implication eyestalk neuropeptide(s) involvement of *IAG* expression. **Gen Comp Endocrinol** 173: 4-10. ***(IF: 3.018; 31)***

40. H. Piontkivska, **J. Sook Chung**, A. V. Ivanina, E. P. Sokolov, S. Techa, and I. M. Sokolova (2011). Molecular characterization and mRNA expression of two key enzymes of hypoxia-sensing pathways in eastern oysters *Crassostrea virginica* (Gmelin): Hypoxia-inducible factor 1α (HIF-1α) and HIF-prolyl hydroxylase 2 (PHD2). **Comp Biochem Physiol Part D: Genomics and Proteomics** 6: 103-114. (***IF: 2.07; 6)***

39. K. Costello, **J. S. Chung**, S. Skarke, P. H. Lenz, and C. H. Wilson (2010). Identification of a voltage-gated sodium ion channel gene in the copepods *Calanus finmarchicus*, *Bestiolina similis, Undinula vulgaris, and Parvocalanus crassirostris*. **MDIBL Bulletin** 37-39.

38. **J. Sook Chung+**, N. Zmora, N. Tsutsui, and H. Katayama (2010). Crustacean hyperglycemic hormone (CHH) neuropeptides family: function, titer, and binding to target tissues. **Gen Comp Endocrinol** 166: 447-454. ***(IF:3.018; 41)***

37. A. V. Ivanina*, S. Eilers, **J. Sook Chung**, S. Techa, I.O. Kurochkin, H. Piontkivska, E. P. Sokolov, and I. M. Sokolova (2010). Effects of cadmium exposure and intermittent anoxia on nitric oxide metabolism in eastern oysters *Crassostrea virginica*. **J Exp Biol** 213: 433-444. ***(IF: 3.04; 11)***

36. Ziv Roth, Shmuel Parnes, Simy Wiel, Amir Sagi, Nili Zmora**, J. Sook Chung** and Isam Khalaila (2010). N- glycan moieties of the crustacean egg yolk protein and their glycosylation sites. **Glycoconju J** 27: 159-169. ***(IF:2.7; 9)***

35. **J. Sook Chung**+(2010). Hemolymph ecdysteroids during the last three molt cycles of the blue crab, *Callinectes sapidus*: quantitative and qualitative analyses and regulation. **Arch Insect Biochem Physiol** 73: 1-13. ***(IF:1.5; 10)***

34. N. Zmora, J. T. Trant, Y. Zohar, and **J. Sook Chung+** (2009). Molt-inhibiting hormone stimulates vitellogenesis at the advanced ovarian development in the blue crab, *Callinectes sapidus* 1: an ovarian stage dependent involvement. **Saline Systems** 5: 7.***(IF:2.6; 13)***

33. N. Zmora, A. Sagi, Y. Zohar, and **J. Sook Chung** +(2009). Molt-inhibiting hormone stimulates vitellogenesis at the advanced ovarian development in the blue crab, *Callinectes sapidus* 2: novel specific binding sites in hepatopancreas and cAMP as a second messenger. **Saline Systems** 5: 6. ***(IF:2.6; 22)***

32. **J. Sook Chung+**, S. Bembe, S. Tamone, E. Andrews* and H. Thomas*(2009). Molecular cloning of the crustacean hyperglycemic hormone (CHH) from the X-organ and identification of the neuropeptide in the sinus glands of the Alaskan Tanner crab, *Chionoecetes bairdi*. **Gen Comp Endocrinol** 162: 129-133. ***(IF:3.018; 10): *LMRCSC interns***

31. H. Katayama and **J. Sook Chung+** (2009). The specific binding sites of eyestalk- and pericardial organ-crustacean hyperglycaemic hormones (CHHs) in multiple tissues of the blue crab, *Callinectes sapidus*. **J Exp Biol** 312: 542-549. ***(IF: 3.04; 9)***

30. **J. Sook Chung+** (2008). A trehalose 6-phosphate synthase gene of the hemocytes of the blue crab, *Callinectes sapidus*: the molecular structure, the expression, its enzyme activity and relationship to hemolymph trehalose levels. **Saline Systems** 4: 18.***(IF:2.6; 20)***

29. **J. Sook Chung+** and S.G. Webster (2008). Angiotensin-converting enzyme (ACE) like activity in crab gills and its putative role in degradation of crustacean hyperglycemic hormone (CHH). **Arch Insect Biochem Physiol** 68: 171-180. ***(IF:1.5; 5)***

28. **J. Sook Chung**+ and N. Zmora (2008). Functional studies of crustacean hyperglycemic hormones (CHHs) of the blue crab, *Callinectes sapidus*: the expression and release of CHH in eyestalk and pericardial organ in response to environmental stress. **FEBS J** 275: 693-704. ***(IF: 3.99; 40)***

27. Y. Zohar, A. H. Hines, O. Zmora, E. G. Johnson, R.N. Lipcius, R. D. Seitz, D. B. Eggleston, A. R. Place, E. Schott, J. Stubblefield and **J. Sook Chung** (2008). The Chesapeake Bay blue crab (*Callinectes sapidus*): A multidisciplinary approach to responsible stock enhancement. **Rev Fish Sci** 16, 1-11. ***(IF: 2.16; 31)***

26. A. L. Drexler, C.C. Harris, M. G. Dela Pena, M. Asuncion-Uchi, **J. S. Chung**, S. Webster, and M. Fuse (2007). Molecular characterization and cell-specific expression of an ion transport peptide in the tobacco hornworm, *Manduca sexta*. **Cell Tissue Res** 329: 391-408. ***(IF 3.33; 14)***

25. N. Zmora, J. Trant, S. M. Chen and **J. Sook Chung+** (2007). Vitellogenin and its Messenger RNA during ovarian development in the female blue crab, *Callinectes sapidus*: gene expression, synthesis, transport, and cleavage. **Biol Reprod** 77: 138-146. ***(IF: 4.01; 35)***

24. **J. Sook Chung+**, D.C. Wilcockson, N. Zmora, Y. Zohar, H. Dircksen, and S.G. Webster (2006). Identification and developmental expression of mRNAs encoding crustacean cardioactive peptide (CCAP) in decapod crustaceans. **J Exp Biol** 209: 3862-3872. ***(IF: 3.04; 28)***

23. Y.W. Hsu, D.I. Messinger, **J. Sook Chung**, S. G. Webster, H. O. de la Iglesia, and A. E. Christie (2006). Members of the crustacean hyperglycemic hormone (CHH) peptide family are differentially distributed both between and within the neuroendocrine organs of *Cancer* crabs: implications for differential release and pleiotropic function. **J Exp Biol** 209: 3241-3256. ***(IF: 3.04; 20)***

22. **J. Sook Chung+** and S. G. Webster (2006). Binding sites of crustacean hyperglycaemic hormone and its second messengers on gills and hindgut of the green shore crab, *Carcinus maenas*. **Gen Comp Endocrinol** 147: 206-213. ***(IF: 3.02; 29)***

21. **J. Sook Chung** and S. G. Webster (2005). Dynamics of *in vivo* release of molt-inhibiting hormone (MIH) and crustacean hyperglycemic hormone (CHH) in the shore crab, *Carcinus maenas*. **Endocrinology** 146: 5545-5551. ***(IF: 4.88; 65)***

***This work has been featured in Endocrine News Nov. 2005 p. 5**

20. **J. Sook Chung** and S. G. Webster (2004). Expression and release patterns of neuropeptides during embryonic development and hatching of the green shore crab, *Carcinus maenas*. **Development** 131: 4751-4761. ***(IF: 6.6; 29)***

19. **J. Sook Chung** and S. G. Webster (2003). Moult cycle-related changes in biological activity of moult-inhibiting hormone (MIH) and crustacean hyperglycaemic hormone (CHH) in the crab, *Carcinus maenas*: From target to transcript. **Eur J Biochem** 270: 3280-3288. (***IF: 3.58; 99)***

18. D. C. Wilcokson, **J. Sook Chung** and S. G. Webster (2002). Is crustacean hyperglycaemic hormone precursor-related peptide a circulating neurohormone in crabs? **Cell Tissue Res** 307: 129-138. ***(IF: 3.33; 31)***

17. H. Dircksen, D. Bocking, U. Heyn, C. Mandel, **J. S. Chung**, G. Baggerman, P. Verhaert, S. Daufeldt, T. Plosch, P. P. Jaros, E. Eaelkens, R. Keller and S. G. Webster (2001). Crustacean hyperglycaemic hormone (CHH)-like peptides and CHH-precursor-related peptides from pericardical organ neurosecretory cells in the shore crab, *Carcinus maenas*, are putatively spliced and modified products of multiple genes. **Biochem J** 356: 159-170. ***(IF: 5.016; 109)***

16. S. G. Webster, H. Dircksen and **J. S. Chung** (2000). Endocrine cells in the gut of the shore crab, *Carcinus maenas*, immunoreactive to crustacean hyperglycemic hormone and its precursor-related peptide. **Cell Tissue Res** 300: 193-205. ***(IF: 3.33; 52)***

15. M. K. Phlippen, S. G. Webster, **J. S. Chung** and H. Dircksen (2000). Ecdysis of decapod crustaceans is associated with dramatic release of crustacean cardioactive peptide into the haemolymph. **J Exp Biol** 203: 521-536. ***(IF: 3.04; 60)***

14. **J. S. Chung**, H. Dircksen, and S. G. Webster (1999). A remarkable, precisely timed release of hyperglycemic hormone from endocrine cells in the gut is associated with ecdysis in the crab *Carcinus maenas*. **Proc Natl Acad Sci** USA, 96: 13103-13107. ***(IF: 9.77; 148)***

    This work has been featured 1) in the UK NATURAL ENVIRONMENT RESEARCH COUNCIL News Spring, p16-17, 'How crabs moult' and 2) BioScience (2000) January issue 'Researchers shed light on molting in crustaceans'.

13. **J. S. Chung**, M.C. Wilkinson, and S.G. Webster (1998). Amino acid sequences of both isoforms of crustacean hyperglycaemic hormones (CHH) and corresponding precursor-related peptide in *Cancer pagurus*: The complete inventory of CHH family neuropeptides now identified in a crab. **Reg Peptides** 77: 17-24. ***(IF: 2.01; 57)***

12. **J. S. Chung** and S.G. Webster (1996). Does the N-terminal pyroglutamate residue have any physiological significance for crab hyperglycaemic neuropeptides? **Eur J Biochem** 240: 358-364. ***(IF: 3.58; 58)***

11. G. Wainwright, S.G. Webster, M. C. Wilkinson, **J. S. Chung** and H. H. Rees (1996) Structure and function of mandibular organ-inhibiting hormone (MOIH) in the crab, *Cancer pagurus*; evidence for complex control of growth and reproduction. **J Biol Chem** 271: 12749-12754.***(IF: 5.318; 142)***

10. **J. S. Chung**, M. C. Wilkinson and S. G. Webster (1996) Determination of the amino acid sequence of the moult-inhibiting hormone (MIH) from the edible crab, *Cancer pagurus*. **Neuropeptides** 30: 95-101. ***(IF: 2.55; 53)***

Insect research published in Peer-reviewed scientific journals

9. G. J. Goldsworthy, **J. Sook Chung**, M. S. J. Simmonds, M. Tatari, S. Varouni and C.P. Poulos. (2003) The synthesis of an analogue of the locust CRF-like diuretic peptide, and the biological activities of this and some C-terminal fragments. **Peptides** 24: 1607-1613. ***(IF: 2.654; 16)***

8. C.A. Roberts, R.J. Nachman, G. M. Coast, **J. S. Chung**, G. M. Holman, M. Hariharan and J.A. Tainer (1997). Consensus chemistry and β-turn conformation of the active core of the myotropic/diuretic insect kinin neuropeptide family. **Chemistry and Biology** 4: 105-117. ***(IF: 6.6; 49)***

7. **J. S. Chung**, C. H. Wheeler, G. J. Goldsworthy and G. M. Coast (1995). Properties of achetakinin binding sites on Malpighian tubule membranes from the house cricket, *Acheta domesticus*. **Peptides** 16: 375-382. ***(IF: 2.654; 12)***

6. F. L. Clottens, G. M. Holman, G. M. Coast, N. F. Totty, T. K. Hayes, I. Kay, A. I. Mallet, M. S. Wright, **J. S. Chung**, O. Truong and D. L. Bull (1994). Isolation and characterisation of a diuretic peptide common to the house fly and stable fly. **Peptides** 15: 971-979. ***(IF: 2.654; 56)***

5. **J. S. Chung**, G. J. Goldsworthy and G. M. Coast (1994). Haemolymph and tissue titres of achetakinins in the house cricket, *Acheta domesticus*: effect of starvation and dehydration. **J Exp Biol** 193: 307-319.***(IF: 3.04; 29)***

4. M. Patel, **J. S. Chung**, I. Kay, A. I. Mallet, C. R. Gibbon, K. S. J. Thompson, J. P Bacon and G. M. Coast (1994). Localisation of *Locusta*-DP in locust CNS and haemolymph satisfies initial hormonal criteria. **Peptides** 15: 591-602. ***(IF: 2.654; 61)***

3. L. L. Keeley, **J. S. Chung** and T. K. Hayes (1992). Diuretic and antifeedant actions by *Manduca sexta* diuretic hormone in lepidopteran larvae. **Cellular and Molecular Life Sciences,** 48: 1145-1148.***(IF: 6.57; 15)***

2. G. M. Coast, I. Kay, T. K. Hayes and **J. S. Chung** (1992). Effect of *Manduca sexta* diuretic hormone and related peptides on isolated Malpighian tubules of the house cricket, *Acheta domesticus*. **J Exp Biol** 162: 331-338. ***(IF: 3.04; 22)***

1. **J. S. Chung** and L. L. Keeley (1989). Evidence and bioassay for diuretic factors in the tobacco budworm, *Heliothis virescens* (F.). **J Comp Physiol** B 159: 359-370. ***(IF: 2.4; 10)***

D. Conference proceedings and book chapter

1. Chiara Manfrin, Luca Peruzza, **J Sook Chung**, Federica Piazza,Alberto Pallavicini, Piero Giulio Giulianini (2014) Autocidal control on *Procambarus clakii*. 8th International Crustacean Congress (ICC-8), Frankfurt am Main, Germany

2. S.G. Webster and **J. S. Chung** (1999). Roles of moult-inhibiting hormone and crustacean hyperglycemic hormone in controlling moulting in Decapod Crustaceans. In: Recent Developments in Comparative Endocrinology and Neurobiology (Eds Roubos, E.W., Bonga, S.E.W., Vaudry, H. and De Loof A.), pp.213-216, Shaker, Maastricht.

3. G. M. Coast, **J. S. Chung**, G. J. Goldsworthy, M. Patel, T. K. Hayes and I. Kay (1994). Corticotropin releasing factor related diuretic peptides in insects. In: Prospectives in Comparative Endocrinology, pp 67-73.National Research Council of Canada ***(CI: 20)***

4. **J. S. Chung**, C. H. Wheeler, G. J. Goldsworthy and G. M. Coast (1994). Preliminary characterisation of achetakinin-binding sites on cricket Malpighian tubule plasma membrane, ICINN 93: In Insect Neurochemistry and Neurophysiology (Eds, Borkovec, A. B. and Loeb, M. J.) pp. 359-362. CRC Press, London

5. L.L. Keeley, T. K. Hayes, J. Y. Bradfield and **J. S. Chung** (1988). Neuropeptides in insect control. Proceedings, biotechnology, biological pesticides and novel plant-pest resistance for insect pest management, Boyce Thompson Institute for Plant Research, Cornell University

G. GenBank Sequencing Data Deposition (61 cDNAs)

1. J. Sook Chung eIF4E1: KY421370
2. J. Sook Chung eIF4E2: KY421371
3. J. Sook Chung eIF4E3: KY421372
4. J. Sook Chung eIF4E-BP: KY421373
5. A. Lawrence and J. Sook Chung: KY497474 red crab IAG
6. J. Sook Chung Ovarian insulin-like androgenic gland factor: GenBank no. KX834413
7. **J. Sook Chung** CasChitin KP719121
8. **J. Sook Chung** CasChitinDeacetylase KP719122
9. **J. Sook Chung** CasLaccase KP719123.
10. **J. Sook Chung** CasPPO-mg KP719124
11. **J. Sook Chung** CasPPO-hg KP719125

12. **J. Sook Chung** CasPPO-mg KP719126
13. **J. Sook Chung** CasPPO-pgc KP719127
14. A. Vinagre and **J. Sook Chung**, burrowing crab NehCHH KP192910
15. A. Vinagre and **J. Sook Chung, Ghost crab.** OcqCHH KM052164
16. S. Techa and **J. Sook Chung (2013)** *P. pugio EcR* **(**KF77242A3)
17. S. Techa and **J. Sook Chung (2013)** *RXR* **(**KF772424)
18. **J. Sook Chung** (2013) Insulin like factor from hepatopancreas of female blue crab, *C. sapidus* (KF792074)
19. *J. Sook Chung (2013) Chionoecetes opilio* CHH (KF792073)
20. J. Sook Chung (2013*) Chionoecetes japonicus* CHH (KF792072)
21. **J. Sook Chung** (2012) *Callinectes sapidus* Aquaporin-1 JQ970426
22. J. Alvaraz and **J. Sook Chung** (2012) *Callinectes sapidus* PPOa-JX047321
23. N. Tsutsui and **J. Sook Chung** (2011) lipoprotein receptor, isolated from hemocytes, CasLpR JN008079
24. **37. J. Sook Chung** and J. Trant (2011) extracellular copper and zinc superoxide dismutase, Cas- ecCuZnSOD-2 JF736621
25. W. Thonda and **J. Sook Chung** (2010) Vitellogenin cDNA from ovary of *C. sapidus*
26. S. Techa and **J. Sook Chung** (2010) The blue crab ecdysteroid receptor I, CasEcR1 HQ630857
27. S. Techa and **J. Sook Chung** (2010) The blue crab ecdysteroid receptor 2, CasEcR2 HQ630858
28. S. Techa and **J. Sook Chung** (2010) The blue crab ecdysteroid receptor, CasEcR, HQ630859
29. S. Techa and **J. Sook Chung** (2010) The blue crab retinoic acid receptor (RxR), CasRXR HQ630860
30. **J. Sook Chung** (2010) Carcinus maenas crustacean female sex hormone, HM594946
31. **J. Sook Chung** (2010) Callinectes insulin-like androgenic gland factor, HM594945
32. **J.S. Chung** and E. Flynn (2009) *Cancer_borealis*_SIFamide: GU016327
33. N. Zmora and **J.S. Chung** (2009) *Callinectes_sapidus*_CFSH GU016328
34. Pamuru, R. R., Manor, R., **Chung, J. S**., Zmora, N., Glazer, L., Aflalo, E.D., Weil, S., Rosen, O. and Sagi, A. (2009) *Cherax quadricarinatus* molt-inhibiting hormone mRNA, complete cds. Accession number GQ926177.
35. **J. S. Chung** (2008) *Callinectes sapidus* trehalose 6-phosphate synthase 1 (TPS) mRNA, complete cds: EU679406
36. **J. Sook Chung** (2008) *Callinectes sapidus* trehalase 1 mRNA, complete cds: EU679407
37. **J. Sook Chung** (2008) *Callinectes sapidus* bursicon hormone beta subunit mRNA, complete cds: EU677190

38. **J. Sook Chung** (2008) EU677191*, Callinectes sapidus* bursicon hormone alpha subunit mRNA, complete cds.
39. **J. Sook Chung**, S. Bembe and Tamone, S. (2008) *Chionoecetes bairdi* preproCHH (CHH) mRNA, complete cds. EU677192
40. **J. Sook Chung** (2008) Hypodermis TPS 1 (EU910086)
41. **J. Sook Chung** (2008) Muscle TPS 1 isoform (EU910087)
42. **J. Sook Chung** (2008) Muscle TPS1a isoform (EU910088)
43. **J. Sook Chung** (2008) Muscle TPS 1b isoform (EU910089)
44. **J. Sook Chung** (2008) Muscle TPS 1c isoform (EU910090)
45. **J. Sook Chung** (2008) Artery TPS 1 (EU910083)
46. **J. Sook Chung** (2008) Chionoecetes bairdi hepatopancreas TPS1 (EU910084)
47. **J. Sook Chung** (2008) Hepatopancreas TPS 1 (EU910085)
48. **J. Sook Chung**. (2008) *Callinectes sapidus* pericardial organ crustacean hyperglycemic hormone mRNA, complete cds (2004 bp) DQ667141
49. **J. Sook Chung**. cDNA Characterization of *Caliinectes* eIF 4A
50. Zmora, N. and **Chung, J. Sook**. (2007) *Callinectes sapidus* vitellogenin gene, partial cds (1539 bp) EU293808
51. Zmora, N., Trant, J. and **Chung, J.S**. (2007) *Callinectes sapidus* vitellogenin mRNA, complete cds (7833bp) DQ314748
52. **J. Sook Chung** and S. G. Webster (2006) DQ225100 *Callinectes sapidus* crustacean cardioactive peptide (CCAP) mRNA, complete cds.
53. **J. Sook Chung** and S. G. Webster (2006) DQ225101 *Carcinus maenas* crustacean cardioactive peptide (CCAP) mRNA, complete cds.
54. **J. Sook Chung** and S. G. Webster (2006) DQ225102 *Homarus americanus* crustacean cardioactive peptide (CCAP) mRNA, complete cds.
55. **J. Sook Chung** and S. G. Webster (2006) DQ225103 *Orconectes immunis* crustacean cardioactive peptide (CCAP) mRNA, complete cds
56. **J. Sook Chung** and S. G. Webster (2004) AY496927 *Carcinus maenas* Ecdysteroid receptor mRNA partial sequence.
57. **J. Sook Chung** and S. G. Webster (2004) AY496928 *Carcinus maenas* retinoid X receptor mRNA partial sequence.
58. Wainwright, G., Webster, S.G., Wilkinson, M.C., **Chung, J. S.** and Rees, H. H. (1996) P81034 Mandibular organ-inhibiting hormone 1 protein sequence
59. Wainwright, G., Webster, S.G., Wilkinson, M.C., **Chung, J.S.** and Rees, H.H. (1996)
60. P81035 Mandibular organ-inhibiting hormone 2 protein sequence
61. **J. Sook Chung**, Wilkinson, M.C. and Webster, S.G. (1996) 2208452A *Cancer pagurus* Molt-inhibiting hormone, protein sequence

H. Published Abstracts (since 1999-) 31

1. IS. Ahn and J. Sook Chung (2016). Ontogenic expression of crustacean female sex hormone and its functional role in developing female specific-sex characteristics in the blue crab, *Callinectes sapidus*. 109th NSA, Las Vegas.

2. S. Green and J. Sook Chung (2016). Crustacean hyperglycemic hormone of the red deepsea crab, *Chaceon quinquedens*: Identification and its potential role as a reproductive regulator. 109th NSA, Las Vegas

3. L. Maurer and J. Sook Chung (2016). The influence of prey density and dietary supplementation on the larval development of the blue crab, *Callinectes sapidus*. 109th NSA, Las Vegas

4. L. Maurer and J. Sook Chung (2016). The influence of prey density and dietary supplementation on the larval development of the blue crab, *Callinectes sapidus*. J. Shellfish Res.

5. L. Maurer and **J. Sook Chung** (2015). The density of food affects the number of larval stages in the blue crab, *Callinectes sapidus*. J. Shellfish Res 34: 659-660.

6. S. Green and **J. Sook Chung** (2015). Understanding the reproductive endocrinology of the female red deep-sea crab, *Chaeon quinquedens*: identification of reproductive regulators and vitellogenin. J. Shellfish Res 34: 636-637.

7. **J. Sook Chung**, S. Techa, K. Bulski, and R. Lee (2015). Effects of dispersed oil droplets on molting process (molting, ecdysteroids, and EcR/RXR complex). J. Shellfish Res 34: 619-619.

8. A. Katenta, J. Pitula and **J. Sook Chung** (2011). Molecular cloning of eIF4E-1 in the hepatopancreas of *Callinectes sapidus*. FASEB J 25

9. J. Tibbles, E. Williams, A. Place and **J. Sook Chung** (2011) Is a genetic variation responsible for the differential growth rate of animals obtained from a single brood of *Callinectes sapidus*? J Shellfish Res 30, 459-568. http://dx.doi.org/10.2983/035.030.0231

10. W. Thongda and **J. Sook Chung** (2011) An ovarian vitellogenin gene of the blue crab, *Callinectes sapidus*: isolation and its expression during ovarian development. J Shellfish Res 30, 459-568. http://dx.doi.org/10.2983/035.030.0231

11. J. Sook Chung and **R. Overstreet** (2011). Physiological and endocrinological responses of *Callinectes sapidus* to *Loxothylacus* infection. J Shellfish Res 30, 459-568. http://dx.doi.org/10.2983/035.030.0231

12. S. Techa and **J. Sook Chung** (2011) Molt control: Expression profiles of ecdysteroid receptor complex (*EcR-RXR*) and molt-inhibiting hormone of the blue crabs, *Callinectes sapidus.* J Shellfish Res 30, 459-568. http://dx.doi.org/10.2983/035.030.0231

13. **J. Sook Chung** and N. Zmora (2011) Multifunctionality of CHH neuropeptide family in molting and reproduction of the blue crab, *Callinectes sapidus*. J Shellfish Res 30, 459-568. http://dx.doi.org/10.2983/035.030.0231

14. J. A. Alvarez and **J. Sook Chung** (2011). Involvement of prophenoloxidase (PPO) activity in the shell hardening process in *Callinectes sapidus*: cloning of PPO and PPO

activating enzyme (PPOAE) and their spatial distribution. J Shellfish Res 30, 459. http://dx.doi.org/10.2983/035.030.0231

15. S.L. Tamone, **J. S. Chung** and S. Bembe (2009). Characterization of crustacean hyperglycemic hormone (CHH) from the Tanner crab, *Chionoectes bairdi*. Lowell Wakefield Symposium, Anchorage, AK.
16. **J. Sook Chung** and Q. Shi (2009). Trehalose-6-phosphate synthase genes of the blue crab, *Callinectes sapidus*: the molecular structure, the expression, its enzyme activity and relationship to hemolymph trehalose levels. Inter Comp Biol 49, E212
17. H. Katayama and **J. Sook Chung** (2009). Co-localization of the specific binding sites of crustacean hyperglycemic hormones (CHHs) of eyestalk and pericardial organ on multiple tissues of the blue crab, *Callinectes sapidus*. Inter Comp Biol 49, E89
18. N. Zmora, N. Tsutsui, J. Trant and **J. Sook Chung** (2009). An additional role for molt-inhibiting hormone in the mature female blue crab, *Callinectes sapidus* as a vitellogenesis-stimulating hormone. Inter Comp Biol 49, E190
19. **J. S. Chung**, N. Zmora, Y. Zohar, D. Wilcockson and S. G. Webster (2005) Crustacean cardioactive peptide: cloning and expression profiles in crustaceans. Comp Biochem Physiol Part A 141, S158.
20. **J. Sook Chung** and N. Zmora (2005). Crustacean cardioactive peptide: cDNA structures and expression patterns in crustaceans. Inter Comp Biol 45, 1118
21. **J. Sook Chung**, N. Zmora and Y. Zohar (2005). Cloning and expression profile of non-eyestalk crustacean hyperglycemic hormone (CHH) neuropeptides from the blue crab, *Callinectes sapidus*. 45, 977
22. **J. S. Chung** and S. G. Webster (2004) Endocrine cascades and signalling during ecdysis and postmoult in crustaceans. Comp. Biochem. Physiol. A.S41
23. **J. S. Chung** and S. G. Webster (2003) Genes, transcription and translation (or not) the tangled web of the hyperglycaemic hormones in crustaceans. Comp Biochem Physiol A 134, S26.
24. S. G. Webster and **J. S. Chung** (2003) Ontogeny of peptidergic neurones during embryonic development of crabs. Comp. Biochem. Physiol. A 134, S27
25. A. Okuno, S. Matsumoto, **J.S. Chung**, S. Webster (2004) cDNA cloning of a vasa-like gene of the green shore crab, *Carcinus maenas*. Zoological Science, 21, 1295-1296.
26. A. Okuno, **J. Sook Chung** and S. G. Webster (2003). cDNA cloning of a vasa-like gene of the green shore crab, *Carcinus maenas*. Comp Biochem Physiol A 134, S26-27.
27. **J. S. Chung** and S. G. Webster (2002) The involvement of crustacean hyperglycaemic hormone (cHH) in crab osmoregulation. Comp. Biochem. Physiol. Vol. Part A 132 Suppl. p. S66.
28. S. G. Webster and **J. Sook Chung** (2002) Measurement of neuropeptide gene expression during crustacean development using 'real-time' quantitative RT-PCR. Comp Biochem Physiol 132 A Suppl. I p. S67.
29. **3. J. Sook Chung** and S. G. Webster (2002) Novel diuretic factors from the corpora cardiaca of the house cricket, *Acheta domesticus*. Comp Biochem Physiol 132 A Suppl. I p. S69.

30. **2. J. S. Chung** and S. G. Webster (2002) Life on a string. Poster presentation and exhibition. North Wales Wrexam Science Festival, Wales, UK
31. H. Dircksen, D. Böcking, U. Heyn, S. Daufeldt, G. Baggerman, P. Verhaert, **J.S. Chung**, D. Soyez, T. Plosch, P. Jaros, and S. G. Webster (2000) Crustacean hyperglycaemic hormone-like peptides in similar peripheral and central neurosecretory cells of crustaceans and insects as spliced products of multiple genes. Zoology 103 (Suppl III), 81.

I. PRESENTATION (1996-)

Invited

1. **Jeonnam Province OFRI (Oct. 17, 2017) : Crustacean Aquaculture: Lessons from Blue Crab Study host: Dr. Lee**
2. **MABIK (Oct. 12, 2016): Crustacean Aquaculture: Lessons from Blue Crab Study Dr. Ahn**
3. **Jeju National University (Oct. 7, 2016) : Crustacean Aquaculture: Lessons from Blue Crab Study Dr. Choe**
4. **Busan National University (Oct. 5, 2016): Crustacean Aquaculture: Lessons from Blue Crab Study Dr. Cho**
5. **Bugyeong National University (Oct. 4, 2016): Crustacean Aquaculture: Lessons from Blue Crab Study: Dr. Kim**
6. **11th IMBC, a keynote speech (Sept. 1)** CRUSTACEAN FEMALE SEX HORMONE (CFSH) AND ITS FUNCTION IN DEVELOPING FEMALE SPECIFIC-SEX CHARACTERISTICS IN THE BLUE CRAB, *Callinectes sapidus*
7. **Crustaceans in the Chesapeake Bay at Balticon 49 Hunt Valley, MD (2015 May 24)**
8. **Hampton University (March 20, 2014) : Dr. Gibspm**
9. **Marine Genome Institute at Beijing Genome Institute-Shenzhen, Shenzhen, China** (Aug. 05, 2013) Lessons from the blue crab stock enhancement study in the Chesapeake Bay: Dr. Shi
10. **Bugyeong National University**, S. Korea (July 29, 2013) Lessons from the blue crab stock enhancement study in the Chesapeake Bay: Dr. Kim
11. **NASCE** (May 14, 2013) A gender-specific hormone determines the development of adult female features. The 2nd NASCE, Queretaro, Mexico May, 22-25
12. **Virginia Institute of Marine Science** (Feb. 5 2013) Is Crustacean molting growing stress toward predisposition and susceptibility to diseases?
13. **Korea Institute of Ocean Science and Technology (KIOST, Aug. 7, 2012)** Lessons from the blue crab stock enhancement study. AnSan, S. Korea: Dr. Ko,
14. **UMCES-HPL (Jan. 18, 2012)** CHH neuropeptide family: pleiotrophic effects on molting and reproduction
15. **UMCES-CBL (Dec. 14, 2011)** CHH neuropeptide family: pleiotrophic effects on molting and reproduction
16. **UMCES-AL (Nov. 10, 2011)** CHH neuropeptide family: pleiotrophic effects on molting and reproduction

17. **IMET (Oct. 26, 2011)** CHH neuropeptide family: pleiotrophic effects on molting and reproduction
18. **Skidaway Institute of Oceanography (**Oct 20, 2011). The regulatory roles of crustacean hyperglycemic hormone neuropeptide family in molting and reproduction: structures and multiple functions': Dr. Lee
19. **Savannah State University (**Oct. 19, 2011). Reproductive physiology of the female blue crab, *Callinectes sapidus*: vitellogenesis and spawning induction: Dr. XXX
20. **University of Maryland Center for Environmental Science -HPL** (Sept 29, 2010). Reproductive physiology of the female blue crab, *Callinectes sapidus*: spawning induction and vitellogenesis: Dr.
21. **University of Maryland Eastern Shore**, Living Marine Resources Cooperative Science Center (April 12, 2010). Crab molting: Extreme home makeover!
22. **University of Maryland Baltimore County,** Department of Biological Sciences (Feb. 25, 2010). Crab molting: Extreme makeover home edition!
23. **University of Toronto**, the Department of Cell and Systems Biology (Oct 30, 2009): Multiple functions of crustacean hormones in regulation of molting and reproduction, Toronto, Canada: Dr. Steve
24. **Wilfrid Laurier University**, Department of Biology (Oct. 29, 2009): Multiple functions of crustacean hormones in regulation of molting and reproduction, Waterloo, Canada : Dr. Lucy Lee
25. **University of Maryland Center for Environmental Science**, Chesapeake Biological Laboratory (UMCES-CBL, Sept. 23, 2009): Crab endocrinology: regulation of molting and reproduction.
26. **Fourth Comparative Neuroendocrinology Symposium: Evolutionary and Developmental Neuroendocrinology. The1^{6th} International Conference on Comparative Endocrinology.** June 22-26, 2009. **University of Hong Kong, Hong Kong**
27. **Mount Desert Island Biological Laboratory (MDIBL), Maine** (Jan 15, 2009): Blue crab endocrinology: its application in aquaculture and stock enhancement in the Chesapeake Bay: Dr. A. Christie
28. **University of Maryland Biotechnology Institute**, Center for Biosystems Research (CBR, Oct. 16, 2008): Ecdysis: a common feature in crabs and flies'.
29. **University of North Carolina at Charlotte**, Biology Department (Sept. 05, 2008): Blue crab endocrinology: its application in aquaculture and stock enhancement in the Chesapeake Bay
30. **Cooperative Oxford Laboratory**, Oxford, Maryland (May 22, 2008): Blue crab endocrinology and its application for the environmental assessment
31. **University of Maryland Biotechnology Institute** (Nov. 2006): Hormonal regulation of the blue crab molting and reproduction
32. **The crustacean Society Summer Meeting IV** (2006): An overview of the regulatory role of crustacean hyperglycaemic hormone (CHH) neuropeptides in molting and reproduction in decapod crustaceans. **Plenary talk, Juneau, Alaska**
33. **University of Maryland School of Medicine**, Endocrinology group round presentation (May 2005) How crab molts: a message from gut

34. **Royal Swedish Academy of Sciences and University of Göteborg**, Kristineberg Marine Research Station, **Sweden** (July 2002). How crab molts: a message from gut.
35. **University of Maryland Biotechnology Institute**, Center of Marine Biotechnology (Feb 2002) How crab molts: A message from gut , MD
36. **University of Wales**, Bangor, School of Biological Sciences (June 2000). Crustacean molt control: a message from gut, Wales, UK

2. Symposia and meeting organized

- 2013 NASCE (Universidad Nacional Autónoma de México (UNAM) Campus Juriquilla, Santiago de Querétaro, Mexico) May 22-25
- 2011 Symposium co-organizer at North American Society of Comparative Endocrinology (Ann Arbor, MI)
- 2009: Chaired the crustacean endocrinology session, SICB
- 2001: *Organizer and chair the session ' Innate immunity' at SEB.

3. Oral presentation : 49 presentations since 2004: 16 since 2012

1. S. H. Bae, I. S. Ahn and J. Sook Chung (2016) Does a female hormone regulate the levels of a male sex hormone in crustaceans? 11th IMBC, Baltimore

2. X. Hunag, S. H. Bae, S. green, T. Bachvaroff, E. Schott, H. Ye, and J. Sook Chung (2016) The putative insulin-like peptide binding protein (ILPBP) from the blue crab, *Callinectes sapidus* and the red deep-sea crab, *Chaceon quinquedens*: A multifunctional factor involved in immunity, reproduction and development. 11th IMBC, Baltimore, MD

3. L. Maurer and J. Sook Chung (2016) Effects of prey density and dietary supplementation on the early developmental growth of the blue crab, *Callinectes sapidus*. 11th IMBC, Baltimore, MD

4. S. Green and J. Sook Chung (2016) Reproductive endocrinology of the red deep-sea crab, Chaceon quinquedens. 11th IMBC, Baltimore, MD

5. S. Green and J. Sook Chung (2016) Reproductive endocrinology of the red deep-sea crab, Chaceon quinquedens. NOAA-EPP, NY

6. IS. Ahn and J. Sook Chung (2016). Ontogenic expression of crustacean female sex hormone and its functional role in developing female specific-sex characteristics in the blue crab, *Callinectes sapidus*. 109th NSA, Las Vegas.

7. S. Green and J. Sook Chung (2016). Crustacean hyperglycemic hormone of the red deepsea crab, *Chaceon quinquedens*: Identification and its potential role as a reproductive regulator. 109th NSA, Las Vegas

8. L. Maurer and J. Sook Chung (2016). The influence of prey density and dietary supplementation on the larval development of the blue crab, *Callinectes sapidus*. 109th NSA, Las Vegas

9. L. Maurer and J. Sook Chung (2015). The density of food affects the number of larval stages in the blue crab, *Callinectes sapidus*, 108th NSA, Monterey, CA

10. S. Green and J. Sook Chung (2015). Understanding the reproductive endocrinology of the female red deep-sea crab, *Chaeon quinquedens*: identification of reproductive regulators and vitellogenin, 108th NSA, Monterey, CA

11. J. Sook Chung, S. Techa, K. Bulski, and R. Lee (2015) Effects of disperserd oil droplets on molting process (molting, ecdysteroids, and EcR/RXR complex). 108th NSA, Monterey, CA

12. J. Sook Chung, N. Zmora, InSook Ahn (2013) A gender-specific hormone determines the development of adult female features. Keynote IMBC, Brisbane, Australia

13. **J. Sook Chung** and N. Zmora (2013) A gender-specific hormone determines the development of adult female features. The 2nd NASCE, Queretaro, Mexico May, 22-25

14. S. Techa and **J. Sook Chung** (2013) The functional importance and significance of ecdysone receptor in the regulation of molt cycle of the blue crab, *Callinectes sapidus.* The 2nd NASCE, Queretaro, Mexico May, 22-25

15. **J. Sook Chung** (2013) NOAA-KIOST workshop 5 11, 2013

16. Manfrin, C, Peruzza, L, **Chung, JS**, Pallavicini, A, Giulianini, PG. Induzione della crescita ovarica di Procambarus clarkia (Girard, 1852) mediante silenziamento dell'ormone gonado-inibitorio. In 74° Congresso Nazionale dell'Unione Zoologica Italiana; September, 30th- October, 3rd; Modena, Italy. 2013.

17. S. Techa and **J. Sook Chung** (2011) Molt control: Expression profiles of ecdysteroid receptor complex (*EcR-RXR*) and molt-inhibiting hormone of the blue crabs, *Callinectes sapidus.* National Shellfisheries Association, Baltimore, March 28-April 1

18. **J. Sook Chung** and N. Zmora (2011) Multifunctionality of CHH neuropeptide family in molting and reproduction of the blue crab, *Callinectes sapidus*. National Shellfisheries Association, Baltimore, March 28-April 1

19. **J. Sook Chung** and N. Zmora (2010) Multifunctionality of CHH neuropeptide family in molting and reproduction of the blue crab, Callinectes sapidus, IMBC, Qingdao, China Oct. 08-12.

20. **J. Sook Chung** (2010) Endocrine and molecular manipulations of the crustacean molt to control growth and synchronizing ecdysis. Baltimore, UMBI-Israel BARD

21. Yonathan Zohar, Oded Zmora, Allen R. Place, Xiaojun Feng, **J. Sook Chung**, Nilli Zmora, Eric J. Schott1, John Stubblefield, Anson H. Hines and Eric G. Johnson. (2009) A multidisciplinary approach to responsible stock enhancement of the blue crab in the Chesapeake Bay: hatchery production and basic tools. International Symposium on Aquaculture, Biology and Management of Commercially Important Crabs (ISABMC-2009), November 8-11, 2009 Shanghai, China

22. **J. Sook Chung** (2009) Multiple functions of CHH neuropeptides in the control of molt and reproduction. The Frenchmen Bay annual Crustacean symposium, July 13, MDIBL, Maine

23. G. Messick, J. Jacobs, R. Lee, T. Walters, K. Brinkley, S. Cho, M. Frischer, E. Schott, **J. Sook Chung** and R. Wood (2009) Crustaceans as indicators of ecosystem health. National Shellfisheries Association 101st Annual Meeting, Savannah, Georgia.
24. N. Zmora, J. Trant, N. Tsutsui, and **J. Sook Chung** (2009) An additional role for molt-inhibiting hormone in the mature female blue crab Callinectes sapidus as a vitellogenesis stimulating hormone. Society of Integrative and Comparative Biology (SICB), annual meeting, Boston.
25. **J. Sook Chung** and H. Katayama (2009) Co-localization of the specific binding sites of crustacean hyperglycemic hormones (CHHs) of eyestalk and pericardial organ on multiple tissues of the blue crab, *Callinectes sapidus*. Society of Integrative and Comparative Biology, annual meeting, Boston.
26. S. E. Bembe and **J. Sook Chung** (2008) Enviromental alternations in capacity to induce egg extrusion in blue crabs. Benthic Ecology Meeting, Boston. April. 8-11.
27. S. Bembe, **J. Sook Chung**, A. Hines, J. Eric, R. Lipcus, A. Place, S. J. Stubblefield, John, O. Zmora and Y. Zohar. Blue Crab Advanced Research Consortium (BCARC) to Enhance the Fishery (2008). Aquatic and Fisheries Science Symposium. UMCES, Assateague, Island, MD
28. **J. Sook Chung** (2008) Hormonal cascade during ecdysis: potential applications in crustacean aquaculture, April 30, BCARC, COMB
29. N. Zmora and **J. Sook Chung** (2008) Reproductive endocrinology of the blue crab: molt inhibiting hormone acts as a vitellogenesis stimulating hormone, April 30, BCARC, COMB
30. S. Bembe and **J. Sook Chung** (2008) Light, Temperature, Action: The induction of spawning in the blue crabs, April 29, BCARC, COMB
31. Andrews, Q. Shi and **J. Sook Chung** (2008). The presence and role of trehalose in response of stress in the blue crab, *Callinectes sapidus*. Undergraduate Student Research Day, Annapolis.
32. Andrews, Q. Shi and **J. Sook Chung** (2007). The presence and role of trehalose in response of stress in the blue crab, *Callinectes sapidus*. 10th Undergraduate Symposium University of Maryland Baltimore Campus, Baltimore.
33. Andrews, Q. Shi and **J. Sook Chung** (2007). The presence and role of trehalose in response of stress in the blue crab, *Callinectes sapidus*. Annual Biomedical Research Conference for Minority Students (ABRCMS) Austin, Texas.
34. **J. Sook Chung** and H. Katayama (2007). Understanding the physiological functions of crustacean hyperglycaemic hormones of the blue crab, *Callinectes sapidus*: localization, release and expression patterns. Eilat, Israel. March 11-16.
35. **J. Sook Chung** (2007) Blue crab endocrinology: An introduction to ongoing studies, BCARC, COMB.
36. N. Zmora and **J. Sook Chung** (2007) Vitellogenesis: A possible role for MIH in the regulation of vitellogenesis, BCARC, COMB.
37. S. Bembe and **J. Sook Chung** (2007) Progress towards the characterization of a vitellogenin receptor gene(s), BCARC, COMB.
38. **J. Sook Chung**, N. Zmora, and H. Katayama (2006). An overview of the regulatory role of crustacean hyperglycaemic hormone (CHH) neuropeptides in molting and

reproduction in decapod crustaceans. Plenary talk, The crustacean Society Summer Meeting, Juneau, Alaska.

39. **J. Sook Chung** (2006) Progress toward understanding the endocrine regulation of molting, BCARC, COMB.
40. N. Zmora, J. Trant, and J. Sook Chung (2006) Vitellogenesis in the female Blue crab, *Callinectes sapidus*: expression, transportation and regulation of vitellogenin, BCARC, COMB.
41. N. Tsutsui and **J. Sook Chung** (2006) Preliminary characterization of vitellogenin receptor of the blue crab, BCARC, COMB.
42. J. Sook Chung, N. Zmora, Y. Zohar (2006) Cloning and expression profile of non-eyestalk crustacean hyperglycaemic hormone (CHH) neuropeptides from the blue crab, *Callinectes sapidus*. SICB, Orlando, Florida.
43. N. Zmora, J. Trant and **J. Sook Chung** (2006) Characterization of a vitellogenin gene and the endocrine regulation of vitellogenesis of the blue crab*, Callinectes sapidus*. SICB, Orlando, Florida.
44. J. Sook Chung (2005) Blue Crab neuropeptides: cDNA structures and expression, BCARC, GCRL, Mississippi.
45. N. Zmora, J. Trant, and **J. Sook Chung** (2005) Vitellogenin and CYP4C15 genes, BCARC, GCRL, Mississippi.
46. **J. Sook Chung**, N. Zomra, Y. Zohar, D. Wilcockson and S.G. Webster (2005) Crustacean cardioactive peptide: cloning and expression profiles in crustaceans. The Society of Experimental Biology, Barcelona, Spain.
47. **J. Sook Chung** and S. G. Webster (2005) Endocrine cascades and signalling during ecdysis and postmolt in crustaceans. IMBC, Newfoundland, Canada.
48. **J. Sook Chung** (2004) Endocrine control of crab molting. BCARC, COMB.
49. **J. S. Chung** and S. G. Webster (2004) Endocrine cascades and signalling during ecdysis and postmoult in crustaceans. SEB, St. Andrews, Scotland, UK.
50. **J. S. Chung** and S. G. Webster (2003) Genes, transcription and translation (or not) the tangled web of the hyperglycaemic hormones in crustaceans. SEB, Canterbury, England, UK.
51. S. G. Webster and **J. S. Chung** (2003) Ontogeny of peptidgergic neurones during embryonic development of crabs. SEB, Canterbury, England, UK.
52. Okuno A., **J. Sook Chung** and S. G. Webster (2003). cDNA cloning of a vasa-like gene of the green shore crab, Carcinus maenas. SEB, Canterbury, England, UK
53. **J. S. Chung** and S. G. Webster (2002) The involvement of crustacean hyperglycaemic hormone (CHH) in crab osmoregulation. SEB, Swansea, Wales, UK
54. S. G. Webster and **J. Sook Chung** (2002) Measurement of neuropeptide gene expression during crustacean development using 'real-time' quantitative RT-PCR. Comp. SEB, Swansea, Wales, UK
55. **J. Sook Chung** and S. G. Webster (2002) Novel diuretic factors from the corpora cardiaca of the house cricket, *Acheta domesticus*. SEB, Swansea, Wales, UK

56. **J. Sook Chung** and S. G. Webster (2001). The involvement of neuropeptides in crab innate immunity. SEB, Canterbury.
57. **J. Sook Chung** and S. G. Webster (2001). Piecing together the jigsaw of the hormonal control of crustacean ecdysis. SEB, Canterbury.
58. **J. Sook Chung** and S.G. Webster (2000). Crab Innate immunity: Neuropeptide role.20th European Comparative Endocrinology Conference, Faro, Portugal.
59. **J. Sook Chung** and S.G. Webster (2000). Hormone cascades and crustacean ecdysis. 20th European Comparative Endocrinology Conference, Faro, Portugal.
60. **J. Sook Chung** and S.G. Webster (2000). Crustacean hyperglycaemic hormone (CHH) binding sites on the arterial system of *Carcinus maenas*. SEB, Exter, England.
61. H. Dircksen, D. Böcking, U. Heyn, G. Baggerman, P. Verhaert, T. Plosch, P. P. Jaros, **J. Sook Chung** and S. G. Webster (2000). Unusual crustacean hyperglycaemic hormone-like peptides in crab and lobster peripheral neurosecretory cells are presumably products of alternative splicing. SEB, Exter, England.
62. **J. Sook Chung** and S.G. Webster (1999). The CHH paraneurone-Structure and function during ecdysis in *Carcinus maenas*. SEB, Herit-Watt University, Scotland.
63. **J. Sook Chung** and S.G. Webster (1999). Neuropeptide-degrading enzymes in crabs. SEB Herit-Watt University, Scotland.
64. D. C. Wilcockson, **J. S. Chung** and S.G. Webster (1999). Progress towards defining a function for the crustacean hyperglycemic hormone precursor-related peptide in crabs. SEB Herit-Watt University, Scotland.
65. H. Dircksen, U. Heyn, D. Bocking, G. Baggerman, P. Verhaert, **J. S. Chung**, T.Plosch, P. P. Jaros and S. G. Webster (1999). Primary structure, precursors and bioactivity of an unusual crustacean hyperglycaemic hormone (CHH) like peptide from the pericardial organs of the shore crab, *Carcinus maenas* L. German Zoological Society, Bonn.
66. **J. S. Chung** and S.G. Webster (1998). Unexpected microheterogeneity of crustacean hyperglycemic hormone precursor-related peptides (CPRPs) in the green crab, *Carcinus maenas*. 19th European Comparative Endocrinology Conference, Nijmegen, The Netherlands.
67. S.G. Webster and **J. S. Chung** (1998). Moult-inhibiting hormone (MIH) and crustacean hyperglycemic hormone (CHH); Their roles in controlling moulting in decapod crustaceans.19th European Comparative Endocrinology Conference, Nijmegen, The Netherlands.
68. **J. S. Chung** and S.G. Webster (1998). Dramatic pulsatile release of crustacean hyperglycaemic hormone (CHH) during ecdysis of Carcinus maenas: what is the physiological significance of this phenomenon? SEB abstract, York
69. D. C. Wilcockson, **J. S. Chung** and S.G. Webster (1998). Crustacean hyperglycaemic hormone precursor related peptides (CPRPs): structures and tissue localisation, SEB York.
70. **J. S. Chung** and S.G. Webster (1997). Are ACE-like enzymes involved in the rapid inactivation/degradation of crustacean hyperglycaemic hormones? SEB abstract, Canterbury, Kent.

71. **J. S. Chung** and S.G. Webster (1997). Transient circadian release patterns of crustacean hyperglycaemic hormone and moult inhibiting hormone in *Carcinus maenas*. SEB abstract, Canterbury, Kent.
72. **J. S. Chung** and S.G. Webster (1996). An isoform of crustacean hyperglycaemic hormone (CHH) in crabs with a free amino terminus. What is its biological significance? 18th European Society for Comparative Endocrinology. Rouen, France.

3. Posters (28 posters since 2004; 10 posters since 2012)

Poster Presentation:

1. E. Legrand, T. Schock, and J. Sook Chung (2017) Melt-related metabolomic and transcriptomic analyses of the blue crab, *Callinectes sapidus*. 24th Annual NIST Sigma Xi Postdoctoral Poster presentation. Gaithersburg, MD
2. A. Lawrence and J. Sook Chung (2016) Isolating an Insulin-like androgenic gland (IAG) hormone from the male red deep-sea crab, *Chaceon quinquedens*, 11th IMBC, Baltimore, MD
3. Shadaesha Green and **J. Sook Chung** (2015): Isolation of Vitellogenin cDNA sequences of cold water crabs: Atlantic deep sea red crab *Chaceon quinquedens* and snow crab *Chionoectes opilio.* American Society of Limnology and Oceanography (ASLO), Granada, Spain
4. Shadaesha Green and **J. Sook Chung** (2014): Isolation of Vitellogenin cDNA sequences of cold water crabs: Atlantic deep sea red crab *Chaceon quinquedens* and snow crab *Chionoectes opilio. NOAA EPP, UMES*
5. Shadaesha Green and **J. Sook Chung** (2014): Isolation of Vitellogenin cDNA sequences of cold water crabs: Atlantic deep sea red crab *Chaceon quinquedens* and snow crab *Chionoectes opilio.* American Society of Limnology and Oceanography (ASLO), Honolulu, Hawaii, Feb. 23-28
6. National Institute of Science and the Beta Kappa Chi 71st Joint Annual Meeting Prairie View A&M University, Houston, Texas
7. Hampton University School of Science 19th Annual Student Research Symposium* (April)
8. **J. Sook Chung**, S. Techa, K. Bulski, A. N. Walker, and R. F. Lee Effects of dispersed and emulsified oil on molting, ecdysone and EcR/RXR complex in the grass shrimp and the blue crab. 10th IMBC Brisbane, Australia,
9. Richard F. Lee, **J. Sook Chung**, Karrie Bulski, and Anna N. Walker (2013). Effects of dispersed and emulsified oil on molting, ecdysone and the ecR/RXR complex in grass shimp (*Palaemonectes pugio*) and blue crabs (*Callinectes sapidus*). 17th Pollutant Responses in Marine Organisms, Univ. of Algarve, Faro, Portugal. May 5-8, 2013
10. W. Thongda and **J. Sook Chung** (2011) An ovarian vitellogenin gene of the blue crab, *Callinectes sapidus*: isolation and its expression during ovarian development. American Fisheries Society Symposium, Eastern Shore, April 1.
11. J. Sook Chung and **R. Overstreet** (2011) Physiological and endocrinological responses of *Callinectes sapidus* to *Loxothylacus* infection. National Shellfisheries Association, Baltimore, March 28-April 1

12. J. V. Alvarez and **J. Sook Chung** (2011) Identification of prophenoloxidase (PPO) genes of *Callinectes sapidus*: cloning of *PPOs* and a putative role in shell-hardening process. National Shellfisheries Association, Baltimore, March 28-April 1

13. W. Thongda and **J. Sook Chung** (2011) An ovarian vitellogenin gene of the blue crab, *Callinectes sapidus*: isolation and its expression during ovarian development. National Shellfisheries Association, Baltimore, March 28-April 1

14. J. Tibbles, E. Williams, A. Place and **J. Sook Chung** (2011) Is a genetic variation responsible for the differential growth rate of animals obtained from a single brood of *Callinectes sapidus*? National Shellfisheries Association, Baltimore, March 28-April 1

15. H. Katayama and **J. Sook Chung** (2010) Molecular, biochemical and physiological studies on the regulatory mechanism controlling the shell-hardening process of decapods crustaceans. MBC, Qingdao, China Oct. 08-12.

16. A. Katenta, J. E. Pitula, and **J. Sook Chung** (2010) Molecular cloning of eIF4E-1 in the hepatopancreas of *Callinectes sapidus*. 10th Anniversary Annual Biomedical Research Conference for Minority Students Charlotte, NC Nov 10-13

17. S. Techa and **J. Sook Chung** (2009) Molecular cloning of ecdysteroid receptors of the female blue crab, *Callinectes sapidus* AFF subchapter meeting. UMES

18. E. Flynn, A. Christie, and **J. Sook Chung** (2009) Crustacean hyperglycaemic hormones of *Cancer borealis*, MDIBL, July 28.

19. S. Tamone, S. Bembe and **J. Sook Chung** (2009). Molecular cloning of crustacean hyperglycaemic hormone of Alaskan tanner crab, *Chionoecetes bairdi*. Society of Integrative and Comparative Biology, annual meeting, Boston

20. **J. Sook Chung** (2009) Trehalose 6-phosphate synthase genes of the blue crab, *Callinectes sapidus*. Society of Integrative and Comparative Biology, annual meeting, Boston

21. S. E. Bembe, Naoaki Tsutsui, and **J. Sook Chung** (2008) Lipophorin receptor cloning and characterization in the blue crab, *Callinectes sapidus*, Benthic Ecology Meeting, Boston. April. 8-11.

22. **J. Sook Chung** and H. Katayama (2007). The regulation of ecdysteroids profiles in hemolymph during molt cycles of the blue crab, *Callinectes sapidus*. NOAA Chesapeake Bay Office 2007 Fisheries Science Symposium. April 10-11, Laurel, MD.

23. N. Zmora, J. T. Trant and **J. Sook Chung** (2007). Vitellogenesis and its regulation by sinus gland neuropeptides in the blue crab, *Callinectes sapidus*. NOAA Chesapeake Bay Office 2007 Fisheries Science Symposium. April 10-11, Laurel, MD.

24. N. Zmora, J. T. Trant and **J. Sook Chung** (2007). CYP4 C15 is probably not involved in ecdysteroidogenesis in the Y-organ of the blue crab, Callinectes sapidus. NOAA Chesapeake Bay Office, Fisheries Science Symposium. April 10-11, Laurel, MD.

25. **J. Sook Chung** and H. Katayama (2007). The regulation of ecdysteroids profiles in hemolymph during molt cycles of the blue crab, *Callinectes sapidus*. 8th International Marine Biotechnology Conference, Eilat, Israel. March 11-16.

26. N. Zmora, J. T. Trant and **J. Sook Chung** (2007). Vitellogenesis and its regulation by sinus gland neuropeptides in the blue crab, *Callinectes sapidus*. 8th International Marine Biotechnology Conference, Eilat, Israel. March 11-16.

i. *Awarded the '2nd best poster at IMBC

27. N. Zmora, J. T. Trant and **J. Sook Chung** (2007). CYP4 C15 is probably not involved in ecdysteroidogenesis in the Y-organ of the blue crab, *Callinectes sapidus*. Eilat, Israel. March 11-16.
28. **J. Sook Chung**, Y. Zohar and N. Zmora (2006). Crustacean cardioactive peptide: cDNA structures and expression patterns in crustaceans. SICB, Orlando, Florida
29. **J. Sook Chung** and S. G. Webster (2005). Expression and release patterns of neuropeptide genes during embryogenesis and hatching in the green shore crab, *Carcinus maenas*. IMBC, Newfoundland, Canada
30. Webster, S.G., H. Dircksen and **J. S. Chung** (2000). Distribution and ultrastructure of endocrine cells in the gut of the shore crab, Carcinus maenas immunoreactive crustacean hyperglycaemic hormone and its precursor-related peptide. SEB Exter, England, UK
31. **J. S. Chung** and S.G. Webster (1998). Dramatic pulsatile release of crustacean hyperglycaemic hormone (CHH) during ecdysis in the green shore crab, Caricnus maenas. 19th European Comparative Endocrinology Conference, Nijmegen, The Netherlands.
    i. *Awarded the president medal at 19th European Comparative Endocrinology Conference
32. D.C. Wilcockson, **J. S. Chung** and S. G. Webster (1998). The crustacean hyperglycemic hormone precursor-related peptide (CPRP) of the edible crab, Cancer pagurus-Structure, localisation and progress towards identifying functions. 19th European Comparative Endocrinology Conference, Nijmegen, The Netherlands.
33. S.G. Webster and **J. S. Chung** (1996). Moult cycle dependent changes in repression of ecdysteroid synthesis of crab Y-organs by moult-inhibiting hormone (MIH) and crustacean hyperglycaemic hormone (CHH). 18th European Society for Comparative Endocrinology. Rouen, France.
34. **J. S. Chung** and S. G. Webster (1996). Unblocked isoforms of crustacean hyperglycaemic hormone (CHH) in brachyurans-are they of physiological importance? 3rd International Crustacean Congress, Liege, France.

IV. SYNERGISTIC ACTIVITIES

A. Teaching

Course #	Title	Semester	#students enrolled	#credits
• MEES 698T /498T (Four IMET students and one from Towson University and one from UMES): 3 other auditing	Mar & Environ Biotech	Spring 2017	6	4
• MEES 698T /498T (All IMET students): 3 others auditing	Mar & Environ Biotech	Spring 2016	5	4
• MEES 698T /498T (All IMET students)	Mar & Environ Biotech	Spring 2016	5	4
MEES 608O	Current topics in omics	Fall 2016	1	2
Participants:			***9***	

B. Graduate Faculty Appointment

Marine Estuarine Environmental Sciences (MEES); Graduate Faculty: AOS: Marine Environmental Biology/Biotechnology, University of Maryland at College Park, 2004-present.

C. Graduate students supervised

1. Students currently supervising

1. Shadaesha Green 2014 Ph. D. MEES-UMCES-UMCP - (NSF-LSAMP Bridge to the Doctorate Fellowship)-LMRCSC
2. Leah Maurer 2015 MS MEES-UMCES-UMCP
3. A. Lawrence 2017 Ph. D MEES-UMCES-UMCP

2. Students degree completed (3 MS and 3 Ph. D students)

1. Nilli Zmora 2004-2008 Ph. D the Life Sciences Department, Ben-Gurion University, Israel (Current position: Post-Doc in Dr. Yoni Zohar's lab at UMBC)
2. Sarah Bembe 2006-2009 MS MEES-UMCP May (Currently working in FDA).
3. W. Thongda 2009-2012 MS MEES-UMCP (Funded by Thai Royal fellowship)
4. S. Techa 2008-2012 MS MEES-UMCP (Funded by Thai Royal fellowship)
5. S. Techa 2008-2014 Ph. D MEES- UMCES-UMCP (Funded by Thai Royal fellowship: Current position: BioTech at Bangkok, Thailand)
6. J. Alvarez 2010-2015 Ph. D MEES-UMCES-UMCP (Funded by Fulbright fellowship: Current position: Post-doc in John Ewer's lab, Chile)

3. Current* and Completed graduate student committee memberships

1. Kristen A. Lycett* 2011- Ph.D MEES-UMES (Supervisor: Dr. J. Pitula)
2. S. Martinez-Rivera* 2014- Ph.D MEES-UMES (Supervisor: Dr. B. Steven)
3. Jan Vicente 2014-16 Ph.D MEES-UMCES-UMCP(Supervisor: Dr. R. Hill)
4. Zarirah M.Zulperi 2009-12 Ph. D MEES-UMBC(Supervisor: Dr. Y. Zohar)
5. Whitney Dyson 2009-12 MS MEES-UMES Supervisor, Dr. J. Pitula at UMES
6. Habibul Bakht 2013 Ph. D MEES-UMES (Supervisor: Dr. J. Pitula)
7. Kathleen Gillespie 2010-15 Ph. D MEES-UMCES-UMCP (Dr. Jagus)

D. Current* and past-Postdoctoral associates mentored

1.
2. Elena Legrand, Ph. D. Sept. 2016-

3. S.H. Bae Ph. D: Oct 1, 2015- Sept. 17, 2016 supported by NSF program grant
4. In Sook Ahn Ph. D: Dec. 2012- supported by a NSF program grant
5. Holly Bowers, Ph. D: Feb. 2010- Sept. 2010: Monterey Bay Aquarium Research Institute (MBARI), Moss Landing, California
6. T. Michelle Blickley, Ph. D: June 2010- Feb. 2011 supported by NIST: Dow AgroSciences, Zionsville, Indiana (Indianapolis
7. Q. Shi, Ph. D (2007-2008 Jan.), Senior Investigator, Shenzhen Key Lab of Marine Genomics, BGI, Shenzhen, China
8. Naoaki Tsutsui, Ph. D., postdoctoral fellow (2005-2007): Supported by Blue crab grant but awarded a domestic fellowship from the Japanese Promotion of Science (JSPS): the Department of Applied Biological Chemistry, Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan
9. Hide Katayama, Ph.D., postdoctoral fellow (supported by Japanese Promotion of Sciences 2006): Assistant Professor in Department of Applied Biochemistry, School of Engineering, Tokai University, 4-1-1 Kitakaname, Hiratsuka, Kanagawa 259-1292, Japan

E. Visiting/ Sabbatical Scientist/Students hosted (since 2012 10 scientists from 9 different countries including US, China, Italy, Brazil, Iran, Israel, S. Korea, Colombia)

1. Lee, S. Korea Aug. 2017
2. Fatemeh Lavajoo, Dept. of Marine Biology, Facutly of Marine Sciences and Technology, University of Hormozgan, Iran (Aug. 15, 2017- July 14, 2018)- 1yr
3. Dr. Jie Bao, College of Animal Science and Veterinary Medicine, Shenyang Agricultural University, China (Dec. 1 2016- Nov. 30, 2017)-1yr
4. Dr. Hongbo Jiang, College of Animal Science and Veterinary Medicine, Shenyang Agricultural University (Sept. 1 2016- Aug. 31, 2017)-1yr
5. Xiaoshuai Huang, Xiaman University, China (Sept. 2015-Nov. 10. 2016)-14 months
6. Gloria GLORIA HELENA OSPINA SALAZAR, Estudiante Doctorado en Biología Sede Caribe Universidad Nacional de Colombia (Aug. 2015-Oct. 2015)- 3 months
7. Prof. Anapaula Vinagre, Universidade Federal do Rio Grande do Sul (UFRGS), Rua Sarmento Leite, 500, Porto Alegre (RS), Brazil (Aug. 2013-July 2014)- 1yr
8. Kristen Lycett (UMES Ph. D MEES student): March 18-23
9. Dr. Chiara Manfrin, Dept. of Life Sciences - University of Trieste, Italy (3 months, 2013 Jan 15- April 15)-3 months
10. Karrie Bulski from Prof. Dick Lee laboratory at SkIO, Savannah, Georgia (3 days, Nov, 2012)
11. Prof. Anapaula Vinagre, Universidade Federal do Rio Grande do Sul (UFRGS), Rua Sarmento Leite, 500, Porto Alegre (RS), Brazil (1 week, Oct. 2012)
12. Prof. R. Henry, Auburn University (Aug. 27- Dec. 15, 2011)
13. Dr. Rivka Manor, Ben-Gurion University (1 week, June 2010)
14. Dr. Sherry Tamone, University of Alaska Southeast (2 weeks, 2007)

15. Dr. Noah Zimmerman, University of Southern Mississippi (2 weeks, 2005)

F. Research interns (4-12 weeks) supervised

1. Undergraduate year round:

1. Heather McGinnes, Sojourner-Douglass College, Aug.13-May, 22 (2013-4)
2. Leah Maurer, Dept. of Environmental Science, UMBC (2011-4)
3. Justin Tibbles, Johns Hopkins University (2006-9)
4. Erin Flynn (2009) Columbia University at, IDeA Network of Biomedical Research Excellence (INBRE) at Mount Desert Island Biological Laboratory, Maine

2. Minority students supported by Living Marine Resources Cooperative Science Center (LMRCSC) program

1. Amanda Lawrence: 2016 summer: red crab male sex hormone-MEES graduate student
2. Thailynn Glover (UMES): 2016 Summer: costal bay mysids
3. Shadaesha Green, Hampton University (2013, 2014): red crab-MEES graduate student
4. Krista Kraskura, Hampton University (2014): OA effect
5. A. Rafiyat Adeyiga, Chaney University (2012): PEPCK
6. Meagan M. Bratcher**, UMES (2011): Salinity tolerance
7. Anna Katenta*, University of Maryland Eastern Shore (2010) : Eif4E
8. Eric Water, Jr. Virginia Wesleyan College (2010): MF
9. Zianab Sankoh, Morgan State University (2010): Eif4E
10. Charleigh Perry, Hampton University (2008): environmental physiology
11. Agnes Omozusi Okhuereigbe*, UMES (2007): environmental physiology
12. Ebony Andrews, Coppin State University (2006): Tanner crab CHH
13. Heidi Thomas, Coppin State University (2006): Tanner crab CHH
14. Jelani Clement, Hampton University (2004): Color adaptation

* and ** were also supported by UMES-Minority Access to Research Carriers Undergraduate Student Training in Academic Research (**MARC U STAR**) program and University of Maryland Eastern Shore- Minority Biomedical Research Support-Research Initiative for Scientific Enhancement (**UMES-MBRS-RISE***)* Program, respectively.

3. High School Interns

1. Cara Lamberty (2016 Sept-May 2017): Howard High School: a part of the Howard County Public School System's Biotechnology Career Academy at the Applications and Research Laboratory.
2. Jaden (2016 Summer) Roland Park Country School-3 weeks
3. Rachel (2016 Summer) Roland Park Country School- 3weeks
4. Ma'at Ankobia (Aug. 2014- May 2015). Baltimore Polytechnic Institute, Baltimore, MD
5. Jeremy Carton (2012 Sept- 2013 April): St. Mary and Williams College
6. Eric Walker Jr (2009 Sept- 2010 April): Baltimore Polytechnic Institute, Baltimore, MD
7. Kara Koler (2009 Sept- 2010 April) Long Reach High School, Columbia, MD
8. Gideon S. Wolf (2009) Beth Tfiloh Dahan Community Day School, Baltimore, MD
9. Tiaira Wells (2006) Dunbar High School, Baltimore City, MD
10. Schedeen Rodgers (2006) Dunbar High School, Baltimore City, MD

4. Science Teachers (supported by Sea Grant and ExPERT programs)

1. Renee Thompson (2011) Bowie High School, Bowie, MD
2. Brittney Shaw (2010) Northeast Evening High School, Pasadena, MD
3. Aileen Tan (2008) Winston Middle School, Baltimore city, MD
4. Jennifer Petering (2006, 2007) Col. Zadok Magruder High School, MCPS, MD
5. Steve Shifflett (2007) Walter Johnson High School, MCPS, MD
6. Brad Harrison (2006) Western School of Environmental Science and Technology, BCPS

7. Research collaborations

IMET and UMCES:

- A. Place: blue crab genomics and polymorphism
- R. Jagus: blue crab eIF4E and 2 alpha
- T. Bachvaroff: blue crab genome project
- Louis Plough: blue crab linkage mapping

US:

- Drs. Tracey Schock and A. Boggs- NIST at Charleston, NC
- Drs. J. Pitula and Brad Stevens at UMES
- Dr. M. Harman, School of Pharmacy, University of Mississippi: On identification and isolation of molt synchronizing substance(s) from Kaladana seeds
- D. Lee at SkIO

International:

- Dr. D. S. Kim, KIOST, S. KOREA
- Dr. M. Tom, Haifa, Israel
- Dr. C. Manfrin, Italy
- Dr. H. Dircksen, Stockholm University, Sweden