Christopher T. Monk

Curriculum vitae

Dec. 2018

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, data analysis, R and data visualization.

Education:

Ph.D (summa cum laude)	Humboldt-Universität zu Berlin	2018
M.Sc.	University of Florida	2013
B.Sc. (Hons)	Queen's University	2011

Research Experience:

Leibniz-Institute for Freshwater Ecology and Inland Fisheries:

Post-doctoral Researcher: Reality-mining fish-fisher interactions	2018-2019
Research Scientist: Ecological and evolutionary consequences of behaviour types	2013-2018

University of Florida:

Species selection committee for Florida marine-enhancement expansion	2012-2013
Research Assistant: Effects of domestication on post-release fitness of cultured Florida Largemouth bass *Micropterus salmoides floridanus*	2011-2013

Queen's University:

Research Assistant: Allometry of mammal metabolism and thermal regulation of Cytochrome c oxidase in goldfish *Carrasius auratus* muscle	2010
Research Assistant: Landscape genetics of Eastern Fox snakes *Pantherophis gloydi*	2009

Peer-reviewed publications:

12. Mehner T, Rapp T, Beck ME, **Monk CT**, Trudeau A, Kiljunen M, Hilt S & Arlinghaus R (2018) Feeding aquatic ecosystems: whole-lake experimental addition of angler's ground bait strongly affects the fish community despite low contribution to lake carbon budget. *Ecosystems*, In Press.

11. **Monk CT**, Barbier M, Romanczuk P, Watson JR, Alós J, Rubenstein DI, Levin S & Arlinghaus R (2018) How ecology shapes exploitation: a framework to predict the behavioural response of human and animal foragers along exploration-exploitation trade-offs. Ecology Letters, 21(6): 779-793.

10. **Monk CT** & R Arlinghaus (2018) 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* 75(3): 417-428.

9. Lennox RJ, J Alós, R Arlinghaus, A Horodysky, T Klefoth, **CT Monk** & SJ Cooke (2017) What makes fish vulnerable to capture by hooks? A conceptual framework and a review of key determinants. *Fish and Fisheries*, 18(5); 986-1010.

8. **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.

7. 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.

6. 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.

5. 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.

4. 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.

3. Garlock TM, **CT Monk**, K Lorenzen, MD Matthew & 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.

2. 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

1. 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.

Non peer-reviewed Publications:

1. Arlinghaus R, T Klefoth, T Rapp & **CT Monk** (2017) Schlauer Karpfen, dummer Hecht? Fisch & Fang 12/2017, 22-27.

Skills:
Programming (R, Visual Basic for Applications, Processing), Acoustic telemetry data analysis, Fish tag implantation via surgery, Fish aging and scale reading, fisheries assessment, fish care, experimental pond management, molecular biology (DNA, RNA and protein extraction, PCR, quantitative-realtime PCR, Western blotting, molecular cloning), Bacterial culture, Radio telemetry, Quantitative survey design, Semi-structured interviews.

Awards and Honours:

Schwoerbel-Benndorf-Nachwuchspreis der Deutschen Gesellschaft für Limnologie	2018
NASCO award for best graduate student presentation at the EIFAAC international symposium on recreational fisheries, Lillehammer, Norway	2015
Best Presentation Award, Fisheries and Aquatic Sciences Graduate Student Symposium, University of Florida	2013
Best Undergraduate thesis award in Integrative, Organismal Biology, Queen's University	2011

Teaching Experience:

Co-Instructor - Sampling and Data Analysis in Fisheries	2018
Teaching Assistant – Fisheries Management (graduate level), University of Florida	2012

Student Supervision:
M.Sc (1 completed, 1 ongoing),
B.Sc (2 completed)

Networks:

International Lake Fish Telemetry Workshop	2018-2019
Princeton-Humboldt Cooperation and Collective Cognition Network	2016-2018
Princeton-Humboldt Universität Centre for Reality Mining of Animal-Human Systems	2014-2016

Professional Memberships
Fisheries Society of the British Isles
American Fisheries Society

Languages:
English: native, German: estimate A2-2 level

Invited Talks:
Monk CT, Are individual differences in fish movement related to angling vulnerability? Whole-lake experiments in the wild using high-resolution acoustic telemetry, University of Southampton, Southampton, UK, November 2018.

Monk CT (2015) 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.

Presentations:
Presenter in Bold
Monk CT Animating telemetry data, next steps in data visualization. *1st International Lake Fish Telemetry Group Workshop. České Budějovice*. November 2018.

Monk CT & R Arlinghaus. Are individual differences in fish movement related to angling vulnerability? A whole-lake reality mining experiment in the wild using four species. *Biomove Symposium 2018*. Potsdam, Germany. September 2018

Monk CT, M Barbier, P Romanczuk, JR Watson, J Alós, S Nakayama, DI Rubenstein, SA Levin & R Arlinghaus. How ecology shapes exploitation: A framework to predict the social behaviour of fishers along exploration-exploitation tradeoffs. *American Fisheries Society Annual Meeting 2018*, Atlantic City, NJ. August 2018.

Matsumura S, U Dieckmann, **CT Monk** & R Arlinghaus. Understanding social and ecological heterogeneities in recreational fisheries on landscapes. *American Fisheries Society Annual Meeting 2018*, Atlantic City, NJ. August 2018.

Monk CT, D Bekkevold, T Klefoth, T Pagel & R Arlinghaus. Contrasting selection from recreational angling against natural selection on northern pike, *Esox lucius*, adaptive traits. *FSBI Symposium 2018: The Sustainable Use and Exploitation of Fishes*, Norwich, UK. July 2018.

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 behaviour 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.

Gainer T, CT Monk, MD Matthews, CM St. Mary & K Lorenzen. Hatchery effects on Florida largemouth bass Micropterus salmoides floridanus resource allocation, behaviour 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 recreational 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? VDFF 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 Behaviour 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.