BRIEF BIOGRAPHICAL SKETCH

Hanlon, Roger T., Ph.D. Nov 2026
NSF ID: 000276712@nsf.gov
ORCID: 0000-0003-0004-5674
Senior Scientist, Marine Biological Laboratory (MBL), Woods Hole MA 02543 USA
http://www.mbl.edu/bell/current-faculty/hanlon/

(a) PROFESSIONAL PREPARATION

Florida State University, Tallahassee, FL	Biology	BS	1969
University of Miami, R.S.M.A.S., Miami, FL	Marine Biol. Sci.	MS	1975
University of Miami, R.S.M.A.S., Miami, FL	Marine Biol. Sci.	PhD	1978
Cambridge University, Cambridge, England	Ethology	NATO Postdoc	1981-1982

(b) APPOINTMENTS

Senior Scientist	1995-	Bell Center, MBL
Professor (MBL)	2010-	Ecology & Evolutionary Biology, Brown University
Member	2019-2025	Consortium for Advanced Sci. & Engin., U Chicago
Director	2012-2015	MBL Program in Sensory Physiology and Behavior
Founding Director	1995	Marine Resources Center, MBL
President	1997-2012	Sigma Xi, Woods Hole Chapter
Member and Co-author	1997-1998	Committee on New and Emerging Models in Biomedical & Behavioral Research, NRC, Natl. Acad. of Sciences
Director	1994-1996	NIH National Resource Center for Cephalopods, UTMB
Director-at-Large	1993-1996	Board of Directors for National Sigma Xi
Division Chief	1984-1995	Marine Biomedical Institute, UTexMedBranch (UTMB)
Professor	1989-1995	School of Medicine, Psych & Behav Sci, UTMB
Associate Professor	1985-1989	School of Medicine, Psych & Behav Sci, UTMB
Assistant Professor	1982-1985	School of Medicine, Psych & Behav Sci, UTMB

(c) PRODUCTS

257 peer-reviewed papers, 3 books, 27 book chapters; Google Scholar h=84, 23K citations, i10-index 259

Sample publications that represent Hanlon lab research

Hanlon, R.T., Sireeni, J., Buresch, K.B., and Chubb, C.C. 2026. Adaptable background matching, masquerade and disruptive camouflage by foraging *Octopus vulgaris* on Caribbean coral reefs. Biological Journal of the Linnean Society 149 (3)

Bogdanov, G., Strzelecka, A.A., Kaimal, N., Senft, S.L., Lee, S., **Hanlon, R.T**., Gorodetsky, A.A. 2025. Gradient refractive indices enable squid structural color and inspire multispectral materials. Science 388: 1389-1395.

Bennice, C.B., Buresch, K.C., Grossman, J., Morano, T. & **Hanlon, R.T.** 2025. Octopus arm flexibility facilitates complex behaviors in diverse natural habitats. Scientific Reports 15: 31875.

Buresch, K.C., Sklar, K., Chen, J.Y., Madden, S.R., Mongil, A.S., Wise, G.V., Boal, J.G., **Hanlon, R.T**. 2022. Contact chemoreception in multi-modal sensing of prey by *Octopus*. J. Comparative Physiology A 208 (3): 435-442.

Schnell, A.K., Clayton, N.S., **Hanlon, R.T**., Jozet-Alves, C. 2021. Episodic-like memory is preserved with age in cuttlefish. Proc. Royal Society B. 288: 20211052

Williams, TL, Senft SL, Yeo, J, Martin-Martinez, FJ, Kuzirian AM, Martin CA, DiBona CW, Chen, C-T, Dineen SR, Nguyen HT, Gomes CM, Rosenthal, JJC, MacManes MD, Chu, F, Buehler MJ, **Hanlon, RT**, Deravi, LF. 2019. Dynamic pigmentary and structural coloration within a cephalopod chromatophore organ. Nature Communications 10: 1004.

Gonzalez-Bellido, P.T., Scaros, A.T., **Hanlon, R.T**. and Wardill, T.J. 2018. Neural control of dynamic 3-dimensional skin papillae for cuttlefish camouflage. iScience, doi:10.1016/j.isci.2018.01.001

Hanlon, R.T., Vecchione, M. & Allcock, L. 2018. Octopus, Squid and Cuttlefish: a visual, scientific guide to the ocean's most advanced invertebrates. University of Chicago Press. 224pp.

Hanlon, R.T. & Messenger, J.B. 2018. Cephalopod Behaviour. Cambridge U. Press 365pp.

Panetta, D., Buresch, K., and **Hanlon, R.T.** 2017. Dynamic masquerade with morphing 3D skin in cuttlefish. Biology Letters 13: 20170070 (featured in Nature Vol 544 Research Highlights)

Pikul, J.H., Li, S., Bai, H., **Hanlon, R.T.**, Cohen, I. and Shepherd, R.F. 2017. Stretchable surfaces with programmable 3-D texture morphing for synthetic camouflaging skins. Science 358: 210-214**.**

Chiao, C.-C., Chubb, C. and **Hanlon, R.T.** 2015. A review of visual perception mechanisms that regulate rapid adaptive camouflage in cuttlefish. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology 201: 933-945.

Yu, C, Li, Y., Zhang, X., Huang, X., Malyarchuk, V., Wang, S. Shi, Y., Gao, L., Su, Y., Zhang, Y., Xu, H., **Hanlon, R.** and Rogers, J. 2014. Adaptive optoelectronic camouflage systems with designs inspired by cephalopod skins. Proceedings of the National Academy of Sciences: 111 (36): 12998-13003.

Deravi, L.F., Magyar, A.P., Sheehy, S.P., Bell, G.R.R., Mathger, L.M., Senft, S.L., Wardill, T.J., Lane, W.S., Kuzirian, A.M., **Hanlon, R.T.**, Hu, E.L. and Parker, K.K. 2014. The structure-function relationship of a natural nanoscale photonic device in cuttlefish chromatophores. J Royal Society Interface 11 (93): article 20130942

Hanlon, R.T., Chiao, C.-C., Mäthger, L.M. and Marshall, N.J. 2013. A fish-eye view of cuttlefish camouflage using in-situ spectrometry. Biological Journal of the Linnean Society 109 (3): 535-551.

Akkaynak, D., Allen, J.J., Mäthger, L.M., Chiao, C.C. and **Hanlon, R.T.** 2013. Quantification of cuttlefish (*Sepia officinalis*) camouflage: a study of color and luminance using *in situ* spectrometry. J. Comp. Physiol A. 199 (3): 211-225.

Chiao CC, Wickiser JK, Allen JJ, Genter B, **Hanlon RT**. 2011. Hyperspectral imaging of cuttlefish camouflage indicates good color match in the eyes of fish predators. Proceedings of the National Academy of Sciences USA 108: 9148-9153.

Mooney, T. A., **Hanlon, R.T.**, Christensen-Dalsgaard, J., Madsen, P.T., Ketten, D.R. and Nachtigall, P.E. 2010. Hearing by the longfin squid (*Loligo pealeii*) studied with auditory evoked potentials: sensitivity to low-frequency particle motion and not pressure. Journal of Experimental Biology 213:3748-3759.

Mäthger,L.M., Denton, E.J., Marshall, J. and **Hanlon, R.T.** 2009. Mechanisms and behavioral functions of structural coloration in cephalopods. Journal of the Royal Society Interface 6: S149-S164.

Hanlon RT, Chiao CC, Mäthger, L.M., Barbosa A, Buresch KC and Chubb, C. 2009. Cephalopod dynamic camouflage: bridging the continuum between background matching and disruptive coloration. Philosophical Transactions of the Royal Society B 364: 429-437.

Barbosa, A., Mäthger,L.M., Buresch, K., Kelly, J., Chubb, C., Chiao, C.C. and **Hanlon, R.T.** 2008. Cuttlefish camouflage: the effects of substrate contrast and size in evoking uniform, mottle or disruptive body patterns. Vision Research 48: 1242-1253.

Mäthger,L.M. and **Hanlon, R.T.** 2007. Malleable skin coloration in cephalopods: selective reflectance, transmission and absorbance of light by chromatophores and iridophores. Cell and Tissue Research 329: 179-186.

Hanlon, R.T. 2007. Cephalopod dynamic camouflage. Current Biology 17 (11): R400-R405.

(d) SYNERGISTIC ACTIVITIES

- Public outreach & education are promoted continually through print media (Natl Geo Magazine, Discover, Natural History, New York Times Science Section, etc.), and numerous television appearances (ca. 30 spots since 1995; NOVA special 2011) & radio programs (e.g. 2011 NPR Science Friday) and >50 tours/yr. at MBL

- TED 2019 talk on cephalopod neuroscience and behavior (1.2 million hits)

- Plenary addresses and major invited talks (ca. 15 in last 5 yrs) have been delivered at Gordon Conference (Italy), International Ethology Conferences, Pan Amer. Pigment Cell Research, HHMI predator/prey symposium, Ocean Sciences Meeting, etc.

- A teaching DVD with underwater video has been produced and distributed (by request) to > 500 teachers and grad students nationally and internationally.

- Innovative “Art & Science of Visual Perception” studio class taught in 2013 at Granoff Center for Creative Arts with students from Brown Univ. and Rhode Island School of Design.