

## BIOGRAPHICAL SKETCH

NAME

Csilla Ari D'Agostino, Ph.D.

Address: University of South Florida, 4202 E. Fowler Ave, PCD  
3127, Tampa, FL, 33620

Phone: +1(813) 2409925

Email: csari2000@yahoo.com

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Szent Istvan University, HU	M.S.	1997-2002	Zoology
Semmelweis University, HU	Ph.D.	2002-2008	Neurosciences
University of South Florida, Tampa, FL	Postdoctoral scholar	06/2010-09/2012	Molecular Medicine
University of South Florida, Tampa, FL	Postdoctoral scholar	09/2012-09/2013	Molecular Pharmacology and Physiology
University of South Florida, Tampa, FL	Research Associate	09/2013- 12/2016	Molecular Pharmacology and Physiology
University of South Florida, Tampa, FL	Assistant Professor	3/2017-present	Psychology

### **A. Personal Statement**

I have a broad background in comparative neuroanatomy, molecular biology, microscopy, physiology, with 25 peer reviewed publications (15 as first author), a book and a book chapter, 7 provisional patents as first inventor, as well as many national and international conference presentations.

I completed my PhD in 2008 on the cerebralization, astroglial architecture and blood-brain barrier composition of cartilaginous fishes using immunohistochemical markers on 12 shark and ray species.

After completing my PhD I moved to the United States of America and on June 1<sup>st</sup>, 2010 I joined Dr. Huntington Potter's laboratory at the Byrd Alzheimer's Institute. My project focused on studying the mechanism of neurotransmitter and neurotrophin receptor mislocalization in Alzheimer's disease and my work involved cell cultures, immunocytochemistry, flow cytometry, spectrophotometer, Atomic Force Microscopy (AFM), fluorescence and confocal microscopy, RT-PCR and recombinant DNA techniques. I have experience in fluorescence live cell imaging of mitochondria, cell cultures, and gene transfection.

After receiving a SIPIN grant together, a collaborative project started with Dr. Dominic D'Agostino in 2012 that focused on the effect of hyperbaric oxygen on the viability, ROS production and oxidative stress of aging central nervous system. Later I have joined Dr. D'Agostino's laboratory as a postdoctoral scholar and lead a project to test metabolic therapies on an ALS transgenic mouse model (SOD1G93A) using behavioral tests. I have also been involved in others project in Dr. D'Agostino's laboratory, such as testing the effects of ketone supplements on seizure disorders and dietary interventions of cancer which also included in vivo imaging of mice. In 2013 I became a Research Associate and lead several projects

independently, such as testing ketone supplements on GLUT1 deficiency syndrome mice, and serendipitously discovered further applications of the ketone supplements that I started to explore further which lead to 7 provisional patents.

In the meantime I have developed several national and international collaborative projects that I contributed with work on the AFM, calcium imaging, histology and hyperbaric experiments.

My `hobby research` topic involves the study of the brain of fishes that possess the largest brain of all fish studied so far (manta rays), as well as their sensory, cognitive abilities, learning behavior and physiology which has evolutionary implications. These comparative physiology projects lead to several publications, a Research Recognition Award from the American Physiological Society, Comparative and Evolutionary Physiology Section, -even got highlighted in Nature-, and allowed me to approach scientific problems from an evolutionary perspective.

In 2017 I became involved in psychological and physiological studies on Aquanauts through NASA Extreme Environment Mission Operations (NEEMO22) and the Institute of Human and Machine Cognition to study psychological and physiological effects of living in a saturation environment which serves as a space analog.

I am interested in further exploring potential future applications of ketone supplementation, especially focusing on psychological and cognitive benefits, the evolutionary implications and exploring comparative physiology to better understand the underlying mechanisms. In addition, I plan experiments to help ketone product optimization for different markets.

## **B. Positions and Honors**

### **Positions and Employment**

2001 Volunteer, University of California, Scripps Institution of Oceanography, San Diego, USA

2002 Volunteer, University of California, Scripps Institution of Oceanography, San Diego, USA

2003-present Founder, Principal Investigator, Foundation for the Oceans of the Future, Hungary

2004-2005 Visiting scientist at CSIRO Marine Research Laboratories in Hobart, Tasmania, Australia

2007-2008 Cartilaginous fish and marine fish specialist, Hungarian Natural History Museum, Hungarian Academy of Sciences

2008 Supervisor, Museum of Anatomy, Semmelweis Medical University, Hungary

2009 Patient Safety Specialist, TATA Consultancy Services, AstraZeneca, Göteborg/ Sweden; Charnwood, Manchester/ UK; Budapest/ Hungary

2010-2012 Postdoctoral Scholar, USF Health Byrd Alzheimer's Center and Research Institute, University of South Florida, Department of Molecular Medicine, FL, USA

2012- Sept 2013 Postdoctoral Scholar, Hyperbaric Biomedical Research Laboratory, University of South Florida, Department of Molecular Pharmacology and Physiology, FL, USA

2013- Dec 2016 Research Associate Hyperbaric Biomedical Research Laboratory, University of South Florida, Department of Molecular Pharmacology and Physiology, FL, USA

2013- 2016 Board of Director, Scientific Advisor for Manta Pacific Research Foundation

2016-present Vice President, Chair of Research Committee of Manta Pacific Research Foundation

2017 March-present Research Assistant Professor, university of South Florida, Department of Psychology, FL, USA

### **C. Contributions to Science, Professional activities:**

#### **Journal Referee:**

Brain, Behavior and Evolution  
PlosOne  
Brain Research Bulletin  
Journal of Neuroscience and Behavioral Health  
Journal of Medicine and Medical Sciences  
Turkish Journal of Fisheries and Aquatic Sciences  
Biological Journal of Linnean Society  
Journal of Fish Biology  
Journal of Physiology and Behavior

#### **Professional Memberships:**

Hungarian Academy of Sciences  
Hungarian Biological Society  
American Society for Neuroscience  
International Behavioral Neuroscience Society  
Society for Neuroscience

#### **Co-Mentoring/Undergraduates:**

Julbert Caneus,	Craig Goldhagen
Whitney Hethorn	Cem Murdun
Nicholas Mavromates	Andrew Koutnik
Ashley Van Putin	Janine DeBlasi

#### **Honors and Awards**

Grant from the Capital of Hungary (1996-97)  
Grant from the Capital of Hungary (1997-98)  
Grant from the Hungarian Republic (2001-2002)  
Grant from the Portuguese Association for the Study and Conservation of Elasmobranchs (2004)  
American Elasmobranch Society Meeting, Travel Award (2005 and 2008)  
Richter Gedeon Grant for supporting Ph.D. studies (2006)  
Grant from the National Office for Research and Technology (2008)  
Grant from the Save Our Seas Foundation (2010)  
Grant from the Signature Interdisciplinary Program in Neuroscience, USF, USA (2011)  
Conference travel grant for postdoctoral scholars at USF, USA (2012)  
Travel award from International Society of Neurochemistry (2013) -could not accept the award because my visa situation could not be solved in time to be able to travel outside of the USA  
Grant from Manta Pacific Research Foundation (2013)  
Grant from Manta Pacific Research Foundation (2014)  
Grant from Manta Pacific Research Foundation (2015)  
Research Recognition Award, The American Physiological Society Comparative and Evolutionary Physiology Section, Boston, USA (2015)  
Grant from Manta Pacific Research Foundation (2016)  
Grant from Quest Nutrition LLC. (2017)

### **Scuba diving certificates**

CMAS *	1997
NAUI Advanced Diver	1998
NAUI Rescue Diver	1998
NAUI Master Diver	1999
NAUI Nitrox Diver	2001
NAUI Divemaster	2003
PADI Manta ray specialist	2012

### **D. Peer-Reviewed Publications**

#### **Book**

1. **Ari, C.** (2009). On the brain of cartilaginous fishes: Cerebralization, astroglial architecture and blood-brain barrier composition, Lambert Academic Publishing.

#### **Book chapter**

2. **Ari, C.,** Pilla, R., D'Agostino, D.P. (2014) Nutritional/Metabolic therapies in animal models of ALS, Alzheimer's disease, and seizures, in: Bioactive Nutraceuticals and Food Supplements in Neurological and Brain Disease, <http://dx.doi.org/10.1016/B978-0-12-411462-3.00047-3>

#### **Articles**

3. Kálmán, M., **Ari, C.** (2002). Distribution of GFAP immunoreactive structures in the rhombencephalon of sterlet (*Acipenser ruthenus*) and its evolutionary implication; *Journal of Experimental Zoology*, 2002, 293: 395-406.
4. Gál, J., Vincze, Z., Jakab, C., **Ari, C.,** Lefler, K.K. (2005). Multiplex shafted fibroma on the upper jaw of a sand-tiger shark (*Carcharias (Odontaspis)taurus*); *Hungarian Veterinary Journal*, 127:242-245.
5. **Ari, C.,** Kálmán, M. (2008). Evolutionary changes of astroglia in Elasmobranchii comparing to Amniotes: a study based on three immunohistochemical markers (GFAP, S-100, and glutamine synthetase), *Brain, Behavior and Evolution*, 71:305-324.
6. **Ari, C.,** Kálmán, M. (2008). Glial architecture of the ghost shark (*Callorinchus millii*, Holocephalii, Chondrichthyes) as revealed by different immunohistochemical markers, *Journal of Experimental Zoology Part B: Molecular and Developmental Evolution*, Vol 310B, 6: 504 – 519.
7. **Ari, C.,** Correia, J.P. (2008). Role of sensory cues on the food searching behaviour of a captive *Manta birostris* (Myliobatiformes, Mobulidae), *Zoo Biology* Vol 27, 4: 294 – 304.
8. **Ari, C.** (2011). Encephalization and brain organization of mobulid rays (Myliobatiformes, Elasmobranchii) with ecological perspectives, *The Open Anatomy Journal* 3:1-13.
9. Kitchen-Wheeler, A-M., **Ari, C.,** Edwards, A.J. (2012) Population estimates of Alfred mantas (*Manta alfredi*) in central Maldives atolls: North Male, Ari and Baa, *Environmental Biology of Fishes*, 93:4, 557-575.
10. Kalman, M., Somiya, H., Lazarevic, L., **Ari, C.,** Majorossy, K. (2013) Absence of post-lesion glial reactivity in elasmobranchs and turtles and its bearing on the evolution of astroglia, *Journal of Experimental Zoology*, doi: 10.1002/jez.b.22505.

11. D'Agostino, D., Pilla, R., Held, H., Landon, C.S., **Ari, C.**, Puchowicz, M., Brunengraber, H., Arnold, P., Dean, J. (2013) Therapeutic ketosis with ketone ester delays central nervous system oxygen toxicity seizures in rats, *American Journal of Physiology* ;304(10): R829-36.
12. Poff, A., **Ari, C.**, Seyfried, T., D'Agostino P.D. (2013) The Ketogenic Diet and Hyperbaric Oxygen Therapy Act Synergistically to Prolong Survival in Mice with Systemic Metastatic Cancer, *PlosOne* 8(6): e65522. doi:10.1371/journal.pone.0065522.
13. **Ari, C.**, Borysov, S., Wu, J., Padmanabhan, J., Potter, H. (2014) Alzheimer amyloid beta inhibition of Eg5/kinesin 5 reduces neurotrophin and/or transmitter receptor function. *Neurobiol Aging*. 35 (8): 1839-49. pii: S0197-4580(14)00180-8doi:10.1016/j.neurobiolaging.2014.02.006.
14. Poff, A.M., **Ari, C.**, Arnold, P., Seyfried T.N., D'Agostino D.P. (2014) Ketone supplementation decreases tumor cell viability and prolongs survival of mice with metastatic cancer, *Int J Cancer*. Feb 26. doi: 10.1002/ijc.28809
15. **Ari, C.** (2014) Rapid coloration changes of manta rays (*Mobulidae*), *Biological Journal of Linnean Society*, 113: 180–193. doi: 10.1111/bij.12321
16. **Ari, C.**, Poff, A.M., Held, H., Fiorelli, T., Goldhagen, C., D'Agostino, D.P. (2014) Increased TCA cycle intermediates in response to diet with Deanna protocol in ALS mouse model *The FASEB Journal* vol. 28 no. 1 Supplement 578.3
17. **Ari, C.**, Poff, A.M., Held, H.E., Landon, C.S., Goldhagen, C.R., Mavromates, N., D'Agostino, D.P. (2014) Metabolic therapy with Deanna Protocol Supplementation Delays Disease Progression and Extends Survival in Amyotrophic Lateral Sclerosis (ALS) Mouse Model, *PLoS ONE* 9(7): e103526. doi:10.1371/journal.pone.0103526
18. Kesl SL, Poff AM, Ward NP, Fiorelli TN, **Ari C**, Van Putten AJ, Sherwood JW, Arnold P, D'Agostino DP. Effect of Sustaining Dietary Ketosis on the Hippocampal and Serum Metabolome of Sprague-Dawley Rats. March 2015, Boston, MA. *The FASEB Journal*, vol. 29 no. 1 Supplement 745.4.
19. **Ari, C.** (2015) Long-term body pigmentation changes on a manta ray (*Mobulidae*), *Biological Journal of the Linnean Society*, 114: 406–414. doi: 10.1111/bij.12416
20. **Ari, C.**, Decker, S., Ford, J., D'Agostino, D.P. (2015) What can we learn from deep-diving elasmobranchs to help humans adapt to extreme underwater environments? *The FASEB Journal*, Vol. 29: 1, Supplement 678.18.
21. **Ari, C.**, Poff, A., Landon, C., Goldhagen, C.R., Mavromates, N., Kesl, S., Ward N.P., Fiorelli T.N., Van Putten A.J., Sherwood J.W., Arnold P., D'Agostino, D.P. (2015) Metabolic therapies improve mitochondrial morphology and function, *The FASEB Journal*, Vol.. 29:1 Supplement 1036.10.
22. Kesl, S.L, Poff, A.M., Ward, N.P., Fiorelli, T.N., **Ari, C.**, Van Putten, A.J., Sherwood, J.W., Arnold, P., D'Agostino, D.P. (2016) Effects of exogenous ketone supplementation on blood ketone, glucose, triglyceride, and lipoprotein levels in Sprague–Dawley rats, *Nutrition and Metabolism*, 13:9. DOI: 10.1186/s12986-016-0069-y
23. Sajan, M., Hansen, B., Ivey, III R., Sajan, J., **Ari, C.**, Song, S., Braun, U., Leitges, M., Farese-Higgs, M., Farese, R. (2016) Brain Insulin Signaling is Increased in Insulin-Resistant States and Decreases in FoxOs and PGC-1 $\alpha$  and Increases in A $\beta$ 1-40.42 and Phospho-Tau May Abet Alzheimer Development. *Diabetes*. pii: db151428. PubMed PMID:26895791.
24. **Ari, C.**, D'Agostino D.P. (2016) Contingency checking and self-directed behaviors in giant manta rays: Do elasmobranchs have self-awareness? *Journal of Ethology*, May 2016, Volume 34, Issue 2, pp 167-174.

25. **Ari C**, Laros K, Balcombe J, D'Agostino DP. 2016 Understanding the behavior of manta rays: response to a critique, *Journal of Ethology*, Volume 35, Issue 1, pp 149–152.
26. **Ari C**, Kovacs Z, Juhasz G, Murdun C, Goldhagen CR, Koutnik A, Poff AM, Kesl SL, D'Agostino DP. 2017 Exogenous ketone supplements reduce anxiety-related behavior in Sprague-Dawley and Wistar Albino Glaxo/Rijswijk rats. *Front. Mol. Neurosci.* 9:137. doi: 10.3389/fnmol.2016.00137
27. **Ari C**. Canfield CE; Copes N, Poff AM, Fiorelli TN, Landon CS, Goldhagen CR, Mavromates N, D'Agostino DP. 2017 The Deanna protocol supplement complex supports mitochondrial energy metabolism and prolongs lifespan in preclinical models of amyotrophic lateral sclerosis (ALS), *Metabolomics*, 13:55.

#### **Manuscripts submitted or in preparation**

1. McNally HA, Ibrahim O, **Ari C**, D'Agostino DP, Byrne HJ. Ketone Protection of Nuclear DNA in Primary Cortical Neurons following Hyperbaric Oxygen Exposure monitored in vitro with RAMAN Spectroscopy. (Manuscript in preparation)
2. Boros L, D'Agostino DP, Patel H, Katz HE, Kesl SL, Collins Q, Roth JP, **Ari C**, Meuillet EJ, Dózsa CS, Fórizs I, Fekete J, Demény A, Somlyati G. Deuterons Disrupt Proton Transit by the FOF1 Subunit of ATPase: The Balancing Role of Deuterium Depleted Metabolic Matrix Water. (Submitted: Cell Reports)
3. **Ari C**, Murdun C, Goldhagen CR., Koutnik A, D'Agostino DP. Exogenous ketone supplementation improved motor function in Sprague-Dawley rats. (Manuscript in preparation)

#### **Presented posters**

1. **Ari, C.**, Kálmán, M. (2001) Search for astroglia in the GFAP-free areas of the brains of cartilaginous and bony fishes applying immunohistochemical staining of glutamine synthetase and S-100 protein; Conference of the Hungarian Neurobiological Society, Szeged, Hungary
2. Kálmán, M., **Ari, C.** (2001) Comparative study of astroglial markers, GFAP, glutamine synthetase and S-100 in skate brain; 96. Versammlung in Münster, Germany
3. **Ari, C.**, Kálmán, M. (2003) Supposed sexual dimorphism on the cerebellum of the ray *Mobula japonica* (order Myliobatiformes); Joint Meeting of Ichthyologists and Herpetologists and the American Elasmobranch Society, Manaus, Brazil
4. Kálmán, M., **Ari, C.**, Gould, R.M. (2003) Similar tendencies in the evolution of astroglia in elasmobranchs and amniotes. Joint Meeting of Ichthyologists and Herpetologists and the American Elasmobranch Society, Manaus, Brazil
5. **Ari, C.**, Kálmán, M. (2003) Morphometrical studies on the cerebellum of a ray species (*Mobula japonica*) of the order Myliobatiformes- sexual dimorphism?; Conference of the Hungarian Neurobiological Society, Balatonfüred, Hungary
6. **Ari, C.**, Stuber, I. (2004) Three-dimensional movements of captive Mobulids (*Manta birostris* and *Mobula mobular*); European Elasmobranch Society meeting, London, England
7. **Ari, C.**, Kálmán, M., Correia, J.P., Stuber, I. (2004) Analysis of movements by computerised tridimensional video reconstruction; Neuroscience Meeting, San Diego, USA

8. **Ari, C.**, Correia, J.P. (2005) A study on the sensory and learning capabilities of a captive *Manta birostris* (Mobulidae); Joint Meeting of Ichthyologists and Herpetologists and the American Elasmobranch Society Meeting, Tampa, USA
9. Kálmán, M., **Ari, C.** (2007) Evolutionary correlations of brain structure and glial architecture in Chondrichthyes: forebrain and hindbrain. 5th European Conference of Comparative Neurobiology, Paris, France
10. **Ari, C.** (2008) The brain of *Mobula japanica* (Myliobatiformes, Elasmobranchii) in gross morphological and ecological perspectives, Joint Meeting of Ichthyologists and Herpetologists and the American Elasmobranch Society Meeting, Montreal, Canada
11. **Ari, C.**, Borysov, S.I., Wu, J., Padmanabhan, J., Potter, H. (2011) A $\beta$  inhibits specific kinesin motors involved in both mitosis and neuronal function; potential implications for neurogenesis and neuroplasticity in Alzheimer's Disease and Down Syndrome, International Conference on Alzheimer's Disease, Paris, France
12. **Ari, C.**, Borysov, S., Wu, J., Padmanabhan, J., Potter, H. (2011) Impairment of neurotransmitter and neurotrophin receptor localization and function associated with Alzheimer's disease is caused by A $\beta$  inhibition of mitotic/neuronal kinesin Eg5, 41th Society for Neuroscience Conference, Washington, USA
13. D'Agostino DP, Pilla R, Dean JB, **Ari C**, Bennett A, Kesl S, Diamond D. (2011) Ketogenesis as a Therapeutic Strategy for CNS Oxygen Toxicity and Other Neurological Disorders. Society for Neuroscience Journal; San Diego, CA
14. Bennett, A., **Ari, C.**, Kesl, S., Luke, J., Diamond, D., Dean, J., D'Agostino, D. (2012) Effect of ketone treatment and glycolysis inhibition in brain cancer cells (U87MG) and rat primary cultured neurons exposed to hyperbaric oxygen and amyloid beta, Experimental Biology, San Diego, USA
15. D'Agostino, D., Pilla, R., Held, H., Landon, C., **Ari, C.**, Arnold, P., Dean, J.B. (2012) Development, testing and therapeutic applications of ketone esters (KE) for CNS oxygen toxicity (CNS-OT); i.e., hyperbaric oxygen (HBO<sub>2</sub>)-induced seizures, Experimental Biology, San Diego, USA
16. Bennett AM, **Ari C**, Kesl S, Luke J, Diamond D, Dean JB, D'Agostino DP. (2012) Effect of ketone treatment and glycolysis inhibition in brain cancer cells (U87MG cultures) and primary cultured neurons exposed to hyperbaric oxygen and amyloid beta (Ab). Federation of American Societies for Experimental Biology Journal, San Diego, CA, USA
17. D'Agostino DP, Bennett A, Pilla R, Held, HE, **Ari C**, and Dean J.B. (2012) Neuroprotective effects of ketone esters for CNS oxygen toxicity and other neurological disorders. 8<sup>th</sup> Federation of European Neuroscience Societies Forum; Barcelona, Spain. FENS Abstr. 2902, Present. Code 104.13
18. D'Agostino DP, Pilla R, Dean JB, **Ari C**, Bennett A, Kesl S, Diamond D. (2011) Ketogenesis as a Therapeutic Strategy for CNS Oxygen Toxicity and Other Neurological Disorders. Society for Neuroscience Journal; San Diego, CA, USA
19. **Ari, C.** (2012) Visual Abilities and Social Interaction of Manta Rays with the Largest Brain of Fishes and the Possible Underlying Neurological Structures, international Behavioral Neuroscience Society, Kona, HI, USA
20. Poff AM, **Ari C**, Goldhagen C, Seyfried T, D'Agostino D. (2013) Supplemental ketone metabolic therapy slows tumor growth and increases survival time in mice with metastatic cancer. Federation of American Societies for Experimental Biology Journal; Boston, MA.

21. Poff AM, **Ari C**, Goldhagen C, Seyfried TN, D'Agostino D. (2013) The ketogenic diet and hyperbaric oxygen therapy work synergistically to slow tumor growth and increase survival time in mice with systemic metastatic cancer. Federation of American Societies for Experimental Biology Journal; Boston, MA.
22. **Ari, C.**, Poff, A., Held, H., Landon, C., Goldhagen, C.R., Mavromates, N., D'Agostino, D.P. (2013) Effect of alternative metabolic fuels as a potential ALS therapy in mice and humans, Ancestral Health Symposium, Atlanta, USA
23. **Ari, C.**, Poff, A., Held, H., Landon, C., Goldhagen, C.R., Mavromates, N., D'Agostino, D.P. (2013) Metabolic therapy with arginine alpha-ketoglutarate extends survival in Amyotrophic Lateral Sclerosis (ALS) mouse model, Society for Neuroscience, San Diego, USA
24. Poff, A., **Ari, C.**, Goldhagen, C.R., Seyfried, T.N., D'Agostino, D.P. (2013) Effects of the ketogenic diet, supplemental ketone administration, and hyperbaric oxygen therapy on the VM-M3 mouse model of metastatic cancer, Society for Neuroscience, San Diego, USA
25. Bennett AM, **Ari C**, Kesl S, Luke J, Diamond D, Dean JB, D'Agostino DP. (2012) Effect of ketone treatment and glycolysis inhibition in brain cancer cells (U87MG cultures) and primary cultured neurons exposed to hyperbaric oxygen and amyloid beta (Ab). Federation of American Societies for Experimental Biology Journal; San Diego, CA, USA
26. **Ari, C.**, D'Agostino, D.P. (2014) Neuroprotection of A $\beta$  treated hippocampal neurons during hyperbaric treatment with ketone supplementation, Alzheimer's Disease International Conference, San Juan, Puerto Rico
27. Kesl SL, Poff AM, Ward NP, Fiorelli TN, **Ari C**, D'Agostino DP. (2014) Methods of sustaining dietary ketosis in Sprague-Dawley rats. Federation of American Societies for Experimental Biology Journal, San Diego, CA
28. **Ari, C.**, D'Agostino, D.P. (2014) Contingency Checking and Self-Directed Behaviors in Giant Manta Rays: Do Fish Have Self-Awareness?, American Elasmobranch Society Meeting, Chattanooga, USA
29. **Ari, C.**, Poff, A., Held, H., Landon, C., Goldhagen, C.R., Mavromates, N., Kesl, S., Ward N.P., Fiorelli T.N., Van Putten A.J., Sherwood J.W., Arnold P., D'Agostino, D.P. (2014) Improving mitochondrial morphology and function by metabolic therapies, Ketogenic diet therapies, Liverpool, UK
30. **Ari, C.**, Decker, S., Ford, J., D'Agostino, D.P. (2015) What can we learn from deep-diving elasmobranchs to help humans adapt to extreme underwater environments? Experimental Biology, Boston, USA
31. **Ari, C.**, Poff, A., Landon, C., Goldhagen, C.R., Mavromates, N., Kesl, S., Ward N.P., Fiorelli T.N., Van Putten A.J., Sherwood J.W., Arnold P., D'Agostino, D.P. (2015) Metabolic therapies improve mitochondrial morphology and function, Experimental Biology, Boston, USA
32. Kesl SL, Poff AM, Ward NP, Fiorelli TN, **Ari C**, D'Agostino DP; Effect of Sustaining Dietary Ketosis on the Hippocampal and Serum Metabolome of Sprague-Dawley Rats. Federation of American Societies for Experimental Biology Journal, March 2015, Boston, MA
33. Poff AM, Kesl SL, **Ari C**, Ward NP, Fiorelli TN, Rogers CQ, Van Putten AJ, Sherwood JW, D'Agostino DP. (2015) Development and characterization of exogenous ketone supplements – novel methods of inducing therapeutic ketosis; Glut1 Deficiency Foundation Conference, Orlando, FL, USA



34. **Ari C**, Poff A.M., Kesl S.L, Goldhagen C.R., Murdun C, D'Agostino D.P. (2015) Chronic administration of exogenous ketone supplements reduces anxiety in Sprague-Dawley rats, Glut1 Deficiency Foundation Conference, Orlando, FL, USA
35. **Ari C**, Murdun C, Goldhagen C, Rogers C, D'Agostino D.P. (2015) Elevated blood ketone levels increase the latency of anaesthetic induction in GLUT1 mouse model, Glut1 Deficiency Foundation Conference, Orlando, FL, USA
36. **Ari C**, Murdun C, Goldhagen C, Rogers C, D'Agostino D.P. (2015) The effect of ketogenic diet and ketone supplementation on the motor function of `GLUT1 deficiency mouse model, Glut1 Deficiency Foundation Conference, Orlando, FL, USA
37. **Ari, C.**, D'Agostino, D.P. (2015) Melanosome aggregations might cause giant manta ray skin change color, American Elasmobranch Society Meeting, Reno, USA
38. **Ari C**, Poff A.M., Kesl S.L, Goldhagen C.R., Murdun C, D'Agostino D.P. (2016) Chronic administration of exogenous ketone supplements reduces anxiety in Sprague-Dawley rats, 1<sup>st</sup> Annual Conference on Nutritional ketosis and Metabolic Therapeutics, Tampa, FL, USA
39. **Ari C**, Murdun C, Goldhagen C, Rogers C, D'Agostino D.P. (2016) Elevated blood ketone levels increase the latency of anaesthetic induction in GLUT1 mouse model, 1<sup>st</sup> Annual Conference on Nutritional ketosis and Metabolic Therapeutics, Tampa, FL, USA
40. **Ari C**, Murdun C, Goldhagen C, Rogers C, D'Agostino D.P. (2016) The effect of ketogenic diet and ketone supplementation on the motor function of `GLUT1 deficiency mouse model, 1<sup>st</sup> Annual Conference on Nutritional ketosis and Metabolic Therapeutics, Tampa, FL, USA
41. **Ari, C**, Decker, S., Ford, J., D'Agostino, D.P. (2016) What can we learn from deep-diving elasmobranchs to help humans adapt to extreme underwater environments? 1<sup>st</sup> Annual Conference on Nutritional ketosis and Metabolic Therapeutics, Tampa, FL, USA
42. **Ari, C**; Murdun, C; Goldhagen, C; Rogers, C; D'Agostino, D.P. (2016) Elevated blood ketone levels increase the latency of anesthetic induction in GLUT1 mouse model, International Behavioral Neuroscience Society Meeting, Budapest, Hungary
43. **Ari, C**; Kovacs, Z; Juhasz, G; Murdun, C; Goldhagen, CR.; Koutnik, A; Poff, A.M.; Kesl, S.L.; D'Agostino, D.P.(2016) Exogenous ketone supplements reduce anxiety-related behavior in Sprague-Dawley and Wistar Albino Glaxo/Rijswijk rats, International Behavioral Neuroscience Society Meeting, Budapest, Hungary
44. **Ari, C**; Kovacs, Z; Juhasz, G; Murdun, C; Goldhagen, CR.; Koutnik, A; Poff, A.M.; Kesl, S.L.; D'Agostino, D.P.(2016) Exogenous ketone supplements reduce anxiety-related behavior in Sprague-Dawley and Wistar Albino Glaxo/Rijswijk rats, Ketogenic Therapies Meeting, Banff, Canada
45. **Ari, C**; Koutnik, A.P; DeBlasi, J; Landon, C; Dean, J.B; D'Agostino, D.P. (2017) Comparison of Exogenous Ketone Supplements on Delayed Latency to CNS Oxygen Toxicity (CNSOT) Seizures, Metabolic Therapeutics Conference, Tampa
46. **Ari, C**; Koutnik, A.P; DeBlasi, J; Landon, C; Dean, J.B; D'Agostino, D.P. (2017) Comparison of Exogenous Ketone Supplements on Delayed Latency to CNS Oxygen Toxicity (CNSOT) Seizures, Office of Naval Research Annual Review Meeting, San Diego

## **Presentations:**

1. **Ari, C.** (2013) Past, present and future of manta rays, Keynote talk at the Oceanography-2013 Conference, Manta Ray Symposium, Orlando, FL, USA
2. **Ari, C.** (2013) First evidence of long term and rapid coloration changes of giant Manta rays (genus *Manta*) with implications on reliability of photo identification techniques, Manta Ray Symposium, Orlando, FL, USA
3. **Ari, C.** (2013) Coloration changes of manta rays, Oceania Chondrichthyan Society Meeting, Brisbane, AU
4. **Ari, C.** (2013) Researching manta ray brains, TedXTampaBay  
<http://www.youtube.com/watch?v=SCfswelsqda>
5. **Ari, C.** (2014) Rapid and long-term coloration changes of manta rays, American Elasmobranch Society Meeting, Chattanooga, USA
6. **Ari, C.** (2014) Manta ray research and conservation projects, DEMA show, Las Vegas, USA
7. **Ari, C.** (2015) Neuroprotective metabolic therapies by the ketogenic enhancement of the Szentgyorgyi-Krebs cycle: studies in animal models, 3<sup>rd</sup> International Congress of Deuterium Depletion, Budapest, Hungary
8. **Ari, C., D'Agostino, D.P.** (2015) Sensory and cognitive experiments on giant manta rays, American Elasmobranch Society Meeting, Reno, USA

## **Patents:**

**Ari, C., Arnold P., D'Agostino, D.P.** Technology Title: "Exogenous Ketone Supplements for Reducing Anxiety-Related Behavior" USF Ref. No. 16A007

**Ari, C., Arnold P., D'Agostino, D.P.** Technology Title: "Elevated Blood Ketone Levels by Ketogenic Diet or Exogenous Ketone Supplements Induced Increased Latency of Anesthetic Induction" USF Ref. No. 16A018PR

**Ari, C., Arnold P., D'Agostino, D.P.** Technology Title: "Exogenous Ketone Supplementation Improved Motor Function in Sprague-Dawley Rats." USF Ref. No: 16A019

**Ari, C., Arnold P., D'Agostino, D.P.** Technology Title: "Lowering of Blood Glucose in Exercising and Non-Exercising Rats Following Administration of Exogenous Ketones and Ketone Formulas." USF Ref. No: 16A049

**Ari, C., Arnold P., D'Agostino, D.P.** Technology Title: "Ketone Supplementation Elevates Blood Ketone Level and Improves Motor Function in GLUT1 Deficiency Syndrome Mice." USF Ref. No: 16B116 (provisional patent)

**Ari, C., Arnold P., D'Agostino, D.P.** Technology Title: "Neuroregeneration improved by ketone." USF Ref. No: 16B128 (provisional patent)

**Ari, C., D'Agostino, D.P. Dean, J.B.** Technology Title: "Delaying latency to seizure by combinations of ketone supplements." USF Ref. No: 16B138PR (provisional patent)

## **Websites:**

[www.mantamissions.org](http://www.mantamissions.org)

[www.mantapacific.org](http://www.mantapacific.org)

[www.futureoceans.hu](http://www.futureoceans.hu)

[www.mantamemories.org](http://www.mantamemories.org)

## **Conference Organizer:**

Organizer of Manta Ray Symposium as part of the Oceanography-2013 Conference, Orlando, USA

**Collaborations with:**

1. Leonid Breydo, USF (atomic force microscopy) [lbreydo@health.usf.edu](mailto:lbreydo@health.usf.edu)
2. Prof. Gabor Juhasz, PhD: Eötvös Loránd University; (36) 70-636-4397  
[gjuhasz100@gmail.com](mailto:gjuhasz100@gmail.com) (epilepsy/ketone supplements)
3. Zsolt Kovács, PhD; University of West Hungary; [zskovacs@ttk.nyme.hu](mailto:zskovacs@ttk.nyme.hu) (epilepsy/ketone supplements)
4. Prof. László G. Boros, M.D. UCLA School of Medicine Los Angeles; (310) 222-1886;  
[boros@labiomed.org](mailto:boros@labiomed.org) (deuterium depletion research/ketogenic diet)
5. Helen McNally, Ph.D. Purdue University (hyperbaric experiments) [mcnallyh@purdue.edu](mailto:mcnallyh@purdue.edu)  
(765) 494-7491
6. Prof. Emeritus Yoram (Rami) Grossman, Ben-Gurion University of the Negev, Israel (calcium imaging) 972-8-6477331 [ramig@bgu.ac.il](mailto:ramig@bgu.ac.il)
7. Mini Sayan, PhD, USF (histology) [msajan@health.usf.edu](mailto:msajan@health.usf.edu)
8. Dan Szymanski, PhD: Purdue University; [dszyman@purdue.edu](mailto:dszyman@purdue.edu) (765) 494-8092  
(hyperbaric experiments)

**Media appearance highlighted:**

<http://www.nature.com/nature/journal/v512/n7512/full/512009a.html>

<http://www.83degreesmedia.com/features/researchers020513.aspx>

<http://wusfnews.wusf.usf.edu/post/usf-professor-joins-nasa-research-bottom-ocean#stream/0>

2016 My work on manta rays was profiled as part of the Shark MOOC (Massive Open Online Course) offered jointly by Cornell University and University of Queensland and hosted by edX.org. My research was part of the Neurobiology and Behavior course. The program had 19,000 enrollees.

**Other activities:**

2003 Divemaster on liveboard boats on the Red Sea in Egypt

2005-2008 Teaching and performing Latin American and Brazilian dances in Hungary