



2021 Request for Proposals: Telomere Network Analysis Awards

For advancing measurement & understanding of telomere length as a measure of exposures

The Telomere Research Network, sponsored by the National Institute of Environmental Health Sciences and National Institute on Aging, is developing a growing collaborative community of interdisciplinary scientists for promoting the science on telomere length as a predictor of health and aging, described in detail on our website, trn.tulane.edu. We are seeking proposals from early stage investigators who are interested in joining our network. ***Part of the goal of the network is to improve the rigor and reproducibility of measurement of telomere length (TL) in epidemiological studies, determine the extent to which 1) TL is a sentinel of environmental exposures, psychosocial stress and disease susceptibility, and 2) The extent to which TL is malleable, and 3) To help the field grow by supporting investigators new to this area.***

In 2021, we will support at least **five projects** that address scientific gaps in relation to telomere length as it applies to epidemiological research. The projects can include secondary analyses of large samples (>300) that examine novel questions about the relation between TL and health or an exposure. Awardees will receive a **\$4,000 honorarium**, mentorship from telomere measurement experts, and access to high level statistical consultation as needed. Awardees will be expected to present their results in person or video (including \$800 for travel support) at the Telomere Research Network (TRN) annual meeting in December 2021 in New Orleans, LA. These projects should provide investigators with pilot data to support future K, R01, or other funding mechanisms that include telomere length assessed with a high level of scientific rigor. We encourage applicants to carefully assess the TRN qPCR reporting guidelines and other resources on the TRN website when considering data sets to ensure that the data utilized is of sufficient quality for the proposed analyses. Recommendations related to qPCR-based analyses of telomere length can be found here <https://www.ncbi.nlm.nih.gov/pubmed/30343983>. The TRN reporting guidelines and other important resources for study design are located here: <https://trn.tulane.edu/resources/>.

In 2021, the pilot projects are again focused on a broad conceptualization of the exposome, as described below. TL may have unique utility for understanding exposome factors such as psychosocial stressors and psychological responses, and chemical/environmental inputs, including during pregnancy. Projects should ideally focus on the relation between TL and *a well-defined exposure (e.g. type of stress- psychological, biochemical, viral), intervention, innovative question or study design opportunity, such as measurement in longitudinal studies, changes in early life, intergenerational transmission*. Predictors of newborn telomere length and changes over the lifespan, especially in early life, are important to study. This year, we also encourage (but are not limited to) any projects that will shed light on relations between TL and vulnerability to COVID-19, vaccine response, or long-term health consequences of COVID-19 infection.



Proposal Guidelines:

Proposals should address a brief background on **what is known and gaps** in relationships among the exposure and telomeres, and how this analysis will address an innovative and important question. Please send **ONE PDF** of the proposal and your biosketch, as described below:

(1) PROPOSAL:

- a. Specify the aims, hypotheses, and which exposome variables in particular will be used, with attention to measurement issues in relation to TL as well as the proposed exposure variable.
- b. Describe the sample characteristics (sample size must be > 300), and methods, including sufficient information about the measurement of TL to ensure accuracy.
- c. Describe the analytic methods and potential pitfalls. Analyses which will be pre-registered are preferred.
- d. Length: maximum of 1000 words (excluding references, figures, tables)

(2) Include only the applicant's Biosketch (and a letter of support, if a trainee).

Eligibility:

Applicants can be of any career stage; however, these awards are particularly fitting for early career researchers (<10 years in faculty position). **Graduate students and post-doctoral scholars may apply in collaboration with a senior mentor, in which case the application must include a letter of support from the senior mentor.** Decisions will be based on feasibility (e.g. access to and external validity of data, experience with proposed analytic method), innovation (e.g. does the project address a critical area of disagreement and/or scientific gap), and appropriate power (e.g. sufficient sample size). Applications can propose utilization of existing data sets that are publicly available or that the applicant has direct access to through other means.

Mentoring and Interim Presentation:

Please note whether you are interested in a conversation or lab visit (virtual or in-person) with one or more investigators affiliated with the TRN (eg, Executive Committee or Advisory Committee), that would help facilitate your thinking and analysis plans. Award winners will present their project ideas to the TRN and Advisory Committee members and may receive suggestions to optimize and sharpen their questions and analyses. If desired, PI's will be matched with an expert mentor from the TRN as a guide and consultant on their project. Awardees should be prepared to present initial analyses in December 2021 at the annual TRN meeting. Presentation can be done in person or via videoconferencing. *Upon successful completion of the interim presentation, an honorarium of \$4,000 will be provided.*

Timeline: Proposals are due at midnight PST **March 1st, 2021** and should be submitted **as a single PDF** to telomerenetwork@gmail.com. Awards will be announced no later than April 1st with an expected start date of May 1st, 2021. Award activities are expected to be completed by December 31st, 2022.

Contact: Questions should be directed to Dr. Elissa Epel (elissa.epel@ucsf.edu) or Dr. Stacy Drury (sdrury@tulane.edu). Final proposals should be sent to: telomerenetwork@gmail.com

We encourage you to apply and help grow this important field!