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INTRODUCTION TO SAN DIEGO NATHAN SHOCK CENTER OF EXCELLENCE IN THE BASIC BIOLOGY OF AGING

- The Division of Aging Biology of the National Institute on Aging funds **8 Nathan Shock Centers of Excellence in the Basic Biology of Aging** across the U.S.
- The Centers provide leadership in the pursuit of **basic research into the biology of aging**
- Each Center has a **overall theme and specialized research resource cores** that provide services for-free to the community, along with a **research development core**

SAN DIEGO, CALIFORNIA

DIRECTOR: Gerald Shadel, PhD

NATHAN SHOCK CENTERS
OF EXCELLENCE IN THE
BASIC BIOLOGY OF AGING

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BASIC BIOLOGY OF AGING

ALBERT EINSTEIN COLLEGE OF MEDICINE
BROOKLYN, NEW YORK
DIRECTOR: Nir Barzilai, MD

BAR HARBOR, MAINE
DIRECTORS: Gary Churchill, PhD, Ron Korstanje, PhD

THE UNIVERSITY OF ALABAMA AT BIRMINGHAM
BIRMINGHAM, ALABAMA
DIRECTORS: Steven Austad, PhD, Thomas Buford, PhD

THE UNIVERSITY OF OKLAHOMA
OKLAHOMA CITY, OKLAHOMA
DIRECTOR: Arian Richardson, PhD

SAN ANTONIO, TEXAS
DIRECTORS: Randy Strong, PhD, Peter Hornsby, PhD, Adam Salmon, PhD

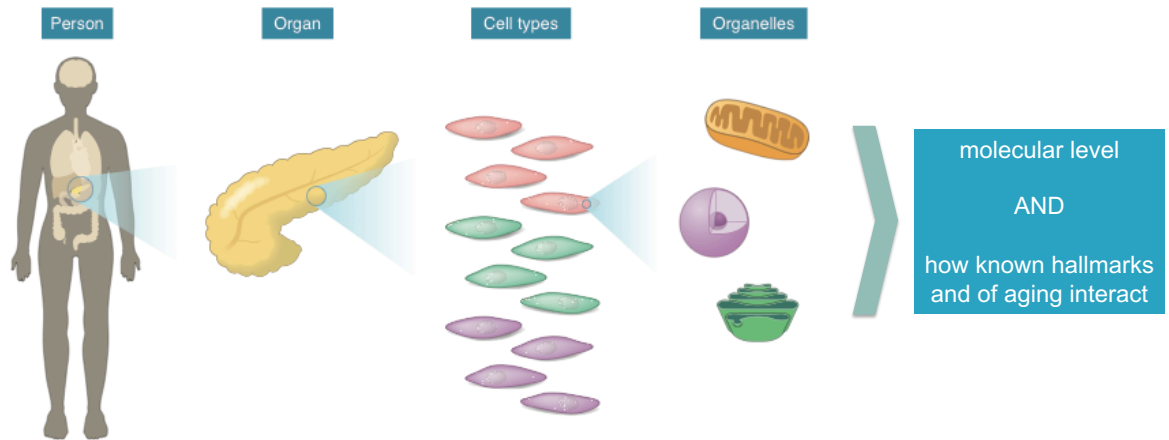
SEATTLE, WASHINGTON
DIRECTORS: Peter S. Rabinovitch, MD, PhD, Matt Kaeberlein, PhD

NOVATO, CALIFORNIA
DIRECTORS: Eric Verdin, MD, Gordon Lithgow, PhD, Pinchas Cohen, MD, Sean Curran, PhD

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Overall premise of the San Diego Nathan Shock Center (SDNSC):
 promote the analysis and understanding of the *heterogeneity* of aging



Long-term goal is to inform personalized healthspan interventions

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INTRODUCTION TO SAN DIEGO NATHAN SHOCK CENTER

salk
 where curio begins

AIM 1. Create novel integrated scientific resources to develop human cell models of aging and enable basic studies of molecular, cellular, and tissue heterogeneity.

AIM 2. Increase basic biology of aging research through development, training, and mentoring activities of a Research Development Core.

AIM 3. Extend the reach of the SD-NSC by providing leadership and outreach activities to advocate for basic biology of aging research in general, and studies into the heterogeneity of aging specifically.



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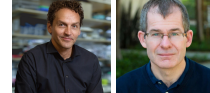
Core Leads:
Rusty Gage, Salk
Anthony Molina, UCSD



Center Director: Gerald Shadel, Salk



Core Leads:
Martin Hetzer, Salk
Peter Adams, SBP



Core Lead:
Tatyana Sharpee, Salk



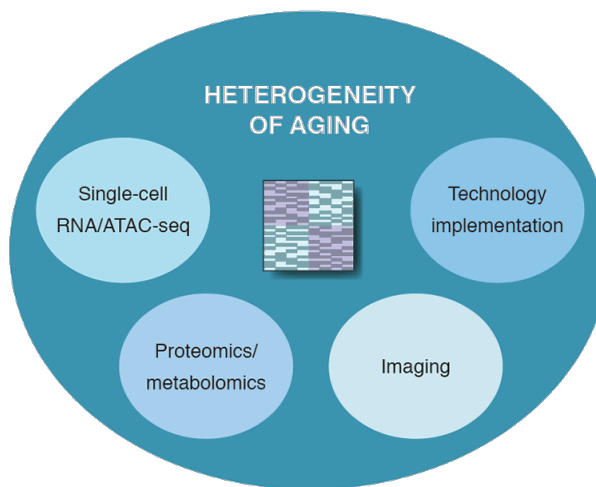
Core Lead:
Malene Hansen, SBP



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HETEROGENEITY OF AGING CORE

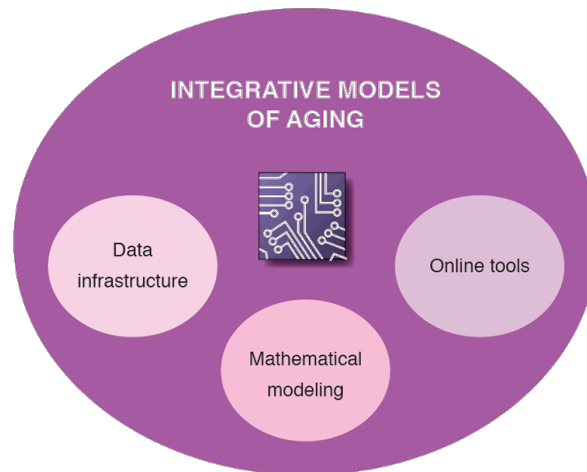


Martin Hetzer
Peter Adams
Jolene Diedrich
Nasun Hah
Uri Manor

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INTEGRATIVE MODELS OF AGING CORE

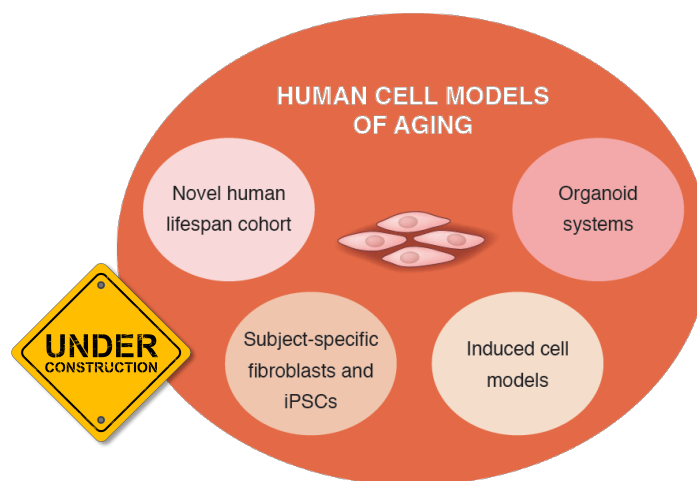


Tanya Sharpee
Max Shokhirev

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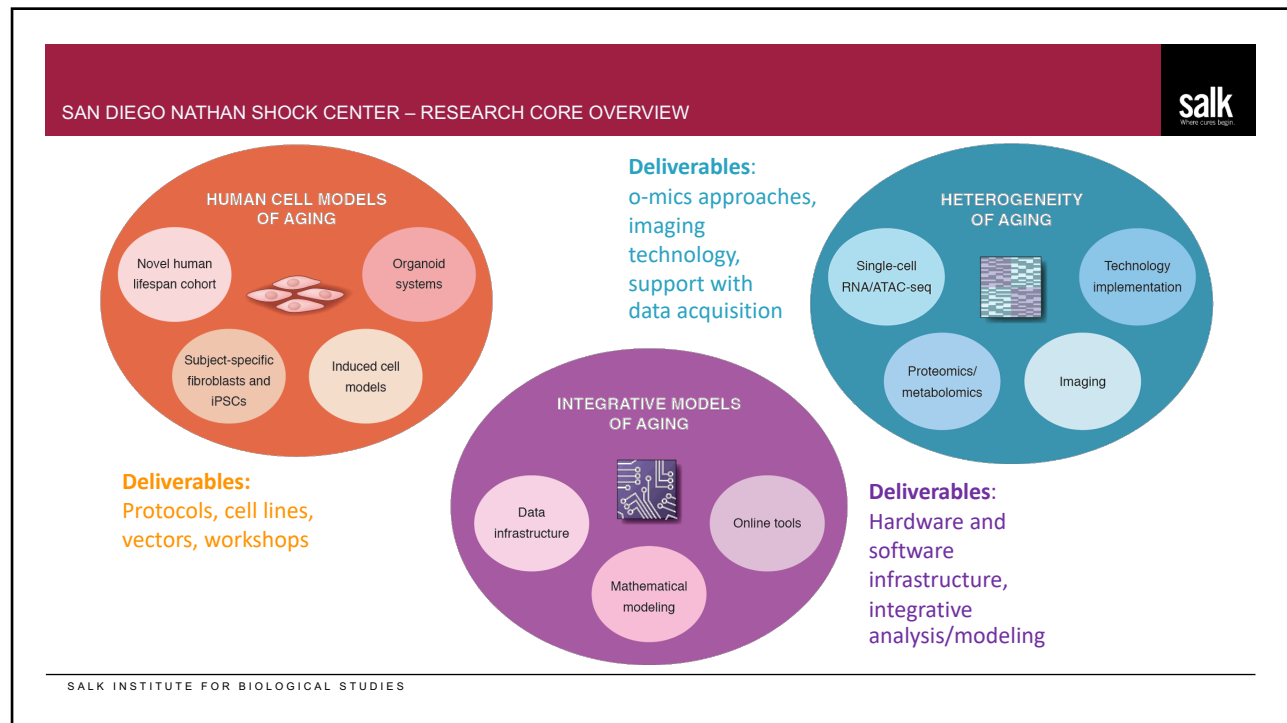
HUMAN CELL MODELS OF AGING CORE



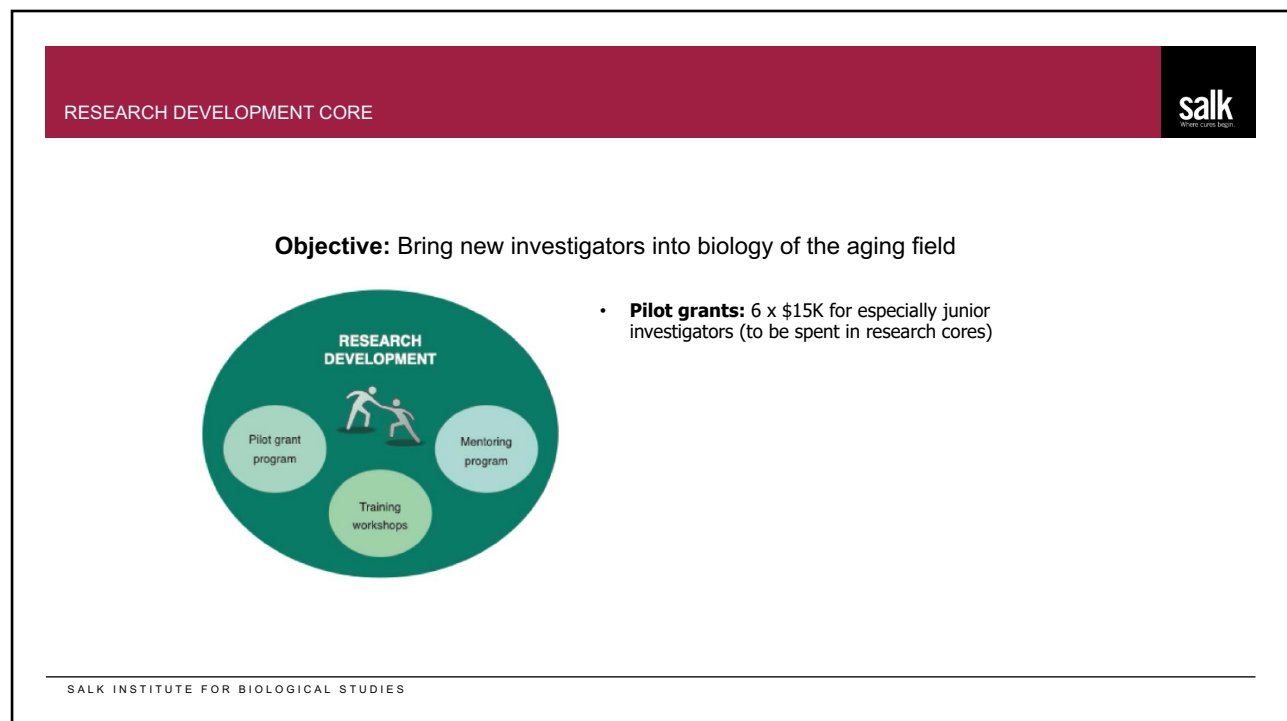
Anthony Molina
Lina Scandalis
Ken Diffenderfer

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CONGRATS TO THE 2021 SAN DIEGO NATHAN SHOCK CENTER PILOT GRANT AWARDEES!!



Ana Chucair-Elliott

A novel mouse model for chromatin accessibility and transcriptomic studies of retina Müller glia in age-related macular degeneration / [Oklahoma Medical Research Foundation](#)



Maria Mihaylova

Characterizing Age-Dependent Changes in the Mammalian Colon
[The Ohio State University](#)



Adam Konopka

The Metabolic-Epigenomic Network of Metformin and Exercise
[University of Wisconsin](#)

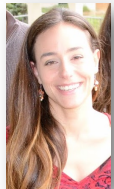
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CONGRATS TO THE 2021 SAN DIEGO NATHAN SHOCK CENTER PILOT GRANT AWARDEES!!



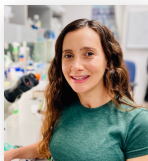
Vanessa Delcroix

A single-cell atlas of the aging lacrimal gland to understand the mechanisms underlying age-associated dry eye disease
[The Scripps Research Institute](#)



Lara Labarta-Bajo

Astrocyte Plasticity in the Aging Brain / [Salk Institute](#)



Maria Clara Guida

Investigating the epigenetic drift of aging hearts using *Drosophila* / [Sanford Burnham Prebys MDI](#)

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RESEARCH DEVELOPMENT CORE



Objective: Bring new investigators into biology of the aging field

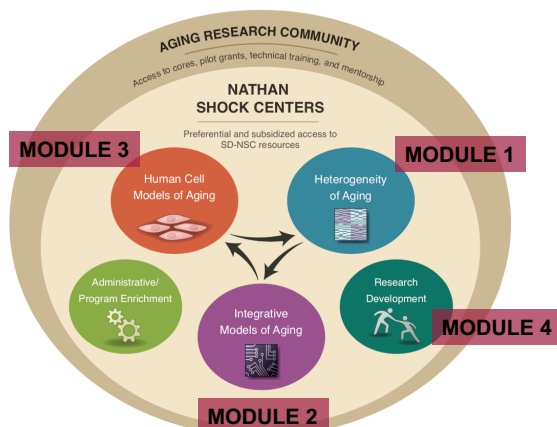


- **Pilot grants:** 6 x \$15K for especially junior investigators (to be spent in research cores)
- **Intro/Training workshop:** 1-day following LAM symposium, conceptual and practical training in core techniques; moreover, grantees can visit and receive training

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2021 SAN DIEGO NATHAN SHOCK CENTER WORKSHOP



Friday March 26, 2021 - 8:30 AM – 2:30 PM PT

VIRTUAL PROGRAM

- | | |
|----------------|---|
| 8:30-8:40 AM | INTRODUCTION |
| 8:40-9:40 AM | KEYNOTE SPEAKER, DR. DARREN BAKER, MAYO CLINIC
<i>"Establishment of causality for senescence to aging"</i> |
| 9:45-11:00 AM | MODULE 1: INTRODUCTION TO HETEROGENEITY OF AGING CORE |
| 11:00-11:50 AM | MODULE 2: INTRODUCTION TO INTEGRATIVE MODELS OF AGING CORE |
| | <i>Lunch Break</i> |
| 12:30-1:20 PM | MODULE 3: INTRODUCTION TO HUMAN CELL MODELS OF AGING CORE |
| 1:25-2:25 PM | MODULE 4: RESEARCH DEVELOPMENT CORE, GRANT WRITING WORKSHOP |

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RESEARCH DEVELOPMENT CORE



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- **Pilot grants:** 6 x \$15K for especially junior investigators (to be spent in research cores)
- **Intro/Training workshop:** 1-day following LJM symposium, conceptual and practical training in core techniques; moreover, grantees can visit and receive training
- **Mentoring program:** Personalized mentor/mentee pairing, e.g., at NSC annual meeting; recipients of awards will be paired with mentor



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UPDATES

NEW LEADER FOR THE
RESEARCH DEVELOPMENT CORE

ALESSANDRA SACCO, PhD.

Sanford Burnham Prebys Medical Discovery
Institute

Associate Professor

Associate Dean of Curriculum, Graduate School of
Biomedical Sciences

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**KEYNOTE
SESSION**

DARREN J. BAKER, PhD
MAYO CLINIC

Establishment of Causality for Senescence to Aging

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