**Research Associate or Postdoctoral Fellowship at Tufts University, Graduate Sciences and Medical School Campus, Boston**

**Overview:** A high proportion of the elderly suffer from age-related loss of vision. We elucidate relationships between environmental stress, physiologic stress responses, protein quality control and eye function in order to discover mechanisms of aging, and nutritional and other means to delay age-related vision impairments such as age-related macular degeneration and cataracts. Projects are mature and much data is already available. Tufts Medical Center is a highly collaborative and productive environment in downtown Boston, within ~20 minutes from Harvard, MIT, Boston Univ. The lab is funded by NIH, USDA, several foundations.

**Position Description:** We seek outstanding candidates with a recent PhD in Biochemistry or a related discipline to work on one of the following funded projects:

1) Discovering novel stress-induced ubiquitin and autophagy enzyme interactions in response to glycative stress.

2) Regulatory mechanisms of eye lens differentiation,

3) Elucidate interactions between dietary glycemia, metabolomics, microbiome, AMD, cataract, and aging in animal studies and/or human populations, including planning randomized intervention studies.

Training in biochemistry or a related discipline is required and experience with bioinformatics, histology, analyzing large data sets, animal husbandry is highly desirable. Candidates should have at least two English language first authored papers and 1 year of experience in a related discipline. A 2 year commitment is required. Preference will be given to candidates who have permits to reside in the USA. All candidates must have or obtain a suitable visa.

**Additional benefits:** We have an active Postdoc and Research Associate organization and fellows that have completed their training have moved on to positions at prestigious academic and industrial institutions.

**Selected recent papers from our group include**

* Rowan, S., et al., (2020) A low glycemic diet protects disease-prone Nrf2-deficient mice against age- Rowan, S., et al., (2020) A low glycemic diet protects disease-prone Nrf2-deficient mice against age-related macular degeneration, Free Radical Biology and Medicine PMID: **32068111** DOI: [10.1016/j.freeradbiomed.2020.02.010](https://doi.org/10.1016/j.freeradbiomed.2020.02.010).
* Aragonès, G. et al., Autophagic receptor p62 protects against glycation-derived toxicity and enhances viability, Aging Cell, PMID: **33146912** DOI: [10.1111/acel.13257](https://doi.org/10.1111/acel.13257)
* Whitcomb, E. A. et al. Stabilization of p27(Kip1)/CDKN1B by UBCH7/UBE2L3 catalyzed ubiquitinylation: a new paradigm in cell-cycle control. FASEB J. (2019). PMID: 30113882. DOI: [10.1096/fj.201800960R](https://doi.org/10.1096/fj.201800960r)
* Rowan, S. et al. Involvement of a gut–retina axis in protection against dietary glycemia-induced age-related macular degeneration. Proc. Natl. Acad. Sci. (2017). PMID: 28507131. DOI: [10.1073/pnas.1702302114](https://doi.org/10.1073/pnas.1702302114)
* Lyu, L. et al. Unfolded-protein response-associated stabilization of p27(Cdkn1b) interferes with lens fiber cell denucleation, leading to cataract. FASEB J. (2016). PMID: 26590164. DOI: [10.1096/fj.15-278036](https://doi.org/10.1096/fj.15-278036)
* Liu, K. et al. Altered ubiquitin causes perturbed calcium homeostasis, hyperactivation of calpain, dysregulated differentiation, and cataract. Proc. Natl. Acad. Sci. (2015). PMID: 25583491. DOI: [10.1073/pnas.1404059112](https://doi.org/10.1073/pnas.1404059112)
* Chaffee, B. R. et al. Nuclear removal during terminal lens fiber cell differentiation requires CDK1 activity: appropriating mitosis-related nuclear disassembly. Development (2014). PMID: 25139855. DOI: [10.1242/dev.106005](https://doi.org/10.1242/dev.106005)

*Due to Covid, our Center is currently officially open with restricted access. Training can begin in the summer 2021. We will start part time and move to full time when we are permitted to work in the building.*

**Application Instructions:** Please send a CV, names and phone numbers of three references (including PhD advisor and post doc mentor) and a list of grades received in Graduate science courses to:

Allen Taylor, Director of the Nutrition and Vision Research Laboratory at the HNRCA

Professor of Nutrition, Chemical and Molecular Biology, and Ophthalmology at Tufts University

JM-USDA HNRCA, 711 Washington St, Boston, MA 02111. Please reply to all three people”

[allen.taylor@tufts.edu](mailto:allen.taylor@tufts.edu)[; Sheldon.Rowan@tufts.edu; Elizabeth Whitcomb@tufts.edu](mailto:Rowan@tufts.edu)

For questions about these positions, please contact Dr. Taylor at 617 784 3199 3-5 PM Eastern Time.