

CURRICULUM VITAE

University of Idaho

NAME: Ma, Jie (Jessie)

DATE: October 19, 2022

RANK OR TITLE: Research Assistant Professor

DEPARTMENT: Fish and Wildlife Sciences

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DATE OF FIRST EMPLOYMENT AT UI: January 3, 2017

DATE OF TENURE: untenured

DATE OF PRESENT RANK OR TITLE: October 17, 2022

EDUCATION BEYOND HIGH SCHOOL:

2008.09-2013.06: Huazhong Agriculture University, College of Fisheries, Ph.D.

2011.03-2012.04: University of Hawaii at Manoa, Department of Public Health, Visiting scholar for Ph.D. dissertation research.

2004.09-2008.07: Hebei Normal University of Science & Technology, Department of Animal Sciences & Technology, B.S.

Continuing Education:

Quality Management System Training. American Fisheries Society, Fish Health Section. 2017.

Flavobacteria and Integrated Fish Health Management. American Fisheries Society, Fish Health Section. 2019.

Applied Nutrition for Disease Management. American Fisheries Society, Fish Health Section. 2022

EXPERIENCE:

2021.05-present: Research Scientist, Department of Fisheries and Wildlife Sciences, University of Idaho.

2020.08-2021.06: (Weekend) Molecular technologist, University of Idaho COVID-19 Testing Lab.

2017.01-2020.04: Postdoctoral fellow, Department of Fisheries and Wildlife Sciences, University of Idaho.

2017.01-2017.06: Teaching Assistant, Fish Health Management, Fish 424, Spring semesters. Department of Fish and Wildlife Sciences, University of Idaho.

2016.01-2016.12: Associate Research Professor, Key Laboratory of Freshwater Ecology and Healthy Aquaculture, Yangtze River Fisheries Research Institute, Chinese Academy of Fishery Sciences.

2013.07-2015.12: Assistant Research Professor, Key Laboratory of Freshwater Ecology and Healthy Aquaculture, Yangtze River Fisheries Research Institute, Chinese Academy of Fishery Sciences.

SCHOLARSHIP ACCOMPLISHMENTS:

Publications, Exhibitions, Performances, Recitals (5 years):

Peer Reviewed/Evaluated:

Ma J, Casadei E, Bruce TJ, Sepahi A, Cain KD, Salinas I. Long-term efficacy of nasal vaccination against enteric red mouth (ERM) disease and infectious hematopoietic necrosis (IHN) in juvenile rainbow trout (*Oncorhynchus mykiss*). *Vaccine*. 2022 Jan 21;40(2):229-38.

Bruce TJ, **Ma J (Co-first authors)**, Sudheesh PS, Cain KD. Quantification and comparison of gene expression associated with iron regulation and metabolism in a virulent and attenuated strain of *Flavobacterium psychrophilum*. *Journal of Fish Diseases*. 2021 Jul;44(7):949-60.

Bruce TJ, **Ma J**, Jones EM, Vuglar BM, Oliver LP, Cain KD. Assessment of *Flavobacterium psychrophilum*-associated mortality in Atlantic salmon (*Salmo salar*) and brook trout (*Salvelinus fontinalis*). *Journal of Fish Diseases*. 2021 Feb 9. *Journal of Fish Diseases*. 2021 May;44(5):645-53.

- Bruce TJ, Oliver LP, **Ma J**, Small BC, Hardy RW, Brown ML, Craig SR, Cain KD. An initial evaluation of fishmeal replacement with soy protein sources on growth and immune responses of burbot (*Lota lota maculosa*). *Aquaculture*. 2021 Dec 15;545:737157.
- Zhang K, **Ma J**, Fan Y. Epidemiology of the Grass Carp Reovirus. In *Aquareovirus 2021* (pp. 133-148). Springer, Singapore.
- Bruce TJ, **Ma J**, Oliver LP, Jones EM, LaFrentz BR, Cain KD. Isolation and experimental challenge of cultured burbot (*Lota lota maculosa*) with *Flavobacterium columnare* and *Aeromonas sp.* isolates. *Journal of Fish Diseases*. 2020 Aug;43(8):839-51.
- Bruce TJ, **Ma J**, Knupp C, Loch TP, Faisal M, Cain KD. Cross- protection of a live attenuated *Flavobacterium psychrophilum* immersion vaccine against novel *Flavobacterium spp.* and *Chryseobacterium spp.* strains. *Journal of Fish Diseases*. 2020 Aug;43(8):915-28.
- Liu W, Zhang Y, **Ma J (Co-first authors)**, Jiang N, Fan Y, Zhou Y, Cain K, Yi M, Jia K, Wen H, Liu W. Determination of a novel parvovirus pathogen associated with massive mortality in adult tilapia. *PLoS pathogens*. 2020 Sep 24;16(9): e1008765.
- Bruce TJ, Gulen S, Oliver LP, **Ma J**, Cain KD. Evaluation of commercial and experimental grower diets for use in intensive burbot (*Lota lota maculosa*) culture. *Aquaculture*. 2020 May 30:735490.
- Oliver LP, **Ma J**, Bruce TJ, Evavold JT, Korbel DB, Cain KD. Triploid induction in cultured burbot (*Lota lota*) using thermal and hydrostatic shock. *Aquaculture*. 2020 Jan 15;515:734582.
- Ma J**, Bruce TJ, Jones EM, Cain KD. A Review of Fish Vaccine Development Strategies: Conventional Methods and Modern Biotechnological Approaches. *Microorganisms*. 2019 Nov;7(11):569.
- Ma J**, Bruce TJ, Oliver LP, Cain KD. Co- infection of rainbow trout (*Oncorhynchus mykiss*) with infectious hematopoietic necrosis virus and *Flavobacterium psychrophilum*. *Journal of fish diseases*. 2019 Jul;42(7):1065-76.
- Ma J**, Bruce TJ, Sudheesh PS, Knupp C, Loch TP, Faisal M, Cain KD. Assessment of cross-protection to heterologous strains of *Flavobacterium psychrophilum* following vaccination with a live-attenuated coldwater disease immersion vaccine. *Journal of fish diseases*. 2019 Jan; 42(1):75-84. (**Journal of Fish Diseases-front cover**)
- Ma J**, Fan Y, Zhou Y, Liu W, Jiang N, Zhang J, Zeng L. Efficient resistance to grass carp reovirus infection in JAM-A knockout cells using CRISPR/Cas9. *Fish & shellfish immunology*. 2018 May 1;76:206-15.
- Jiang N, Fan Y, Zhou Y, Wang W, **Ma J**, Zeng L. Transcriptome analysis of *Aeromonas hydrophila* infected hybrid sturgeon (*Huso dauricus* × *Acipenser schrenckii*). *Scientific reports*. 2018 Dec 18;8(1):17925.

Presentations and Professional Meeting/ Workshops Papers (partial list):

- Ma, J.** Nutrition Therapy for Fish Diseases. 61st Annual Western Fish Disease Workshop, Hood River, Oregon, May 16-19, 2022.
- Ma, J.,** Bruce, T., Sepahi, A., Casadei, E., Cain, K., Salinas, I. LONG-TERM EFFICACY OF NASAL VACCINATION AGAINST ENTERIC RED MOUTH (ERM) DISEASE AND INFECTIOUS HEMATOPOIETIC NECROSIS (IHN) IN JUVENILE RAINBOW TROUT (ONCORHYNCHUS MYKISS). American Fisheries Society - Fish Health Section Online Seminar Series. Friday afternoons, May 15-Aug. 17, 2020. Virtual Conference.
- Ma, J.,** Trushenski, J., Jones, E., Bruce, T., Vuglar, B., Oliver, L., McKenney, D., Kurath, G., Cain, K. CHARACTERIZATION OF MATERNAL IMMUNITY FOLLOWING VACCINATION OF BROODSTOCK AGAINST IHNV OR F. PSYCHROPHILUM IN TROUT. 2020 Conference of

- Research Workers in Animal Diseases (CRWAD), Dec. 5-8, 2020. Virtual Conference
- Ma, J.,** Bruce, T., Oliver, L., Cain, K. CO-INFECTION OF RAINBOW TROUT *Oncorhynchus mykiss* WITH INFECTIOUS HEMATOPOIETIC NECROSIS VIRUS AND *Flavobacterium psychrophilum*. Aquaculture America. Feb. 9-12, 2020 Honolulu.
- Bruce, T., **Ma, J.,** Oliver, L., LaFrentz, B., Cain, K. DISEASE DIAGNOSTICS AND EVALUATION OF IMMUNOLOGICAL PARAMETERS IN CULTURED BURBOT *Lota lota*. Aquaculture. New Orleans, Louisiana, March 7-11, 2019.
- Ma, J.,** Bruce, T., Sudheesh, P., Loch, T. and Cain, K. CROSS-PROTECTIVE ABILITY OF A LIVE ATTENUATED COLDWATER DISEASE VACCINE IN JUVENILE RAINBOW TROUT. 8th International Symposium on Aquatic Animal Health. Charlottetown, PEI, Canada. September 2-6, 2018.
- Ma, J.,** Jiang, N., LaPatra, S., Jin, L., Zeng, L. ESTABLISHMENT OF A NOVEL AND HIGHLY PERMISSIVE CELL LINE FOR THE EFFICIENT REPLICATION OF CYPRINID HERPESVIRUS 2 (CYHV-2). 58th Western Fish Disease Workshop. Clearwater Resort, Suquamish, WA. June 20-22, 2017.

Patents: (provide title/description, patent number and date)

- Ma J,** Zeng L, Jiang N, Chen Q, Zhao H. Establishment and characterization of brain cell line from crucian carp (*Carassius auratus gibelio*) and its application in toxicology. Publication number: US9598671 B2
- Ma J,** Zeng L, Fan YD, Zhou Y. A method for transfection fish or amphibian cells by using lentiviral vectors. Patent application number: 201510459345.8
- Ma J,** Zeng L, Jiang N, Chen Q, Zhao H. Establishment of a highly permissive cell line for cyprinid herpesvirus 2 and its application. Patent application number: 201310658939.2
- Zhao H, **Ma J,** Mu D, Zhang C, Yi YL. A portable shelf for cell cryopreservation. Patent application number: 201620497933.0.

Grants and Contracts Awarded:

- Cain, Kenneth; Ma, Jie. Evaluation of the efficacy and immunomodulatory properties of the probiotic *Enterobacter* C6-6 in early life stage management of coldwater disease, columnaris disease and related co-infections (USDA-NIFA) (2022-2023)
- Cain, Kenneth. "Moving toward commercializing a coldwater disease vaccine for aquaculture" (Private company) (Participate)
- Cain, Kenneth; Ma, Jie. "Evaluation of survival and immune response to IHNV challenge in juvenile rainbow trout fed commercial health-promoting diets" (2020-2021) (Private company)
- Cain, Kenneth; Trushenski, Jesse; Ma, Jie; Bruce, Timothy; Kurath, Gael. "Developing practical approaches to broodstock immunization and evaluating maternal transfer of immunity in fish" (2019-2020) (Private company)
- Cain, Kenneth; Soto, Esteban; Bruce, Timothy; Ma, Jie; Fornshell, Gary; Reichley, Stephen; Trushenski, Jesse; Drynan, Keith. "Emerging and Re-emerging Flavobacterial Pathogens in Aquaculture" (Western Regional Aquaculture Center (WRAC))(2019-2023)
- Faisal, M; Loch, T (Principal); Cain, K. (Co-Investigator); Call, D. (Co-Investigator), "Flavobacterial diversity and its effect on disease in aquaculture" (USDA-NIFA) (Dec.2015 –Dec. 2018) (Participate)
- Salinas, Irene, Cain, Ken. Understanding the duration and mechanisms of long-standing protection of nasal vaccines in rainbow trout (USDA-NIFA) (2017-2020) (Participate)
- Langdon, Chris, Hawkward, Matt, Cain, Ken. Development of oral vaccine delivery methods for prevention of

disease in finfish culture (WRAC) (2020-2024) (Participate)

Cain, K. Small, B. Bruce, T. Hardy, R. “Effects of dietary soy replacement on burbot (freshwater cod) growth and immune function: implications for commercial culture of this new species” (Soy Aquaculture Alliance (SAA)) (2018-2019). (Participate)

Honors and Awards:

College of Natural Resources Outstanding Staff award, 2021

SERVICE:

2019-present: Editor, The Israeli Journal of Aquaculture (IJA)

Manuscripts reviewed for the following journals: (partial list)

Aquaculture, Scientific Reports, Diseases of Aquatic Organisms, Fish and shellfish immunology, Aquaculture Reports, BMC Genomics, Journal of Aquatic Animal Health, Journal of the World Aquaculture Society, Animal Feed Science and Technology, Comparative Biochemistry and Physiology, Microbial Ecology, PeerJ -The Journal of Life and Environmental Sciences, North American Journal of Aquaculture