

Christopher T. Monk

Curriculum vitae

November, 2017

IGB, Dep 4, Biology and Ecology of Fishes
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Interests:

Integrative fisheries management, behavioural ecology, animal personality, fish vulnerability, acoustic telemetry, movement ecology, fisheries enhancement, angler behaviour, social information use, aquaculture, fisheries assessment, fish bioenergetics, data analysis and R.

Education:

Ph.D.	Humboldt-Universität zu Berlin Agricultural and Horticultural Sciences Working Title: The behavioural components of fish vulnerability to capture by hook and line. Supervisor: Robert Arlinghaus	2013- present
M.Sc.	University of Florida Fisheries and Aquatic Sciences Title: Domestication syndrome in cultured fish: reduced and irregular feeding induces more wild-like behaviors in cultured Florida bass, <i>Micropterus floridanus</i> , but does not improve post-stocking survival Supervisors: Kai Lorenzen & Colette St. Mary	2013
B.Sc. (Hons)	Queen's University Biology Major, Environmental Studies Minor Title: Transcriptional regulation of cytochrome c oxidase with thermal acclimation in goldfish (<i>Carassius auratus</i>) Supervisor: Christopher Moyes	2011

Publications:

Mehner T, Rapp T, Beck ME, **Monk CT**, Trudeau A, Kiljunen M, Hilt S, Arlinghaus R (In Review)
Feeding aquatic ecosystems: whole-lake experimental addition of angler's ground bait strongly affects the fish community despite low contribution to lake carbon budget.
Submitted to *Ecosystems*

- Monk CT**, Barbier M, Romanczuk P, Watson JR, Alós J, Rubenstein DI, Levin S & Arlinghaus R (In Review) How ecology shapes exploitation: the behavioral response of natural resource users to an exploration-exploitation tradeoff. Submitted to *Ecology Letters*
- Monk CT** & R Arlinghaus (2017) Eurasian perch, *Perca fluviatilis*, spatial behaviour determines vulnerability independent of angler skill in a whole-lake reality mining experiment. *Canadian Journal of Fisheries and Aquatic Sciences*. In Press
- Lennox RJ, J Alós, R Arlinghaus, A Horodysky, T Klefoth, **CT Monk** & SJ Cooke (2016) What makes fish vulnerable to capture by hooks? A conceptual framework and a review of key determinants. *Fish and Fisheries*, 18(5):986-1010.
- Monk CT** & R Arlinghaus (2017) Encountering a bait is necessary but insufficient to explain individual variability in vulnerability to angling in two freshwater benthivorous fish in the wild. *PLoS ONE*, 12(3): e0173989.
- Arlinghaus R, J Alós, T Klefoth, K Laskowski, **CT Monk**, S Nakayama & A. Schröder (2017) Passive gear-induced timidity syndrome in wild fish populations and its potential ecological and managerial implications. *Fish and Fisheries*, 18(2): 360-373.
- Arlinghaus R, J Alós, B Beardmore, K Daedlow, M Dorow, M Fujitani, D Hühn, W Haider, LM Hunt, BM Johnson, F Johnston, T Klefoth, S Matsumura, **CT Monk**, JR Post T Rapp, C Riepe, H Ward & C Wolter (2017) Understanding and managing freshwater recreational fisheries as complex adaptive social-ecological systems. *Reviews in Fisheries Science and Aquaculture*, 25(1) 1:41.
- Laskowski KL, CT Monk, G Polverino, J Alós, S Nakayama, G Staaks, T Mehner & R Arlinghaus (2016) Behaviour in a standardized assay, but not metabolic or growth rate, predicts behavioural variation in an adult aquatic top predator *Esox lucius* in the wild. *Journal of Fish Biology*, 88:1544-1563.
- Arlinghaus R, J Alós, T Klefoth, K Laskowski, **CT Monk**, S Nakayama & A. Schröder (2016) Consumptive tourism causes timidity, rather than boldness, syndromes: A response to Geffroy et al. *Trends in Ecology and Evolution*, 31:92-94.
- Garlock TM, **CT Monk**, K Lorenzen, MD Matthews, & CM St Mary (2014). Effects of hatchery rearing on Florida largemouth bass *Micropterus floridanus* resource allocation and performance under semi-natural conditions. *Journal of Fish biology*, 85:1830-1842.
- Bremer K, **CT Monk**, BJ Gurd, & CD Moyes (2012) Transcriptional regulation of temperature induced remodeling of muscle bioenergetics in goldfish. *American Journal of Physiology -Regulatory, Integrative and Comparative Physiology*. 303:150-158.

Duggan A, K Kocha, **CT Monk**, K Bremer, & CD Moyes (2011). Coordination of cytochrome c oxidase gene expression in the remodeling of skeletal muscle. *The Journal of Experimental Biology*, 214:1880-1887.

Skills:

Programming (R, Visual Basic for Applications), Acoustic telemetry data analysis, Fish tag implantation via surgery, Semi-structured interviews, Fish aging and scale reading, fisheries assessment (some experience with AD Model Builder and Ecopath with Ecosim), fish care, experimental pond management, molecular biology (DNA, RNA and protein extraction, PCR, quantitative-real time PCR, Western blotting, molecular cloning), bacterial culture, radio telemetry, quantitative survey design.

Awards and Honours:

- 2015 NASCO award for best graduate student presentation at the 2015 EIFAAC international symposium on recreational fisheries, Lillehammer, Norway
- 2013 Best Presentation Award, Fisheries and Aquatic Sciences Graduate Student Symposium, University of Florida
- 2011 Best Undergraduate Thesis Award in Integrative, Organismal Biology, Queen's University

Teaching Experience:

- 2012 Teaching Assistant - Fisheries Management (graduate level), University of Florida

Student Supervision

M.Sc. (1 ongoing), B.Sc. (1 completed)

Research Experience

Leibniz-Institute for Freshwater Ecology and Inland Fisheries:

2013-present Research Scientist: Ecological and Evolutionary Consequences of Behaviour Types

University of Florida:

2012-2013 Species Selection Committee for Florida marine enhancement expansion.

2011-2013 Research Assistant: Effects of domestication on post-release fitness of culture Florida largemouth bass *Micropterus salmoides floridanus*.

Queen's University:

2010 Research Assistant: Allometry of mammal metabolism and thermal regulation of cytochrome c oxidase in goldfish *Carrasius auratus* muscle.

2009 Research Assistant: Landscape genetics of Eastern Fox snakes *Pantherophis gloydi* research.

Presentations: (presenter in bold)

Invited Talks:

Monk CT & R Arlinghaus. Does social information use covary with personality or specialization in anglers? *Max Planck Institute for Human Development: Center for Adaptive Rationality*, Berlin, Germany. July 2015.

National and International Talks:

Nakayama S, **CT Monk** & R Arlinghaus. Mining the reality of adult perch (*Perca fluviatilis*) 24/7 at the scale of a natural ecosystem using fine scale acoustic telemetry. *Biologging Symposium 6*, Konstanz, Germany. September 2017

Monk CT, T Klefoth & R Arlinghaus. Are individual differences in fish movement related to angling vulnerability? *World Recreational Fisheries Conference 8*, Victoria, British Columbia Canada. July 2017

Monk CT & R Arlinghaus. Can we predict a priori which anglers catch more fish in a novel environment? An experimental approach in nature. *World Recreational Fisheries Conference 8*, Victoria, British Columbia Canada. July 2017

Monk CT, M Barbier, P Romanczuk, JR Watson, J Alós, DI Rubenstein, SA Levin & R Arlinghaus. An ecologically motivated theory about angler behavior and its consequences for understanding and managing competitive races for fish. *World Recreational Fisheries Conference 8*, Victoria, British Columbia Canada. July 2017

Monk CT, T Klefoth & R Arlinghaus. Are individual differences in fish movement related to angling vulnerability? FSBI 50th Anniversary Symposium; Understanding Fish Populations, Exeter, UK. July 2017

Monk CT & R Arlinghaus. Fisheries-induced selection on fish personality traits - encountering the gear is a necessary, yet insufficient, condition for determining vulnerability to angling in three freshwater fish species in the wild. *ICES ASC 2016*, Riga, Latvia. September 2016.

Monk CT, J Alós, & R Arlinghaus. Testing the relationship between vulnerability to angling and behaviour in carp (*Cyprinus carpio*) at a whole lake-scale. *EIFAAC International Symposium on Recreational Fisheries*, Lillehammer, Norway. June 2015.

Arlinghaus R, CT Monk, T Klefoth, S Nakayama, T Pieterrek & A Mühlbradt. Individualität und Persönlichkeit von Karpfen in der Natur: Praxiserfahrungen und wissenschaftliche Belege, *CarpExpo Germany 2015*, Paaren, Germany. March 2015.

Gainer T, CT Monk, MD Matthews, CM St. Mary & K Lorenzen. Hatchery effects on Florida largemouth bass *Micropterus salmoides floridanus* resource allocation, behavior and post-release survival. *American Fisheries Society Annual Meeting*, Little Rock, AR. September 2013.

Gainer T, K Lorenzen, CT Monk & K Leber. Prioritizing candidate stocks for recreational fisheries enhancement in Florida. *American Fisheries Society Annual Meeting*, Little Rock, AR. September 2013.

Monk CT, T Gainer, MD Matthews, CM St. Mary & K Lorenzen. Hatchery effects on Florida largemouth bass *Micropterus salmoides floridanus* personality and survival under predation. *FAS Graduate Student Symposium*, University of Florida, Gainesville, FL. March 2013.

Gainer T, CT Monk, CM St. Mary & K Lorenzen. Hatchery effects on Florida largemouth bass *Micropterus salmoides floridanus* personality, resource allocation and survival under predation. *World Aquaculture Society: Aquaculture*, Nashville, TN. February 2013.

Lorenzen K, T Gainer, CT Monk & KM Leber. Prioritizing candidate stocks for recreation fisheries enhancement in Florida. *World Aquaculture Society: Aquaculture*, Nashville TN. February 2013.

Matthias BG, CT Monk, MS Allen & D Gwinn. Impact of fish movement between areas vulnerable and invulnerable to angling on fisheries sustainability. *Annual Meeting of the Florida Chapter of the American Fisheries Society*, Ocala, FL. February 2012.

Posters:

Monk CT & R Arlinghaus. Are individual differences in fish movement related to angling vulnerability? *Biologging Symposium 6*, Konstanz, Germany. September 2017

Monk CT & R Arlinghaus. Does angling selectively capture fish behavioural types in the wild? *VDFD Deutsche Fischereitag*, Potsdam, Germany. August 2016. (awarded 2nd best poster).

Garlock T, **CT Monk**, K Lorenzen, MD Matthews & CM St. Mary Effects of hatchery rearing on Florida largemouth bass resource allocation and survival under semi-natural conditions. *14th Annual Symposium of the Fisheries Society of the British Isles*, Hull, UK. July 2014.

Monk CT, T Gainer, MD Matthews, K Lorenzen & CM St. Mary. Hatchery effects on largemouth bass personality, resource allocation and survival under predation. *Animal Behavior Society Annual Conference* Boulder, CO. July 2013.

Bremer K, **CT Monk**, & CD Moyes. Control of cytochrome c oxidase (COX) gene expression in fish in response to temperature. *Experimental Biology*, Washington, DC. April 2011.

Language

English: native, German: A2-1 level