CURRICULUM VITAE

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Education:

Ph.D.	1991	University of Tokyo, Japan
M.S.	1988	Kochi University, Japan
B.S.	1982	Ocean University of China, Qingdao, China

Professional Experience:

2008-present	Full Professor (with tenure), Department of Molecular, Cellular, and Developmental Biology, University of Michigan
2009-2010	Associate Chair for Research and Facility, Department of Molecular, Cellular, and Developmental Biology, University of Michigan
2006-2007	Associate Chair, Graduate Studies, Department of Molecular, Cellular, and Developmental Biology, University of Michigan
2002-2008	Associate Professor (with tenure), Department of Molecular, Cellular, and Developmental Biology, University of Michigan
2001-2002	Assistant Professor, Department of Molecular, Cellular and Developmental Biology, University of Michigan (Part of the former Department of Biology)
1996-2001	Assistant Professor, Department of Biology, University of Michigan
1995-1996	Research Associate, Center for Thrombosis and Haemostasis, University of North Carolina at Chapel Hill
1993-1995	Postdoctoral Fellow, Department of Medicine, University of North Carolina at Chapel Hill
1991-1993	Postdoctoral Research Associate, School of Fisheries, University of Washington
1991	Research Fellow, Marine Biotechnology Institute, Iwate, Japan
1982-1984	Associate Lecturer, Ocean University of China

Editorial Boards:

Editor, *General and Comparative Endocrinology*, 2001- present
Specialty Chief Editor, Frontiers in Experimental Endocrinology, 2011-present
Editorial Board member, *American Journal of Physiology - Endocrinology and Metabolism*, 2010 - present
Editorial Board member, Journal of Clinical and Translational Endocrinology, 2013 - present
Editorial Board member, *Journal of Ocean University of China*, 2005-present
Editorial Board member, *Endocrinology*, 2005- 2008
Associate Editor, *Marine Drugs,* 2003 - 2006
Editorial Board member, *Marine Biotechnology*, 1999 - 2005

International/National Meetings Organized

Co-organizer, Symposium on "*Integrative and Evolutionary Role of Extracellular Hormone Binding Proteins: Beyond the carrier proteins* ", Anaheim, CA in January 4-5, 2002.
Co-organizer, International Zebrafish Workshop - A Model for Comparative and Developmental Endocrinology", Calgary, Canada, June 22-23, 2008
Program Organizing Committee, member, the 4th International Congress of the GSR and IGF Society, Genova, Italy, September 16-20, 2008
Program Organizing Committee, member, the 5th International Congress of the GSR and IGF Society, New York, NY, June, 2010
Organizing Committee, member, First Meeting of the North American Society for Comparative Endocrinology, Ann Arbor, MI, July 2011
Co-organizer, Symposium on "*Parcrinology of Growth Factors* ", CECE 2014, Rennes, France, August 24-29, 2014 (scheduled).
Vice Chair, Gordon Research Conference "Insulin-like Growth Factors in Physiology and Disease, 2015 (scheduled).

Awards/Honors/Fellowships:

2013	Plenary lecture speaker, "Physiological Insights Towards Improving Fish Culture (PITIFC)"-Aquaculture 2013, Nashville, Tennessee, USA
2013	Plenary lecture speaker, Chinese Zebrafish Research Conference, Suzhou, China
2011	Keynote speaker, Australia IGF Symposium 2011, Melbourne, Australia
2010	Plenary speaker, The 14th International Symposium on Fish Nutrition & Feeding, Qingdao, China
2009	The Distinguished Schweppe Lecture Speaker, University of Texas at Austin, Marine Science Institute, Port Aransas, Texas, USA
2008	Keynote lecture speaker at the Symposium "Fish Growth: Contributions, Trends, and Tools", 8th International Congress on the Biology of Fish, Portland, Oregon, USA
2007	Plenary lecture speaker, International Conference of Comparative Physiology, Biochemistry and Toxicology, Hangzhou, China.
2005	Changjiang Scholar Visiting Professorship, School of Medicine and Pharmacy, Ocean University of China
2004	Plenary lecture speaker, International Symposium on Marine Drug (ISMD2004), Qingdao, China
2003	Merck Senior Fellows Award, The Endocrine Society
2002	K.C. Wong Education Foundation Award, Chinese Academy of Sciences
2002	Plenary lecture speaker, 4th Intercongress Symposium of the Asia and Oceania Society for Endocrinology. Guangzhou, P.R. China.
2000	Plenary lecture speaker, 4th International Symposium on Fish Endocrinology, Seattle, WA, USA
1988-1991	Senior Monbusho Fellowship (Scholarship to Foreign Doctoral Degree Candidates by Ministry of Culture and Science, Japanese Government)
1986-1988	Junior Monbusho Fellowship (Scholarship to Foreign Master Degree Candidates by Ministry of Culture and Science, Japanese Government)

Professional Memberships (Current):

The Endocrine Society (member)
International Society for Insulin-like Growth Factor Research (council member)
North American Society for Comparative Endocrinology

Grants:

Pending

2015-2017	NIH R21 Grant, "Nuclear function of a novel Kiss1 receptor isoform". 03/01/15 - 03/30/2017, Principal investigator.
2015-2018	NIH R13/U13 Grant, " The IGF and Insulin System in Physiology and Disease Gordon Research Conference" 02/01/15 - 02/30/2018, Principal investigator.

Active:

2012- 2015	NIH R21 Grant, "Development of genetic tools for a short-lived fish model in aging research". 04/01/12 - 03/30/2015, Principal investigator.
2011- 2015	National Science Foundation Research Grant "Molecular, integrative, and functional investigations of the role of IGF signaling in aging", 01/01/2011 - 12/31/2015, Principal investigator.

Completed:

2011-2012	National Science Foundation, "First Meeting of the North American Society for Comparative Endocrinology (NASCE)", Co-Principal Investigator
2006-2011	National Science Foundation Research Grant #IOB0543018, "Ligand-dependent and -independent actions of insulin-like growth factor binding proteins in zebrafish", 02/01/2006-76/30/2011, Principal investigator.
2005-2011	NIH Grant R01HL60679, National Heart, Lung and Blood Institute, NIH, "IGF-I and its Binding Proteins in Vascular Smooth Muscle Cells", 03/01/2005-02/28/2011, Principal investigator.
2008-2009	NSF Grant #IOS-0810856, "International Zebrafish Workshop - A model System for Exchange of Ideas, Integration of Knowledge and Collaboration Between Developmental Biologists and Comparative Endocrinologists", 04/01/2008-03/31/2009, Co-Principal investigator (The PI is Dr. Yong Zhu, East Carolina University).
2007-2008	W.M. Keck Foundation, "Integrated, complex systems for direct control of the developing embryo", C. Duan, Co-Principal investigator (The PI is Dr. Michel Marharz).
2001-2006	NSF Research Grant #IBN0110864, National Science Foundation, "Regulation of insulin-like growth factor (IGF) actions by IGF binding proteins in fish", Principal investigator.
2001-2005	NIH Grant R01HL60679, National Heart, Lung and Blood Institute, NIH, "IGF-I and its Binding Proteins in Vascular Smooth Muscle Cells", Principal investigator.
2011-2013	Michigan Diabetes Research and Training Center, University of Michigan, "Molecular analysis of insulin-like growth factor-I-regulated gene expression in vascular smooth muscle cells", Principal investigator.
1998-2001	NSF Research Grant #IBN9729811, National Science Foundation, "Molecular Mechanisms of Insulin-like Growth factor (IGF) Actions in Fish: Role of IGF Binding Protein-3", Principal investigator.
1998-1999	Michigan Diabetes Research and Training Center, University of Michigan, "Structural and functional analysis of insulin-like growth factor binding protein", Principal investigator.
1997-2000	USDA-BARD Grant #IS-2769096CR. "The GH-IGF Axis in *Sparus aurata*: Possible Application to Genetic Selection", Co-principal investigator (The Isreal side Co-principal investigator is Dr. B. Funkeinstein).
1997-1998	Michigan Memorial-Phoenix Project Grant, "Molecular mechanism of insulin-like growth factor-I actions in vascular smooth muscle cells", Principal investigator.
1997-1998	Rackham Faculty Research Grant, University of Michigan, "Molecular mechanism of insulin-like growth factor-I actions in vascular smooth muscle cells", Principal investigator.

Membership in Training Grant Programs:

Molecular Cardiology, Interdepartmental
Molecular and Cellular Endocrinology, Interdepartmental
Cellular and Molecular Biology, Interdepartmental
Organogenesis Center Training Grant, Interdepartmental

Fellowships Successfully Sponsored:

Summer Biomedical Research Fellowship, Howard Hughes Medical Institute and University of Michigan, Recipient: Jonathan Rios-Doria, 1998.
Department of Biology Summer Fellowship, Recipient: Jeanette Bauchat, 1998.
American Heart Association Postdoctoral Fellowship, Recipient: Dr. Kenji Yano, 1999-2000
Summer Biomedical Research Fellowship, Howard Hughes Medical Institute and University of Michigan, Recipient: Kasiani Pozios, 1999
American Heart Association Summer Student Research Fellowship, Recipient: Meredith Ackerman, 1999
Summer Biomedical Research Fellowship, Howard Hughes Medical Institute and University of Michigan, Recipient: Tze-fu Hsieh, 1999
NSF Research Experience for Undergraduates, Recipient: Natalie Wang, 1999
American Heart Association Predoctoral Fellowship, Recipient: Christopher Rosario, 2000-2003 (Awarded but declined)
NSF Research Experience for Undergraduates, Recipient: Gabriel Galang, 2000
Summer Biomedical Research Fellowship, Howard Hughes Medical Institute and University of Michigan, Recipient: John Ng, 2000.
NSF Research Experience for Undergraduates, Recipient: Tricia Royer, 2001.
Summer Biomedical Research Fellowship, Howard Hughes Medical Institute and University of Michigan, Recipient: Tricia Royer, 2001.
Summer Biomedical Research Fellowship, Howard Hughes Medical Institute and University of Michigan, Recipient: Ben Yan, 2001.
NSF Research Experience for Undergraduates, Recipient: Rebecca Gordon, 2002.
Summer Biomedical Research Fellowship, Howard Hughes Medical Institute and University of Michigan, Recipient: Rebecca Gordon, 2002.
Summer Biomedical Research Fellowship, Howard Hughes Medical Institute and University of Michigan, Recipient: Josie Clowney, 2002.
American Heart Association Summer Student Research Fellowship, Recipient: Jason Liu, 2002.
National Sciences and Engineering Research Council of Canada, Postdoctoral Fellowship, Recipient, Dr. Antony Wood, 2003-2005.
Japan Society for Promotion of Science Fellowship, Recipient: Shingo Kajimura, 2003-2006.
The Endocrine Society Summer Research Fellowship, Recipient: Josie Clowney, 2003.
NSF Research Experience for Undergraduates, Recipient: Rita Han, 2003.
NSF Research Experience for Undergraduates, Recipient: Josie Clowney, 2004.
NSF Research Experience for Undergraduates, Recipient: Andrea Muguire, 2005.
NSF Research Experience for Undergraduates, Recipient: Daniel Mitzel, 2006.
China Scholarship Council Fellowship, Recipient: Yingbin Zhong, 2007-2009.
NSF Research Experience for Undergraduates, Recipient: Rachel Diehl, 2007.
Japan Society for Promotion of Science Oversea Fellowship, Recipient: Hiroyasu Kamei, 2008-2010.
China Scholarship Council Fellowship, Recipient: Shuang Jiao, 2008-2010.
NSF Research Experience for Undergraduates, Recipient: Cynthia Lai, 2008.
China Scholarship Council Fellowship, Recipient: Shan Gao, 2009-2011.
Japan Society for Promotion of Science Fellowship, Recipient: Takeshi Onuma, 2009-2011.

Publications- Original research articles:

81. Fukushima, T., Yoshihara, H., Furuta, H., Hakuno, F.,, Luan, J., Duan, C., Saeki, Y., Tanaka, K., Chida,K., Nakatsu,Y., Kamata, K,, Asano, T., and Takahashi, S.-I. Nedd4-induced mono-ubiquitination of IRS-2 enhances IGF signaling and mitogenic activity. Under review.

80. Rong, X., Chen, C., Zhou, P., Zhou, Y., Li, Y., Lu, L., Liu, Y., Zhou, J., and Duan, C. (2014) R-spondin 3 regulates dorsoventral and anteroposterior patterning by antagonizing Wnt/β-catenin signaling in zebrafish embryos. PLoS One, 9:e99514.

79. Zhang, P., Yao, Q., Lu, L., Li, Y. and Duan, C. (2014) Hypoxia inducible factor-3 is an oxygen-dependent transcription activator and regulates a distinct transcriptional response to hypoxia. Cell Rep. 6: 1110-1121.

78. Liu, C., Luan, J., Bai, Y., Lu, L., Liu, Y., Li, Y., Duan, C., Zhou, J. (2014) Aspp2 negatively regulates body growth but not developmental timing by modulating Irs signaling in zebrafish embryos. Gen. Comp. Endocrinol., 197: 82-91.

77. Gao, S., Lu, L., Bai, Y., Song, W., Zhang, P., and Duan, C. (2014) Structural and functional analysis of amphioxus HIFα reveals ancestral features of the vertebrate HIF family. FASEB J, 28:1880-1890.

76. Dai, W., Bai, Y., Zhong, X., Hebda, L., Liu, J., Kao, J., and Duan, C. (2014) Calcium deficiency-induced and TRP channel-regulated IGF1R-PI3K-Akt signaling regulates abnormal epithelial proliferation. Cell Death and Differ. 21:568-581.

75. Zhou, J., Xiang, J., Zhang, S., and Duan, C. (2013) Structural and functional analysis of the amphioxus IGFBP gene uncovers ancient origin of IGF-independent functions. Endocrinology, 154:3753-63.

74. Huang, Y., Harrison, M., Osorio, A., Kim, J., Baugh, A., Duan, C., Sucov, H., and Lien, C.-I. (2013) IGF signaling is required for cardiomyocyte proliferation during zebrafish heart development and regeneration. PLoS One, 8(6):e67266.

73. Kjaer-Sorensen, K., Hansen, D.H., Kamei, H., Kristensen, A.O., Zhou, J., Conover, C.A., Duan, C. and Oxvig, C. (2013) Pregnancy-associated plasma protein-A modulates early developmental rate independent of its proteolytic activity. J. Biol. Chem. 288:9982-92

72. Rytkönen, K.T., Akbarzadeh, A., Kolangi, H., Kamei, H., Duan, C., Leder, E.H., Williams, T.A., and Nikinmaa, N. (2013) Subfunctionalization of cyprinid hypoxia-inducible factors for roles in development and oxygen sensing. Evolution 67:873-882.

71. Allard, J., Kamei, H., and Duan, C. (2013) Inducible transgenic expression in the short-lived fish, *Nothobranchius furzeri*. J. Fish Biol. 82:1733-1738.

70. Jiao, S., Ren, H., Li, Y., Zhou, J., Duan, C., and Lu, L. (2013) Differential regulation of IGF-I and IGF-II gene expression in skeletal muscle cells. Mol. Cell. Biochem. 373: 107-113.

69. Feng, Q., Zou, X., Lu, L., Li, Y., Liu, Y., Zhou, J., and Duan, C. (2012) The stress-response gene *redd1* regulates dorsoventral patterning by antagonizing Wnt/β-catenin activity in zebrafish. PLoS One, 7(12):e52674.

68. Zhang, P., Yao, Q., Lu, L., Zhou, J. Li, Y., Liu,Y., and Duan, C. (2012) Molecular, functional, and gene expression analysis of zebrafish hypoxia-inducible factor-3α. Am. J. Physiol. 303:R1165-74.

67. Onuma, T.A. and Duan, C. (2012) Duplicated Kiss1 receptor genes in zebrafish: Distinct gene expression patterns, different ligand selectivity, and a novel nuclear isoform with transactivating activity. FASEB J, 26: 2941-2950.

66. Zhang, C., Lu, L., Li, Y., Zhou, J., Liu, Y., Fu, P., Gallicchio, M.A., Bach, L.A. and Duan, C. (2012) IGF binding protein 6 expression in vascular endothelial cells is induced by hypoxia and plays a negative role in tumor angiogenesis. Int. J. Cancer, 130:2003-2012.

65. Zhong, Y., Lu, L., Zhou, J. Li, Y., Liu, Y., Clemmons, D.R., and Duan, C. (2011) IGF binding protein 3 exerts its IGF-independent action by antagonizing BMP in zebrafish. J. Cell Sci. 124:1925-35.

64. Onuma, T.A., Ding, Y., Zohar, Y., Ando, H., and Duan, C. (2011) Regulation of spatial and temporal organization of embryonic GnRH neurons by IGF signaling in zebrafish. J. Neuroscience, 31: 11814-11824.

63. Daza, D.O., Sundström, G. Bergqvist, C.A., Duan, C., and Larhammar, D.G. (2011) Evolution of the insulin-like growth factor binding protein (IGFBP) family in vertebrates. Endocrinology 152:2278-89.

62. Jiao, S., Dai, W., Lu, L., Liu, Y.Z., Zhou, J., Li, Y., Kortz, V., and Duan, C. (2011) The conserved clusterin gene is expressed in the developing choroid plexus of zebrafish under the regulation of Notch but not Igf signaling. Endocrinology, 152:1860-71.

61. Kamei, H., Ding, Y., Kajimura, S., Wells, M., Chiang, P. and Duan, C. (2011) Role of IGF signaling in catch-up growth and accelerated temporal development in zebrafish embryos in response to oxygen availability. Development. 138: 777-786.

60. Ren, H., Accili, D., and Duan, C. (2010). Hypoxia converts the myogenic action of insulin-like growth factors into mitogenic action by differentially regulating multiple signaling pathways. Proc. Natl. Acad. Sci. USA. 107:5857-62.

59. Dai, W., Kamei, H., Zhao, Y., Ding, J., Du, Z., and Duan, C. (2010). Duplicated zebrafish insulin-like growth factor binding protein-5 genes with split functional domains: Evidence for evolutionarily conserved IGF binding, nuclear localization, and transactivation activity. FASEB J. 24:2020-9.

58. Zou, S., Kamei, H., Modi, Z., and Duan, C. (2009). Zebrafish IGF genes: Gene duplication, conservation and divergence, and novel role in midline and notochord development. PLoS One 4: e7026. doi:10.1371/journal.pone.0007026 .

57. Wang, XL., Lu,L., Li, L., Li, YM, Chen, C., Feng, Q., C. Zhang, and Duan, C. (2009). Molecular and functional characterization of two distinct IGF binding protein-6 genes in zebrafish. Am. J. Physiol. 296: R1348-R1357.

56. Bansal, T. Lenhart, J., Duan, C., and Maharbiz, M.M. (2009). Patterned delivery and expression of gene constructs into zebrafish embryos using microfabricated interfaces. Biomed Microdevices. 11:633-41.

55. Li, MY, Li, Y., Lu, L., Wang, X, Gong, GQ, and Duan, C. (2009). Structural, gene expression, and functional analysis of the Fugu (*Takifugu rubripes*) IGF binding protein-4 gene. Am. J. Physiol. 296: R558 - R566.

54. Seferovic, M.D., Ali, R., Kamei, H. Liu,S., Khosravi, J.M., Nazarian, S., Han, V.K.M., Duan, C., and Gupta, M.B. (2009). Hypoxia and Leucine Deprivation Induce Human Insulin-Like Growth Factor Binding Protein-1 Hyperphosphorylation and Increase Its Biological Activity. Endocrinology 150: 220-231.

53. Zhou, J., Li, W., Kamei, H., and Duan, C. (2008). Duplication of the IGFBP-2 gene in teleost fish: Protein structure and functionality conservation and gene expression divergence. PLoS One, 3: e3926 (doi:10.1371/journal.pone.0003926).

52. Kamei, H., Lu, L., Jiao, S., Li, Y., Laursen, L.S., Oxvig, C., Zhou, J., and Duan, C. (2008). Duplication and diversification of the hypoxia-inducible IGFBP-1 gene in zebrafish. PLoS One, 3: e3091 (doi:10.1371/journal.pone.0003091).

51. Toyoshima Y., Monson, C., Duan, C., Wu.Y., Yakar, S., Sadler, K.C. and LeRoith. D. (2008). The role of insulin receptor signaling in zebrafish embryogenesis. Endocrinology 149: 5996-6005.

50. Ren, H. *, Yin, P. *, and Duan, C. (2008). IGFBP-5 regulates muscle cell differentiation by binding to and switching on the IGF-II auto-regulatory loop. J. Cell Biol.182: 979-991 (*contributed equally).

49. Schlueter, P., Peng, G., Westerfield, M., and Duan, C. (2007). Insulin-like growth factor signaling regulates zebrafish embryo growth and development by promoting cell survival and cell cycle progression. Cell Death Differ. 14: 1095-1105.

48. Schlueter, P., Sang, X., Duan, C., and Wood, A. W. (2007). Insulin-like growth factor receptor 1b is required for zebrafish primordial germ cell migration and survival. Dev. Biol. 305: 377-387).

47. Zhao, Y., Yin, P., Bach, L., and Duan, C. (2006). Several acidic amino acids in the N-domain of human insulin-like growth factor binding protein (IGFBP)-5 are important for its transactivation activity. J. Biol. Chem. 281: 14184-14191.

46. Kajimura, S., Aida, K., and Duan, C. (2006). Understanding hypoxia-induced gene expression in early development: *In vitro* and *in vivo* analysis of HIF-1-regulated zebrafish IGFBP-1 gene expression. Mol. Cell. Biol. 26:1142-1155.

45. Schlueter, P., Royer, T., Farah, M., Laser, B., Chan, S.-J., Steiner, D., and Duan, C. (2006). Gene duplication and functional divergence of the zebrafish insulin-like growth factor 1 receptors. FASEB J. 20: 1230-1232.

44. Wood, A.W., Schlueter, P.J., and Duan, C. (2005). Targeted knockdown of insulin-like growth factor binding protein-2 (IGFBP-2) disrupts cardiovascular development in zebrafish embryos. Mol. Endocrinol. 19: 1024-1034.

43. Chen, X.Q., Xu, N.Y., Du, J.Z., Wang, Y., and Duan C. (2005). Corticotropin-releasing factor receptor subtype 1 and somatostatin modulating hypoxia-caused downregulated mRNA of pituitary growth hormone and upregulated mRNA of hepatic insulin-like growth factor-I of rats. Mol. Cell. Endocrinol. 242: 50-58.

42. Li, Y., Xiang, J.H., and Duan, C. (2005). Insulin-like growth factor binding protein-3 (IGFBP-3) plays an important role in regulating pharyngeal skeleton and inner ear formation and differentiation. J. Biol. Chem. 280: 3613-3620.

41. Kajimura, S., Aida, K., and Duan, C. (2005). Insulin-like growth factor binding protein-1 (IGFBP-1) mediates hypoxia-induced embryonic growth and developmental retardation. Proc. Natl. Acad. Sci. USA 102: 1240-1245.

40. Xu, N.-Y., Chen, X.Q., Du, J.Z., and Duan, C. (2004). Intermittent hypoxia causes a suppressed pituitary growth hormone through somatostatin. Neuroendonol. Lett. 25: 253-260.

39. Yin, P., Xu, Q., and Duan, C. (2004). Paradoxical actions of endogenous and exogenous insulin-like growth factor binding protein (IGFBP)-5 revealed by RNA interference analysis. J. Biol. Chem. 279: 32660-32666.

38. Xu, Q., Li, S., Zhao, Y., Maures, T.J., Yin, P., and Duan, C. (2004). Evidence that IGF binding protein-5 functions as a ligand-independent transcriptional regulator in vascular smooth muscle cells. Cir. Res. 94: e46-54.

37. Xu, Q., Yan, B., Li, S., and Duan, C. (2004). Fibronectin binds insulin-like growth factor binding protein (IGFBP)-5 and abolishes its ligand-dependent action on cell migration. J. Biol. Chem. 279: 4269-4277.

36. Hsieh. T. Gordon, R., Clemmons, D.R., Busby, W.H. Jr., and Duan, C. (2003). Regulation of the mitogenic and chemotactic responses of vascular smooth muscle cells to insulin-like growth factor (IGF)-I by local IGF binding proteins. J. Biol. Chem. 278: 42886-42892.

35. Duan, C. (2003). The chemotactic and mitogenic responses of vascular smooth muscle cells to insulin-like growth factor-I require the activation of ERK1/2. Mol. Cell. Endocrinol. 206: 75-83.

34. Maures, T., and Duan, C. (2002). Structure, developmental expression, and physiological regulation of zebrafish insulin-like growth factor binding protein-1. Endocrinology 143: 2722-2731.

33. Maures, T., Chan, S.J., Xu, B., Ding, J., Sun, H., and Duan, C. (2002). Structural, biochemical, and expression analysis of two distinct insulin-like growth factor (IGF)-I receptors and their ligands in zebrafish. Endocrinology 143: 1858-1871.

32. Funkenstein, B.I., Tsai, W., Maures, T., and Duan, C. (2002). Ontogeny, tissue distribution, and hormonal regulation of insulin-like growth factor binding protein-2 (IGFBP-2) in a marine fish, Sparus aurata. Gen. Comp. Endocrinol. 128: 112-122.

31. Bauchat, J.R., Busby, W.Jr., Garmany, A., Moore, J., Swanson, P., Lin, M., and Duan, C. (2001). Biochemical and functional analysis of a conserved insulin-like growth factor binding protein (IGFBP) isolated from rainbow trout hepatoma cells. J. Endocrinol. 170: 619-628.

30. Pozios, K.C., Ding, J., Degger, B. Upton, Z., and Duan, C. (2001). IGFs stimulate zebrafish cell proliferation by activating the MAP Kinase and PI3-Kinase signaling pathways. Am. J. Physiol. 280: R1230-R1239.

29. Duan, C., Bauchat, J.R. and Hsieh, T. (2000). Phosphatidylinositol 3-kinase is required for IGF-I-induced vascular smooth muscle cell proliferation and migration. Cir. Res. 86: 15-23.

28. Jackson, L.F., Swanson, P., Duan, C., and Sullivan, C.V. (2000). Purification, characterization and bioassay of prolactin and growth hormone from temperate basses, *Genus Morone*. Gen. Comp. Endocrinol. 117: 138-150.

27. Duan, C. Ding, J., Li, Q., Tsai, W., and Pozios, K.C. (1999). Insulin-like growth factor binding protein-2 is a growth inhibitory protein conserved in zebrafish. Proc. Natl. Acad. Sci. USA 96: 15274-15279.

26. Duan, C., Limatta, M.B., and Bottum, O.L. (1999). Insulin-like growth factor (IGF)-I regulates IGF binding protein-5 expression through the phosphatidylinositol-3-kinase, PKB/Akt and p70 S6 kinase signaling pathway. J. Biol. Chem. 274:37147-37153.

25. Yano, K., Bauchat, J.R., Limatta, M., Clemmons, D.R., and Duan, C. (1999). Down-regulation of protein kinase C inhibits insulin-like growth factor-I-induced vascular smooth muscle cell proliferation, migration and gene expression. Endocrinology 140:4622-4632.

24. Yeh, L.-C.C., Adamo, M.L., Duan, C., and Lee, J.C. (1998). Osteogenic protein-1 regulates IGF-I, IGF-II and IGFBP-5 gene expression in FRC cells by different mechanisms. J. Cell Physiol. 175: 78-88.

23. Duan, C., and Clemmons, D.R. (1998). Differential expression and opposing biological effects of insulin-like growth factor binding protein-4 and -5 in vascular smooth muscle cells. J. Biol. Chem. 273:16836-16842.

22. Zheng, B., Duan, C., and Clemmons, D.R. (1998). The effect of extracellular matrix proteins on porcine smooth muscle cell insulin-like growth factor binding protein-5 synthesis and responsiveness to IGF-I. J. Biol. Chem. 273: 8994-9000.

21. Zheng, B., Clarke, J., Busby, W.H., Duan, C., and Clemmons, D.R. (1998). Insulin-like growth factor binding protein-5 (IGFBP-5) is cleaved by physiological concentrations of thrombin. Endocrinology 139: 1708-1714.

20. Higo, H., Duan, C., Clemmons, D.R., and Herman, B. (1997). Retinoic Acid Inhibits Cell Growth in HPV Negative Cervical Carcinoma Cells by Induction of Insulin-like Growth Factor Binding Protein-5 (IGFBP-5) Secretion. Biochem. Biophys. Res. Commun. 239: 706-709.

19. Moriyama, S., Kagawa, H., Duan, C., Dickhoff, W.W., and Plesetskaya, E.M. (1997). Characterization of two forms of recombinant salmon insulin-like growth factor (IGF)-I: Comparison of immunological, biological activities and binding to IGF binding proteins. Comp. Physiol. Biochem. 117C: 201-206.

18. Duan, C., Hawes, S.B., Prevette, T., and Clemmons, D.R. (1996). Insulin-like growth factor (IGF) -I regulates IGF binding protein-5 synthesis through transcriptional activation of the gene in aortic smooth muscle cells. J. Biol. Chem. 271: 4280-4288.

17. Duan, C., Plisetskaya, E.M. and Dickhoff, W.W. (1995). Expression of Insulin-like growth factor-I in normally and abnormally developing (stunting) coho salmon: Relationship with growth and plasma concentrations of growth hormone and insulin. Endocrinology 136: 446-452.

16. Duan, C. and Clemmons D.R. (1995). Transcription factor AP-2 regulates human insulin-like growth factor binding protein-5 gene expression. J. Biol. Chem. 270: 24844-24851.

15. Plisetskaya, E.M. and Duan, C. (1994). Insulin and insulin-like growth factor I in streptozotocin-injected coho salmon, *Oncorhynchus kisutch*. Am. J. Physiol. 267: R1408-R1412.

14. Duan C and Plisetskaya, E.M. (1993). Nutritional regulation of insulin-like growth factor I mRNA expression in salmon tissues. J. Endocrinol. 139: 243-252.

13. Moriyama, S., Duguay, S.J., Conlon, J.M., Duan, C., Dickhoff, W.W. and Plisetskaya, E.M. (1993). Recombinant coho salmon insulin-like growth factor I: Expression in *Escherichia coli*, purification and characterization. Eur. J. Biochem. 218: 205-211.

12. Duan, C., Takeuchi, Y., Hanzawa, N.and Miyachi, S. (1993). Epidermal growth factor stimulates protein synthesis in primary culture of salmon hepatocytes. Gen. Comp. Endocrinol. 90: 383-388.

11. Shimeno, S., Duan, C.,M.. and Takeda, H. (1993). Metabolic response to dietary carbohydrate to lipid ratios in *Oreochromis niloticus*. Nippon Suisan Gakkaishi. 59: 827-833.

10. Duan, C, Duguay, S. and Plisetskaya, E.M. (1993). Expression of insulin-like growth factor I mRNA in coho salmon, *Oncorhynchus kisutch*.: Tissue distribution and effects of growth hormone/ prolactin family proteins. Fish Biochem. Physiol. 11: 371-379.

9. Plisetskaya, E.M., Bodavera, V., Duan, C., and Duaguay, S.J. (1993). Does salmon brain produce insulin ? Gen. Comp. Endocrinol. 91: 74-80.

8. Duan, C., Hanzawa, N., Takeuchi, Y., Hamada, E., Miyachi, S. and Hirano, T. (1993). Use of primary cultures of salmon hepatocytes for the study of hormonal regulation of insulin-like growth factor I expression *in vitro*. Zool. Sci. 10: 473-480.

7. Duan, C. and Hirano, T. (1992). Effects of insulin-like growth factor-I and insulin on the *in vitro* uptake of sulphate by eel cartilage: evidence for the presence of independent hepatic and pancreatic sulphation factors. J. Endocrinol. 133:211-219.

6. Duan, C., Noso, T., Moriyama, S., Kawauchi, H. and Hirano, T. (1992). Eel insulin: isolation, characterization and stimulatory actions on [^{35}S]sulphate and [^{3}H]thymidine uptake in the branchial cartilage of the eel *in vitro*. J. Endocrinol. 133: 221-230.

5. Duan, C. and Hirano, T. (1991). Plasma kinetics of growth hormone in the Japanese eel, *Anguilla japonica*. Aquaculture 95:179-188.

4. Duan, C. and Hirano, T. (1990). Stimulation of ^{35}S-sulfate uptake by mammalian insulin-like growth factor I and II in cultured cartilages of the Japanese eel, *Anguilla japonica*. J. Exp. Zool. 256:347-350.

3. Duan, C. and Inui, Y. (1990). Effects of recombinant eel growth hormone on the uptake of [^{35}S] sulfate by ceratobranchial cartilage of the Japanese eel, *Anguilla japonica.* Gen. Comp. Endocrinol. 79:320-325.

2. Duan, C. and Inui, Y. (1990). Evidence for the presence of a somatomedin-like plasma factor(s) in the Japanese eel, *Anguilla japonica*. Gen. Comp. Endocrinol. 79:326-331.

1. Duan, C.M., Shimeno, S., Hosokawa, H. and Takeda, H. (1989). Protein requirement of fingerling Wuchan fish, *Megalobrama amblycephala*. Res. Rep. Kochi Univ. 38:77-85.

Publications – Review articles:

19. Duan, C., Shuang, J., and Y. Li (2013) Recent research progress on the Clusterin gene. Periodical of Ocean Unversity of China. 43 (1): 100-108 (in Chinese).

18. Kamei, H., Kajimura, S., Duan, C. and Takahashi, SI (2012) Regulation of the embryonic developmental timing by oxygen tension: Role of the IGF signaling system. Chemistry and Biology, 50: 11-13 (in Japanese).

17. Duan, C., Jiao S., and Li, Y. (2012). Recent Progress in Clusterin Research Periodical of Ocean University of China. in press (in Chinese).

16. Allard, J, and Duan, C. (2011). Comparative endocrinology of aging and longevity regulation. Front. Endocrin. **2:**75. doi: 10.3389/fendo.2011.00075.

15. Zhong, Y., Li, Y., Lu, L., Chen, C., and Duan, C. (2011). Recent progress in insulin-like growth factor binding protein 3 (IGFBP-3) research. Periodical of Ocean University of China. 41: 41-47 (In Chinese).

14. Yao., Q., Lu, L., Li, Y., and Duan, C. (2011). Hypoxia inducible factor (HIF)-1 and -2: Structure, function, and regulation, Life Science, 8: 35-43 (In Chinese).

13. Duan, C., Ren, H. and Gao, Shan. (2010). Insulin-like growth factors (IGFs), IGF receptors, and IGF binding proteins: Roles in skeletal muscle growth and differentiation. Gen. Comp.Endocrinol., 167:344-351.

12. Jiao, S., Lu, L., Li, Y., and Duan, C. (2009). Role and mechanism of the insulin-like growth factor signal transduction pathway in zebrafish. Int. J. Pathol. Clin. Med. 29: 235-239 (In Chinese).

11. Kajimura, S. and Duan, C. (2007). Insulin-like growth factor (IGF) binding protein-1: An evolutionarily conserved fine tuner of IGF actions under catabolic conditions. J. Fish Biol. 71: 309-325.

10. Duan, C, and Xu, Q. (2005). Roles of insulin-like growth factor (IGF) binding proteins in regulating IGF actions. Gen. Comp. Endocrinol. 142:44-52.

9. Wood, A.W., Duan, C., and Bern, H.A. (2005). Insulin-like growth factor signaling in fish. Int. Rev. Cyto. 243: 215-285.

8. Duan, C., Ding, J., Schlueter, P.J., Li, Y., Zhang J., and Royer, T. (2003). A zebrafish view of the insulin-like growth factor signaling pathway. Acta Zoologica Sinica, 49: 421-431.

7. Duan, C. (2002). Regulation of insulin-like growth factor (IGF) actions by IGF binding protein-2 in zebrafish. Fisheries Sci. 68: 765-768.

6. Kelley, K.M. and Duan, C. (2002). Beyond carrier proteins: Comparative endocrinology of the insulin-like growth factor-binding protein (IGFBP). J. Endocrinol. 175: 1-2 (Editorial).

5. Duan, C. (2002). Specifying the cellular responses to insulin-like growth factor (IGF) signals: Role of IGF binding proteins. J. Endocrinol. 175: 41-54.

4. Clemmons D.R., Busby W., Clarke J.B., Parker A., Duan C., Nam T.J. (1998). Modifications of insulin-like growth factor binding proteins and their role in controlling IGF actions. Endocrine J. 45:S1-S8.

3. Duan, C. (1998). Nutritional and developmental regulation of insulin-like growth factors in fish. J. Nutr. 128: 306S-314S.

2. Dickhoff, W.W., Beckman, B.R., Larsen, D.A., Duan, C., and Moriyama, S. (1997). The role of growth in endocrine regulation of salmon smoltification. Fish Physiol. Biochem. 17: 231-236.

1. Duan, C. (1997). The insulin-like growth factor system and its biological actions in fish. Am. Zool. 37: 489-501.

Publications - Book Chapters:

3. Duan, C. (1994). Incorporation of ^{35}S-sulfate into branchial cartilages: A biological model to study hormonal regulation of skeletal growth in fish. In "*Biochemistry and Molecular Biology of Fishes. Vol. 3*". ed. P.W., Hochachka and T.P., Mommsen., pp. 525-543, Elsevier, Amsterdam-New York.

2. Duan, C., Duguay, S.J., Swanson, P., Dickhoff, W.W. and Plisetskaya, E.M. (1994). Tissue specific expression of insulin-like growth factor I messenger ribonucleic acids in salmonids: Developmental, hormonal and nutritional regulation. In: *Perspectives in Comparative Endocrinology*, ed. KG Davey, RE Peter and SS Tobe, Nat. Res. Council of Canada. Ottawa, Canada, pp. 365-372.

1. Plisetskaya, E.M., Duguay, S.J. and Duan, C. (1994). Insulin and insulin-like growth factor I in salmonids: Comparison of structure, function and expression. In: *Perspectives in Comparative Endocrinology*, ed. Davey, K.G., Peter, E.R., and Tobe, S.S. Nat. Res. Council of Canada. Ottawa, Canada, pp. 226-233.

Publications - Symposium Proceedings:

2. Kajimura, S., Aida, K., and Duan, C. (2004). Induction of insulin-like growth factor binding protein-1 (IGFBP-1) by hypoxia during zebrafish embryogenesis: Possible implication to embryonic growth. Proceedings of the 4th Congress of Asia and Oceania Society of Comparative Endocrinology, Nara, Japan, 224-226.

1. Duan, C. (1997). Expression and regulation of insulin-like growth factor binding proteins in vascular smooth muscle cells. In: Advance in Comparative Endocrinology: Proceedings of the XIIIth International

Congress of Comparative Endocrinology, ed. Kawashima, S. & Kikuyama, S., pp. 1139-1142, Monduzzi Editre, Bologna, Italy.

Invited Lectures and Seminars:

138. Seminar at School of Animal Sciences, Guanxi University, April 29, 2014, Nanning, Guanxi, China
137. Invited speaker, International Workshop on "Insulin and Cancer". Nov. 29-30, 2013. San Paula, Brazil
136. Seminar at the Graduate Program of Cellular and Molecular Biology, North Dakota State University, Oct. 21, 2013, Fargo, ND.
135. Plenary lecture speaker, Chinese Zebrafish Research Conference, Oct. 12-14, 2013, Suzhou, China.
134. Seminar at School of Aquatic Life Sciences, Ocean University of China, Oct. 10, 2013, Qingdao, China.
133. State-of-the-Art lecture, 17th International Congress of Comparative Endocrinology, Barcelona, Spain, July 15-19, 2013
132. Seminar, School of Biological Sciences, University of Hong Kong, Hong Kong, June 6, 2013.
131. Seminar, Institute of Marine and Environmental Technology, University of Maryland, MD, April 5, 2013.
130. Speaker, Gordon Research Conference "Insulin-like Growth Factors in Physiology and Disease. March 17-22, 2013. Ventura, CA
129. Plenary lecture, Symposium on "Physiological Insights Towards Improving Fish Culture (PITIFC)", Aquaculture 2013 - the Triennial Aquaculture Meeting, Nashville Tennessee, Feb. 21 - 25, 2013.
128. Invited speaker, Featured session on Genetic Engineering and Aquaculture, Aquaculture 2013 - the Triennial Aquaculture Meeting, Nashville Tennessee, Feb. 21 - 25, 2013.
127. Seminar, Department of Molecular and Integrative Physiology, University of Michigan School of Medicine, October 10, 2012, Ann Arbor, MI,
126. Seminar, Unit for Laboratory Animal Medicine, University of Michigan School of Medicine, October 4, 2012, Ann Arbor, MI,
125. State-of-art lecture, Symposium on "Insulin-like growth factors: Characteristics, regulations and effects". 26th Conference of European Comparative Endocrinologists, August 21-25, 2012. Zurich, Switzerland.
124. State-of-art lecture, Symposium on "The zebrafish and other model systems in comparative research". 26th Conference of European Comparative Endocrinologists, August 21-25, 2012. Zurich, Switzerland.
123. School of Medicine and Pharmacology, Ocean University of China, Qingdao, China, May 22, 2012.
122. Institute of Zoology, Chinese Academy of Science, Beijing, May 17, 2012.
121. UM-PKU Joint Mini-Symposium in Life Science, Beijing, China, May 16-18, 2012.
120. Invited talk at the Nathan Shock Center for the Biology of Aging Annual Research Retreat: Biogerontology with a Backbone: Standing on the Shoulders of Invertebrates, University of Michigan, Ann Arbor, Match 27-28, 2012.
119. Keynote speaker, Australia IGF symposium, October 27-28, 2011, Melbourne, Australia.
118. Seminar at Kolling Institute of Medical Research, University of Sydney, October 26, 2011, Sydney, Australia.
117. Seminar in Department of Molecular and Biomedical Sciences, University of Adelaide, Australia, October 25, 2011, Adelaide, Australia.
115. Seminar at School of Life Sciences, Guangxi University, August 19, 2011, Nanning, Guangxi, China.
114. Invited plenary speaker, PPA, USDA & NOAA Workshop- Improving Productivity, Efficiency, Product Quality and Environmental Sustainability of Aquaculture Operations through Systematic Integration of Information and Knowledge. August 1-3, 2011. Shepherdstown, WV.
113. Invited symposium speaker, "Fish Muscle Growth and Repair; Models Linking Biomedicine and Aquaculture", Wilton Park, Sussex, UK, 26-29, June 2011.
112. Seminar at School of Medicine and Pharmacology, Ocean University of China, May 19, 2011, Qingdao, China.
111. Seminar at the Department of Animal Science, Food and Nutrition, Southern Illinois University, April 1, 2011, Carbondale, IL.
110. Invited symposium speaker, the Endocrine Society 2010 Annual Meeting, June 19-22, 2010, San Diego, CA.

109. Plenary speaker, The 14th International Symposium on Fish Nutrition & Feeding, May 31-June 4, 2010, Qingdao, China.
108. Seminar at Shanghai Institute of Materia Nedica, Chinese Academy of Sciences, Shanghai, China, Dec. 14, 2009.
107. Seminar at the Institute of Zoology, Chinese Academy of Sciences, Beijing, China, Nov. 11, 2009.
106. Invited speaker, the 10th Annual Meeting for the Chinese Society of Marine Drug Research, Nov. 7-9, 2009, Qingdao, China.
105. Seminar at the College of Aqua-Life Sciences. Shanghai Ocean University, Shanghai, China, September 28, 2009.
104. State-of-the Art lecture speaker, the 16th International Congress of Comparative Endocrinology, Hong Kong, June 22-26, 2009.
103. Invited speaker at the 2nd International Symposium on Fish Growth and Reproduction, Hong Kong, China, June 21-22, 2009.
102. Invited speaker at the IOCAS Symposium on Marine Functional Genomics, Qingdao, China, May 10-11, 2009.
101. The Distinguished Schweppe Lecture Speaker, University of Texas at Austin, Marine Science Institute, Port Aransas, Texas, April 27-30, 2009.
100. Keynote speaker at the Symposium "Fish Growth: Contributions, Trends, and Tools", 8th International Congress on the Biology of Fish, July 28- August 1, 2008, Portland, Oregon.
99. Seminar at the College of Aqua-Life Sciences. Shanghai Ocean University, Shanghai, China, July 15, 2008.
98. Invited speaker at the International Symposium on Marine Functional Genomics, Xinjiang, China, July 2-4, 2008.
97. Invited symposium speaker at the 6th International Symposium on Fish Endocrinology, Jun 22-27, 2008, Calgary, Canada.
96. Invited speaker at the International Zebrafish Workshop - A model System for Developmental Biology and Comparative Endocrinology, Jun 20-21, 2008, Calgary, Canada.
95. Invited symposium speaker at the 41st Winter Conference on Brain Research, January 26 - February 1, 2008, Snowbird, Utah.
94. Plenary lecture speaker, International Symposium on Comparative Environmental Physiology, Biochemistry and Toxicology – Diversity in a Changing Environment. October 7-12, 2007, Hangzhou, Zhejiang, China.
93. Seminar at the School of Medicine and pharmacy, Ocean University of China, July 20, 2007, Qingdao, China.
92. Seminar at the Department of Biochemistry and Biophysics, University of North Carolina at Chapel Hill, June 20, 2007, Chapel Hill, NC.
91. Seminar at the Department of Genetics, Dartmouth College School of Medicine, June 6, 2007, Lebanon, NH.
90. Seminar at the Department of Pediatrics, Children's Health Research Institute, University of Western Ontario, May 16, 2007, London, Canada.
89. Seminar at the Department of Integrative and Molecular Physiology, University of Michigan School of Medicine, March 28, 2007, Ann Arbor, MI.
88. Seminar at Angiogenesis Research Center, Dartmouth Medical Center, March 6, 2007, Lebanon, NH.
87. Seminar at the Medical Science Program, Indiana University, January 22, 2007, Bloomington, IN.
86. Seminar at the Division of Endocrinology, Metabolism and Diabetes, University of Michigan Medical Center, January 18, 2007, Ann Arbor, MI.
85. Seminar at the Department of Biological Sciences, North Dakota State University, December 8, 2006, Fargo, ND.
84. Anchor speaker at the 3rd International Congress of the GRS and the IGF Society, November 11-15, 2006. Kobe, Japan.
83. Seminar at the School of Medicine and Pharmacology, Ocean University of China, November 3, 2006, Qingdao, China.
82. Invited symposium speaker at the CAS International Symposium on Model Organisms and Diseases, October 27-30, 2006, Beijing, China.
81. Seminar at the Department of Biology, California State University at Fresno, October 20, 2006, Fresno, CA.

80. Seminar at the Department of Biological Sciences, California State University at Long Beach, October 19, 2006, Long Beach, CA.
79. Seminar at the Department of Cell Biology, University of Alabama at Birmingham, August 30, 2006, Birmingham, AL.
78. Seminar at the School of Medicine and Pharmacology, Ocean University of China, August 4, 2006, Qingdao, China.
77. Invited symposium speaker at the CAS Symposium on Marine Functional Genomics, July 29-31, 2006, Qingdao, China.
76. Seminar at the Division of Endocrinology and Metabolism, Department of Internal Medicine, Emory University School of Medicine, June 22, 2006, Atlanta, GA.
75. Invited symposium speaker at the 8th European Congress of Endocrinology, April 1-5, 2006, Glasgow, United Kingdom.
74. Seminar at the Ocean Research Institute, University of Tokyo, Tokyo, Japan, December 13, 2005.
73. Seminar at the Department of Applied Biological Chemistry, University of Tokyo, December 12, 2005, Tokyo, Japan.
72. Invited symposium speaker at the symposium on "Fish Endocrinology in the New Century", December 9, 2005, Kitasato University, Tokyo, Japan.
71. Seminar at the Department of Medicine, David Geffen School of Medicine, UCLA, September 28, 2005, Los Angeles, CA.
70. Seminar at the Department of Molecular Biology, Aarhus University, September 8, 2005, Aarhus, Denmark.
69. Seminar at the Yellow Sea Institute of Aquaculture Research, August 18, 2005, Qingdao, China.
68. Seminar at the First Institute of Oceanography, SOA, August 3, 2005, Qingdao, China.
67. Invited symposium speaker at the Endocrine Society 87th Annual Meeting, June 4-7, 2005, San Diego, CA.
66. Invited speaker, Gordon Research Conference on IGFs in Physiology and Diseases. Gordon Research Conference, February 27-March 3, 2005, Ventura, CA.
65. Plenary lecture speaker, the 2004 International Symposium on Marine Drugs (ISMD2004), October 18-22 2004, Qingdao, China.
64. Invited speaker, Chinese Academy of Sciences Workshop on Fish Genetics and Development. October 8-12, 2004, Wuhan, China.
63. State-of-the-Art lecture, 5th International Symposium on Fish Endocrinology, September 5-9, 2004, Castellon, Spain.
62. Invited lectures at the Edwin W. Pauley Summer Program in Marine Biology, The Hawai'i Institute of Marine Biology, July 20-25, 2004, Kane'ohe, HA.
61. Seminar at the Division of Reproduction and Fertility, Stanford University Medical School. June, 25, 2004, Stanford, CA.
60. Seminar at the Molecular Medicine Division, Department of Medicine, Oregon Health Science University, May 18, 2004, Portland, OR.
59. Seminar at Northwest Marine Fisheries Science Center, April 21, 2004, Seattle, WA.
58. Seminar at the Department of Biochemistry, University of Texas Health Sciences Center, Jan. 16, 2004, San Antonio, TX.
57. Seminar at Department of Cellular and Molecular Physiology, Penn State University, College of Medicine, Oct. 2, 2003, Hershey, PA.
56. Seminar at the Division of Pediatric Endocrinology, Department of Peds & Comm Diseases, University of Michigan, Sep. 30, 2003, Ann Arbor, MI.
55. Seminar at Marine Drug and Food Institute, Ocean University of China, Qingdao, Sept. 17, 2003P.R. China.
54. Seminar at Ningbo Institute of Technology, Zhejiang University, Sept. 11, 2003, Ningbo, P.R. China.
53. Seminar at School of Life Sciences and Technology, Ningbo University, Sept. 9, 2003, Ningbo, P.R. China.
52. Seminar at Shanghai Institute of Biochemistry and Cell Biology, Chinese Academy of Sciences, Sept. 5, 2003, Shanghai, P.R. China.
51. Seminar at the Department of Biological Sciences, California State University, March 15, 2003, Long Beach, CA..

50. Seminar at the Institute of Oceanology, Chinese Academy of Science, Jan. 6, 2003, Qingdao, P.R. China.
49. Invited Symposium talk, ACS Symposium of Advances in Modern Zoology, Dec. 23-25, 2002, Beijing, P.R. China.
48. Seminar at the Carolina Cardiovascular Biology Center, University of North Carolina, Dec. 16, 2002, Chapel Hill, NC.
47. Seminar at the South China Sea Institute of Oceanology, Chinese Academy of Sciences, Oct. 11, 2002, Guangzhou, P.R. China.
46. Plenary lecture, 4th Intercongress Symposium of the Asia and Oceania Society for Comparative Endocrinology, . Oct. 9, 2002, Guangzhou, P.R. China
45. Seminar at the Institute of Oceanology, Chinese Academy of Science, June 28, 2002, Qingdao, P.R. China.
44. Seminar at the Department of Animal Sciences, Rutgers University, March 15, 2002, New Brunswick, NJ.
43. Seminar at the Department of Zoology, North Carolina State University, February 14, 2002, Raleigh, NC.
42. Invited symposium talk, SICB Symposium "Integrative and Evolutionary Roles of Hormone-binding Proteins" , January 4, 2002, Anaheim, CA.
41. Seminar at the Center for Organogenesis, University of Michigan, December 14, 2001, Ann Arbor, MI.
40. Seminar at the National Institute for Basic Biology, October 4, 2001, Okazaki, Japan.
39. Invited symposium speaker, International Commemorative Symposium for the 70th Anniversary of Japanese Society of Fisheries Science, October 3, 2001, Yokohama, Japan.
38. Seminar at the Department of Applied Biological Chemistry, University of Tokyo, October 1, 2001, Tokyo, Japan.
37. Seminar at the Institute of Medical Science, University of Tokyo, October 1, 2001, Tokyo, Japan.
36. Seminar at the Center for Genetic Lung Diseases, University of Colorado Health Sciences Center, Denver, CO, June 22, 2001.
35. Seminar at the Division of Pediatric Endocrinology, 'Tor Vergata' University, Rome, Italy, May 31, 2001.
34. Seminar at the Department of Clinical and Molecular Endocrinology and Oncology, Federico II University of Naples, May 29, 2001, Naples, Italy.
33. Seminar at the Division of Neurology, Second University of Naples, School of Medicine, May 28, 2001, Naples, Italy.
32. Invited symposium talk, Symposium on IGF-I and Insulin Pathways as Modulators of Longevity and Late-Life Diseases, May 1-2, 2001, Ann Arbor, MI.
31. Invited symposium speaker, Michigan Diabetes Research and Training Center 2001 Winter Symposium, March 17, 2001, Ann Arbor, MI.
30. Invited talk, Student/Postdoctoral Strategies Workshop: After the Ph.D. Issues and Options. SICB 2001 Annual Meeting, January 6, 2001, Chicago, IL.
29. Seminar at the Howard Hughes Medical Institute, Department of Molecular Biology and Biochemistry, University of Chicago, January 5, 2001, Chicago, IL.
28. Seminar at the Department of Medicine, Northwestern University Medical School, January 4, 2001, Chicago, IL.
27. Seminar at the Department of Biology, York University, Nov. 6, 2000, Toronto, Canada.
26. Seminar at the Department of Pathology, University of Washington, August 1, 2000, Seattle, WA.
25. Plenary lecture speaker, 4th International Symposium on Fish Endocrinology, July 31, 2000, Seattle, WA.
24. Seminar at the Endocrinology group, Department of Animal Sciences, Rutgers University, April 26, 2000, New Brunswick, NJ
23. Seminar at the Department of Physiology and Biophysics, University of Illinois, April 11, 2000, Chicago, IL.
22. Seminar at Institute of Basic Medical Sciences, Chinese Academy of Sciences, February, 2000, Beijing, P. R. China
21. Seminar at the Department of Medicine, Wayne State University, June, 1999, Detroit, MI.

20. Seminar at the University of Michigan Endocrinology and Metabolism Research Conference, Jan., 1999, Ann Arbor, MI.
19. Seminar at the Department of Zoology, North Dakota State University, Dec. 1998, Fargo, ND
18. Seminar at the University of Michigan, Center for Organogenesis, Feb., 1998, Ann Arbor, MI.
17. Seminar at the Department of Zoology, Hokkaido University, Nov., 1997, Sapporo, Japan.
16. Seminar at the Department of Animal Sciences, University of Tokyo, Nov., 1997, Tokyo, Japan.
15. Invited symposium talk, the 3rd ORI Symposium. Nov., 1997. Tokyo, Japan.
14. Invited symposium speaker, 18th Annual Conference of European Society for Comparative Physiology and Biochemistry, August, 1997, Barcelona, Spain.
13. Seminar at the Department of Zoology, University of Toronto, May, 1997, Scarborough, Toronto, Canada.
12. Invited symposium speaker, Experimental Biology 1997 Meeting, April, 1997, New Orleans, LA.
11. Seminar at the Department of Physiology, University of Michigan, Feb., 1997, Ann Arbor, MI.
10. Invited symposium speaker, Symposium on Developmental Endocrinology in Non-mammalian Vertebrates, SCIB Annual Meeting, Dec., 1996, Albuquerque, NM.
9. Seminar at the Institute of Developmental Biology, Chinese Academy of Sciences, Nov., 1996, Beijing, P.C. China.
8. Seminar at Experimental Marine Biology Laboratory, Institute of Oceanology, Chinese Academy of Sciences, Nov., 1996, Qingdao, China.
7. Special Lectures in Fish Molecular Endocrinology. School of Fisheries Science, Ocean University of Qingdao, Nov. 1996, Qingdao, China.
6. Seminar at the Department of Pediatrics, University of North Carolina at Chapel Hill, May, 1994, Chapel Hill, NC.
5. Seminar at the Department of Integrative Biology, University of California at Berkeley, July, 1993, Berkeley, CA.
4. Invited symposium speaker, the XII Conference of Comparative Endocrinology, May, 1993, Toronto, Canada.
3. State-of-art lecture, the 2nd International Symposium on Fish Endocrinology, June, 1992, Saint-Malo, France.
2. Invited symposium speaker, ORI International Symposium on Fish Endocrinology, Sep., 1991, Tokyo, Japan.
1. Invited speaker, International Workshop on Hormonal Control of Growth in Teleost Fishes, Aug., 1990, San Diego, CA.

Teaching- Courses Taught at UM:

Undergraduate Courses:

Animal Physiology	Biology/MCDB 225	1998, 1999, 2000, 2001, 2002, 2005, 2008, 2009, 2010, 2011, 2012, 2013
Undergraduate Research	MCDB 300	1997-present
Advanced Undergraduate Research	MCDB 400	1997-present
Endocrinology	Biology 418	Fall 1996
Molecular Endocrinology	MCDB 426	Winter 1999, 2000, 2002, 2005, 2006, 2007, 2009, 2011, 2012, 2013, 2014

Graduate Courses:

Topics in Cell and Molecular Biology	Biology 615	Fall 1997
Advanced Study in Biology	Biology 700	Fall 1998-present
Biology of Chemical Mediation	Biology 800	Fall 1999, Winter 2000
Dissertation Research	Biology 990/995	Fall 2000-present
Research Responsibility	PIBS 501/503	Fall 2002
CMB Student Seminar	CMB850	2005, 2006
Model Organisms in MCDB	MCDB614	Fall 2006, 2008

Teaching- Curriculum Development at UM:

Biology 426, Molecular Endocrinology. This new course covers topics in molecular mechanisms of hormone actions, signal transduction and regulation of gene expression by hormones. This course has been offered to advanced undergraduate since 1999. The current enrollment is 37 students.

Teaching- Personnel Trained/Under Training in the Duan Lab at UM:

Undergraduate Researchers Trained/Under Training in the Duan Lab at UM:

Meredith Ackerman, 1998-1999
Eric Buras, 2000
Peter Campell, 1997
Josie Clowney, 2001-present
Rebecca E. Gordon, 2001-2003
Travis Maures, 2000
Tze-fu Hsieh, 1998-2000
Amy Ko, 1999-2000
Ben Laser, 2002-2003
Jamie Lee, 2000
John Ng, 2000
Lorri Marek, 2000-2001
Kasiani Pozios, 1998-2000
Tricia L. Royer, 2001-2003
Tim Tseng, 2001
Ben Yan, 2001-2002
Thamsanqa Zuzo, 1996-1997
Rachel Diehl, 2006 - 2007
Timothy J. Burke, 2007 - 2008
Cynthia Lai, 2008 – 2009
Catherine Nosal, 2009 - 2010
Sarah Gabatz, 2011- 2013
Namun Santi, 2011- 2011
Timothy Hochradel, 2011-2012
Julia Kao, 2012 – 2013
Emily Boyd, 2013 – present
Wesley Yim, 2014 – present

Jeanette Bachaut, 1997-1999
Christopher H. Bayer, 1996-1997
Peter Chiang, 2005
Gabriel Galang, 2000
Rita Han, 2003-2004
Andrea Maquire, 2004-2006
Jerry Hu, 1998-1999
Takisha Lashore, 2000
Jason Liu, 2002
Marvin Lin, 2000-2001
Lee Menning, 1999-2000
Daniel Mitzel, 2005-2006
Jonathan Rios-Dori, 1997-1998
Archana Manoj Shah, 1997
Natalie Wang, 1999
Huma Zaidi, 2001
Jacky Gaydo, 2006 - 2007
Cathleen Mummert, 2006 - 2007
Zubin J. Modi, 2007 - 2008
Lori Moton, 2008 - 2010
Sharon U, 2010-2011
Elizabeth Deveris, 2011- 2012
Andrea Lynema, 2011- 2012
Avery Lee, 2012 – 2013
Peryy Zhong, 2012- 2013
Jingyi Liu, 2013 – 2013
Lisa Laveanet, 2014 – present

Graduate students:

Qijin Xu, Ph.D., graduated in 2004 (Current position: Assistant professor, Cedars Sinai Medical Center)
Yun Li, Ph.D., graduated in 2005 (Current position: Professor, Southwest University, China)
Shingo Kajimura, Ph.D., graduated in 2006 (Current position: Assistant professor, UCSF)
Peter Schlueter, Ph.D. graduated in 2006 (Current position, postdoctoral fellow, Harvard University)
Yang Zhao, Ph.D., graduated in 2007 (Current position, Research scientist, Eli Lily Company)
Hongxia Ren, Ph.D. student, 2002 – 2008 (Current position, postdoctoral fellow, Columbia University)
Wei Dai, Ph.D. student, 2006 – 2010 (Current position, postdoctoral fellow, John Hopkins University)
John Allard, M.S., graduated in 2011.
Yingbin Zhong, Ph.D. student, 2006 – 2010 (Current position, Associate Professor, Suzhou University)

Shuang Jiao, Ph.D. student, 2006 – 2011 (Current position, Assistant Professor, Chinese Academy of Sciences)
Nicholas Siva, PhD student, 2013 – present.
Yi Xin, PhD student, 2013 – present.
Chengdong Liu, PhD student, 2013 – present.

Postdoctoral fellows and visiting scholars:

Bin Xu (Visiting Scholar), 1997-1998
Jun Ding, 1997 - 1999
Kenji Yano, 1998 - 2000
Shenghua Li, 1999 - 2001
Hanshi Sun, 2000 - 2001
Junbin Zhang (Visiting Scholar), 2001- 2002
Deming Sun (Visiting Scholar), 2002
Zhingbin Cui, 2002 – 2003
Mohamed H. Farah, 2002-2003
Ping Yin, 2002 - 2004
Antony W. Wood 2002 - 2005
Hiroyasu Kamei, 2005 - 2010
Wenhong Li (Visiting Scholar), 2006 - 2007
Yonghe Ding, 2006 - 2008
Wei Xia, 2006 - 2008
Jianfeng Zhou, 2006 - 2008
Shuming Zou, 2007 – 2008
Kasper Kjaer-Sorensen (Visiting Scholar), 2007 - 2008
Yongbin Zhong (Visiting Scholar), 2007 - 2009
Shuang Jiao (Visiting Scholar), 2008 – 2010
Shan Gao (Visiting Scholar), 2009 - 2011
Fuxia Hu, (Visiting Scholar), 2010 – 2010
Takeshi Onuma, postdoc, 2007 - 2012
Wei Dai, postdoc, 2011 - 2012
Ling Lu, 2011 – 2012
Xueping Zhong, 2011 – 2012
Alfonso Saera-Vila, postdoc, 2011 – 2013
Xiaozhen Yang, Visiting Scholar, 2012 – 2013
Peng Zhang, postdoc, 2012 – present
Takeshi Akama, postdoc, 2013 - present

Research Staff in the Duan lab at UM:

Marya Limatta (Research Assistant I), 1998-1999
Travis Maures (Research Assistant II), 2000-2002
Jun Ding (Research Associate I), 2000-2003
Justin S. Lenhart, Research Assistant, 2007 – 2008
Yan Bai, Research Assistant, 2013 - present

Teaching- Ph.D. students whose committee served at UM:

Graham Boorse (2000-2004), MCDB, Dissertation committee, member
Qijin Xu (2001-2004), MCDB, Dissertation committee, chair
Qin Li (2001-2004), MCDB, Dissertation committee, member
Peter Shleuter (2002-2006), MCDB, Dissertation committee, chair
Meng Yao (2002-), MCDB, Dissertation committee, member

Nicole Westpot, (2002-2006), Neuroscience, Dissertation committee, member
Yang Zhao, (2003-2007), MCDB, Dissertation committee, chair
Jiandong Liu (2003-2007), MCDB, Dissertation committee, member
Andrew Peter Hegle (2003-2007), MCDB, Dissertation committee, member
Hua Jin (2003-2007), MCDB, Dissertation committee, member
Hongxia Ren (2003-2008), MCDB, Dissertation committee, chair
Sean Friday (2004-2008), Dissertation committee, member
Guatam Rajpal (2006-), CMB Program, Dissertation committee, member
Tushar Bansal (2006-2009), Electrical Engineering, Dissertation committee, member

Wei Dai (2007-), MCDB, Dissertation committee, chair
Ferdous Barlaskar (2007 - 2011), CMB, Dissertation committee, member
Ryan Evans (2007 - 2011), Biochemistry, Dissertation committee, member
Chris Lee Pelletier (2007 -), MCDB, Dissertation committee, member
Pia Bagamasbad (2007 -), MCDB, Dissertation committee, member
Yi Xiang (2007 -), MCDB, Dissertation committee, member
Yujian Ma (2009-2010), MCDB, Dissertation committee, member
John Allard (2009-2011), MCDB, Dissertation committee, chair
Yasuhiro Kyono (2009 -), Neuroscience, Dissertation committee, member
Merrisa Cui (2011-), Neuroscience, Dissertation committee, member
Ann Marie Marcara, 2012-), MCDB, Dissertation committee, member
Christopher Sifuentes (2012-), MCDB, Dissertation committee, member

Teaching- Honor's student thesis committee chaired:

Hui-San Chung (Co-chair, 1998)
Amer Ardati (Co-chair, 1999)
Kasiani Pozios (Chair, 2000)*
Tze-fu Hsieh (Chair, 2000)**
Matt Steinway (Co-chair, 2000)
Bryan J. Pack (Co-chair, 2001)
Rajat M. Gupta (Co-chair, 2002)
Miriam Livny (Co-chair, 2006)
Hussein Hamid (Co-chair, 2012)

* Graduate with High Honor; ** Graduated with highest Honor

Internal Services:

Departmental:

Search Committee for Animal Physiologist, member, 1997-1998.
Search Committee for Animal Physiologist, member, 1998-1999.
Search Committee for Animal Physiologist Lecturer III, member, 1999.
Executive Committee, member, Department of Biology, 1999-2000.
Graduate Studies Committee, member, Department of Molecular, Cellular and Developmental Biology, 2001-2002.
Search Committee for Neurobiologist, member, 2001-2002.
Search Committee for Cell Biologists, member, 2002-2003.
Executive Committee, member, Department of Molecular, Cellular and Developmental Biology, 2003 - 2006.
Search Committee for Cell Biologists, member, 2004-2005.
Search Committee for Neurobiologist and Endocrinologist, Chair, 2005-2006.

Graduate Admission Committee, Chair, 2005-2006.
Associate Chair of the department of MCDB for Graduate Studies, 2006-2007
Executive Committee, member, Department of Molecular, Cellular and Developmental Biology, 2007 - 2009.
Search Committee for Neurobiologist and Endocrinologist, member, 2007-2008.
Search Committee for Molecular, Cellular and Developmental Biologists, Chair, 2008-2009.
Associate Chair of the department of MCDB for Research and Facility, 2009-2010
Search Committee for Molecular, Cellular and Developmental Biologists, Chair, 2010-2011.

University:

Travel Award Committee, Center for Organogenesis, member, 1998.
The Center of Organogenesis Seminar Committee, member, 2001-2002.
Admission Committee, Program in Biomedical Sciences (PIBS), member, 2002.
Life Science Institute Cell Biology Recruiting Task Force, member, 2002-2003.
Protein Core Oversight Committee, Michigan Diabetes Research and Training Center, member, 2002-present.
Executive Committee, Cell and Molecular Biology Graduate Program, 2006 -2009.
Admission Committee, Program in Biomedical Sciences (PIBS), member, 2007.
International Student Admission Committee, Program in Biomedical Sciences (PIBS), member, 2007.

External Services (selected from major activities since tenured in 2002):

NSF Advisory Panel, regular member, Integrative Animal Biology, NSF, 2006
NSF Advisory Panel, regular member, Integrative Organismal Systems, NSF, 2007, 2011
Council member, North American Society for Comparative Endocrinology, 2011 - 2013
Council member, International Society of Insulin-like Growth Factor Research, 2009 - present

Ad hoc reviewer for the following funding agencies:

National Science Foundation
USDA National Research Initiative Competitive Grant Program
Medical Research Council, Canada
National Science and Engineering Research Council, Canada
Human Frontier Science Program
United Kingdom Biotechnology and Biological Sciences Research Council
Changjiang Scholar Program, Chinese Ministry of Education
Hong Kong University Grant Committee
Austrian Science Fund