**TRN Annual meeting 2023**

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|  | **March 30 2023 (all times in EST)** |  |
| 08:00-08:30am | *Registration and light breakfast* |  |

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| **Morning session: Results from the TRN U01 Collaboratory**  **Chair: Stacy Drury, MD/PhD** | | |  |
| 08:30-08:45am | Introduction to the TRN and collaboratory | | Stacy Drury, U24 PI  Janine Simmons, NIA  Lisbeth Nielsen, NIA  Michelle Heacock, NIEHS  Max Guo, NIA |
| 08:45-09:45am | Cross method and cross laboratory results | | Simon Verhulst, University of Gronigen (U24) |
| 09:45-10:00am | Questions/Discussion | |  |
| 10:00-10:45am | *Telomere Length Measurements and Opportunities for Clinical Applications (virtual)* | | Abraham Aviv, Rutgers (U01 PI) Shahinaz Gadalla, NCI  Sharon Savage, NCI |
| 10:45-11:00am | Questions/Discussion | |  |
| 11:00-11:30am | *Single telomere length analysis by DNA-array-FISH* | | Yun-Ling Zheng, Georgetown  (U01 PI) |
| 11:30-11:45am | Questions/Discussion | |  |
| 11:45-12:15pm | *Telomere methodological factors: Lessons from the Contemplative Coping during COVID study* | | Jue Lin, UCSF (U01 PI) Quinn Conklin, UC Davis |
| 12:15-12:30pm | Questions/Discussion | |  |
| 12:30-1:15pm | *Lunch* | | Provided by TRN |
| **Key Note: Tracy Woodruff, PhD, MPH**  **Chair: John McLachlan, Tulane University (U24)** | | |  |
| 1:30-2:15pm | *Title pending* | | Tracy Woodruff, UCSF |
| 2:15-2:30pm | Questions and Discussion | |  |
| 2:30-3:00pm | *Cross-tissue comparison of telomere length and DNA QC metrics across two cohorts* | | Idan Shalev, Penn State (U01 PI) |
| 3:00-3:15pm | Questions/Discussion | |  |
| 3:15-3:45pm | *Community input regarding next methodological questions for the TRN and recommendations for additional cross laboratory studies* | | Stacy Drury, U24 PI  **OPEN FORUM** |
| 3:45-4:00pm | Coffee break | |  |
| **Afternoon Session: Updates on pilot award recipients and posters**  **Chair: Elissa Epel** | | |  |
| 4:00-4:15pm | | Overview of TRN pilot awards and outcomes | Elissa Epel, UCSF (U24) |
| 4:15-4:30pm | | Predictors of newborn TL and efforts to define the early life trajectory of TL | Dries Martens (pilot award recipient), University of Hasslet |
| 4:30-5:00pm | | Poster presentations (virtually)  5 minute presentations/5 minute discussion | TBA |
| 6:00pm | | Group Dinner (TBA) and networking | Optional |

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|  | March 31, 2023 (all times in EST) |  |
| 08:00-08:30am | *Registration and light breakfast* | Provided by TRN |
| Session 1: Novel Method development for TL measurement  Chair: Stacy Drury, U24 PI | |  |
| 08:30-8:45am | NIA/NIEHS Welcome and Introductory Remarsk  *The importance of collaborative science in establishing standards and scientific rigor* | Richard Hodes, NIA  Richard Woychik, NIEHS |
| 08:45-09:00am | Introduction to method development and goals  20-minute presentations, 10-minute discussion | Stacy Drury, PI U24 |
| 09:00-09:30am | *Nanopore telomere sequencing -NanoTelSeq- enables accurate length measurement of telomeres* *(virtually)* | Riham Smoom, The Hebrew University of Jerusalem |
| 09:30-10:00am | *Precise measurement of telomere length in T-cell derived extracellular vesicles* | Bo Ning, Tulane University |
| 10:00-10:30am | *Absolute Telomere Length Quantification with CRISPR Cas12a* | Waylon Hastings, Tulane University |
| 10:30-10:45am | Community input on specific guidelines for methodologic validation of novel telomere measurement assays and approaches for effective implementation of these guidelines through funders, peer review and other dissemination outlets | Stacy Drury, U24 PI  **OPEN FORUM** |
| 10:45-11:00am | *Coffee break* |  |
| Session 2: Interactive debate about fundamental questions of the role of telomeres as sentinels in human population studies  Chair: Simon Verhulst, University of Groningen (U24) | |  |
| Panelists: Duncan Baird (Cardiff University), Stacy Drury (U24 PI), Veryan Codd (University of Leicester), Jon Adler (University of Pittsburg), Patricia Opresko (Organizing participant, University of Pittsburgh) | |  |
| 11:00-12:30pm | In this modified debate, panelists **were assigned** by the Chair to present an opinion, either for or against the three statements listed below. These three statements, desgined by the TRN organizing committee, were specifically created to instigate dialogue and drive needed next scientific study focused on determing the validity of each statement and/or its counter-argument.  Panelists agreed to participate and were not permitted to select the position they were supporting.  Participants are encouraged, prior to and during the TRN meeting, to consider these statements and the existing data for and against each statement. Specific comments, prior to the meeting, are welcomed on the TRN twitter (@telomerenetwork) or can be sent to the TRN email account “telomerenetwork@gmail.com   1. Single measurements of telomere length are meaningless because it is the rate of telomere shortening that is relevant to human health and disease. 2. No environmental or psychosocial stress exposure has sufficient effect on telomere length to result in cellular functional or health consequence. 3. The association between telomere length and mortality is driven by infectious diseases only. | Debate structure:  **AUDIENCE VOTE** (via zoom poll)  Panelist:  FOR: 3 minutes  AGAINST: 3 minutes  Panelist Rebuttle  FOR rebuttle: 2 minutes (self response, life-line (call an expert))  AGAINST: rebuttle, 2 minutes (self response, life-line (call an expert))  Open forum: meeting participants may provide responses, individuals selected by chair and meeting team to present opinion limited to 2 minutes each. 10 minutes total.  Chair- closing  **AUDIENCE VOTE** |
| 12:30-1:30pm | *Lunch* | Provided by TRN |
| Session 3: Novel models and the importance of cross species collaboration  Chair: Stacy Drury, U24 PI | |  |
| 1:30-2:15pm | *The energetic cost of telomere maintenance and mitochondria (virtually)* | Martin Picard, Columbia University |
| 2:15-2:30pm | *Epigenetic inheritance of a telomere capping defect triggers longevity in C. elegans* | Shawn Ahmed, University of North Carolina |
| 2:30-3:00pm | Discussion of different models of telomere and mitochondrial interactions, approaches to leverage basic and translational model and their role in aging and disease | Stacy Drury, U24 PI  **OPEN FORUM** |
| 3:00-3:15pm | *Coffee break* |  |
| Session 4: Open forum: TRN- next steps and critical gaps | |  |
| 3:15-4:00pm | Community guidance for the TRN next research and dissemination steps | Stacy Drury, U24 PI  **OPEN FORUM** |
| 4:00pm | Adjourn |  |