



Temporal
Dynamics of
Learning
Center



*2015-2016 REU SITE PROGRAM
ORIENTATION*

WELCOME!

WHO WE ARE...PROGRAM ADMINISTRATORS

Dr. Gary Cottrell

*REU Program Director
Professor, CSE*



Kate Shanks

*REU Program Coordinator
TDLC Executive Assistant*



Carmela Arstill

*REU Program Coordinator
TDLC DOT Programs Manager*



WHO WE ARE...MENTORS



Dr. Andrea Chiba



Dr. Virginia de Sa



Dr. Gedeon Deák



Dr. Bob Clark



Dr. Leanne Chukoskie



Dr. Terry Sejnowski



Dr. Laleh Quinn



Dr. Christine Smith



Dr. Alex Khalil



Dr. Marga Behrens



Dr. Deborah Forster



Dr. Victor Mincez

WHAT IS THE TDLC?



TDLC is a Science of Learning Center (SLC), one of six funded by the *National Science Foundation* (NSF).

The scientific goal of TDLC is to achieve an integrated understanding of the role of time and timing in learning, across multiple time scales, brain systems, and social systems.

We strive to continually build relationships between researchers, educators, students and the general public to generate new, transformational ideas.

OUR GOAL: UNDERSTAND THE ROLE OF TIME AND TIMING IN LEARNING

From the neuronal
and millisecond scale...



...to the brain
and year-long scale



THIS IS A BIG TASK!

Hence, we are the biggest, most geographically and scientifically diverse Science of Learning Center

18 institutions

4 countries (US, Canada, England, and Australia)

40 PIs, 5 affiliate PIs, 13 project or research scientists, 41 postdocs, 58 graduate students and 24 undergrads.

THIS IS A BIG TASK!

How do we organize 181 people?

Two orthogonal schemes:

- The network of research networks - the engines of our science
- Our initiatives - the goals of our science

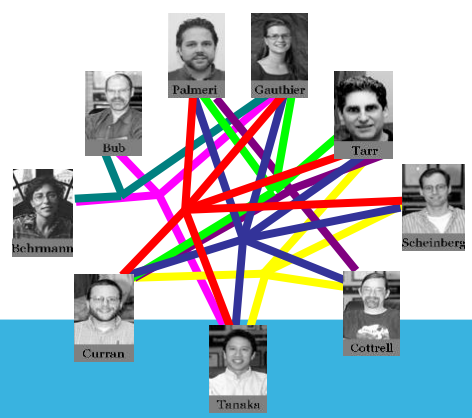
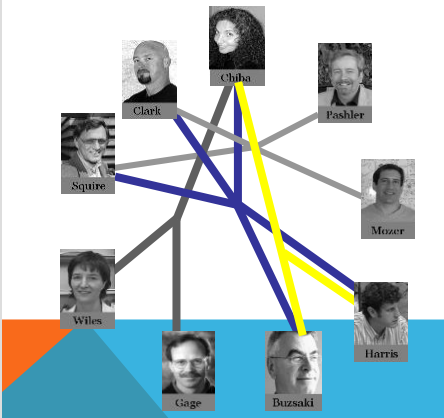
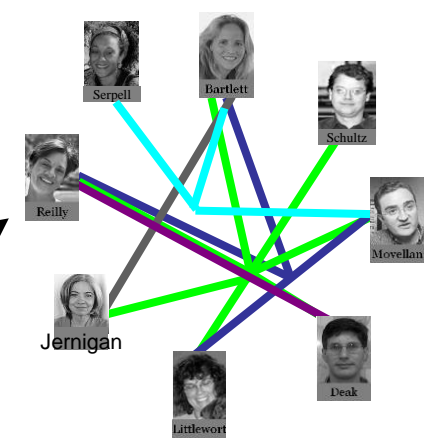
THE NETWORK-OF-NETWORKS

- UC San Diego
- Brown University
- Carnegie-Mellon University
- Imperial College
- Rutgers University
- San Diego State University
- The Salk Institute
- UC Berkeley
- U. at Buffalo
- University of Colorado
- U. Pennsylvania
- U. Pittsburgh
- U. Queensland
- U. of Victoria
- U. of Washington
- Vanderbilt University
- Virginia State University

SensoriMotor Network



Social Interaction Network



Interacting Memory Systems

Perceptual Expertise Network

- Cognitive Science
- Cognitive Psychology
- Computational Neuroscience
- Computer Science
- Developmental Psychology
- Education
- Learning Theory
- Linguistics
- Machine Learning
- Mathematics
- Neuropsychology
- Neuroscience
- Physics
- Robotics

FEATURES OF RESEARCH NETWORKS

Size: ~10 Pis +2-3 trainees each make for a workshop-size meeting - everyone can sit around a U-shaped table

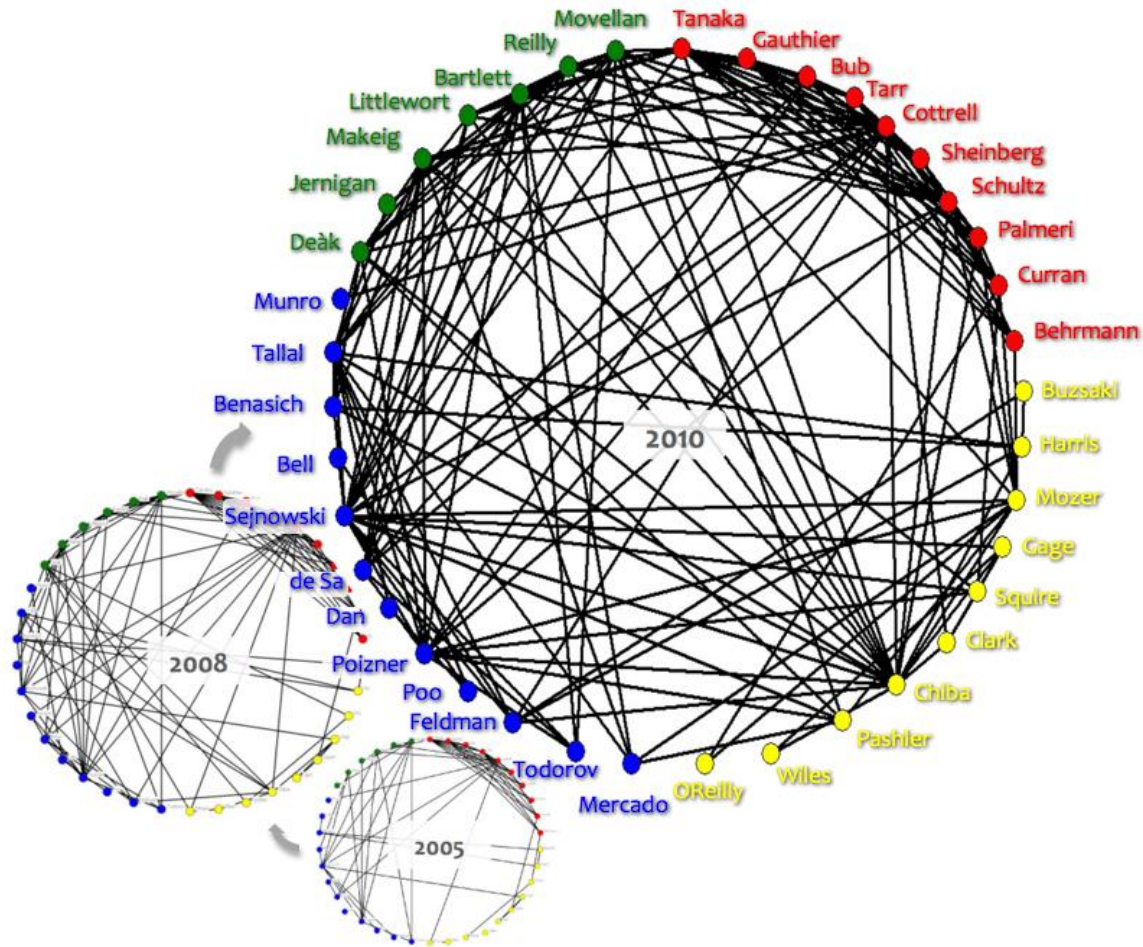
Interdisciplinarity: Psychologists, computational modelers, roboticists, animal neurophysiologists, neuropsychologists, neuroimaging experts.

Common focus: problem oriented rather than technique oriented

Willingness to collaborate and cooperate

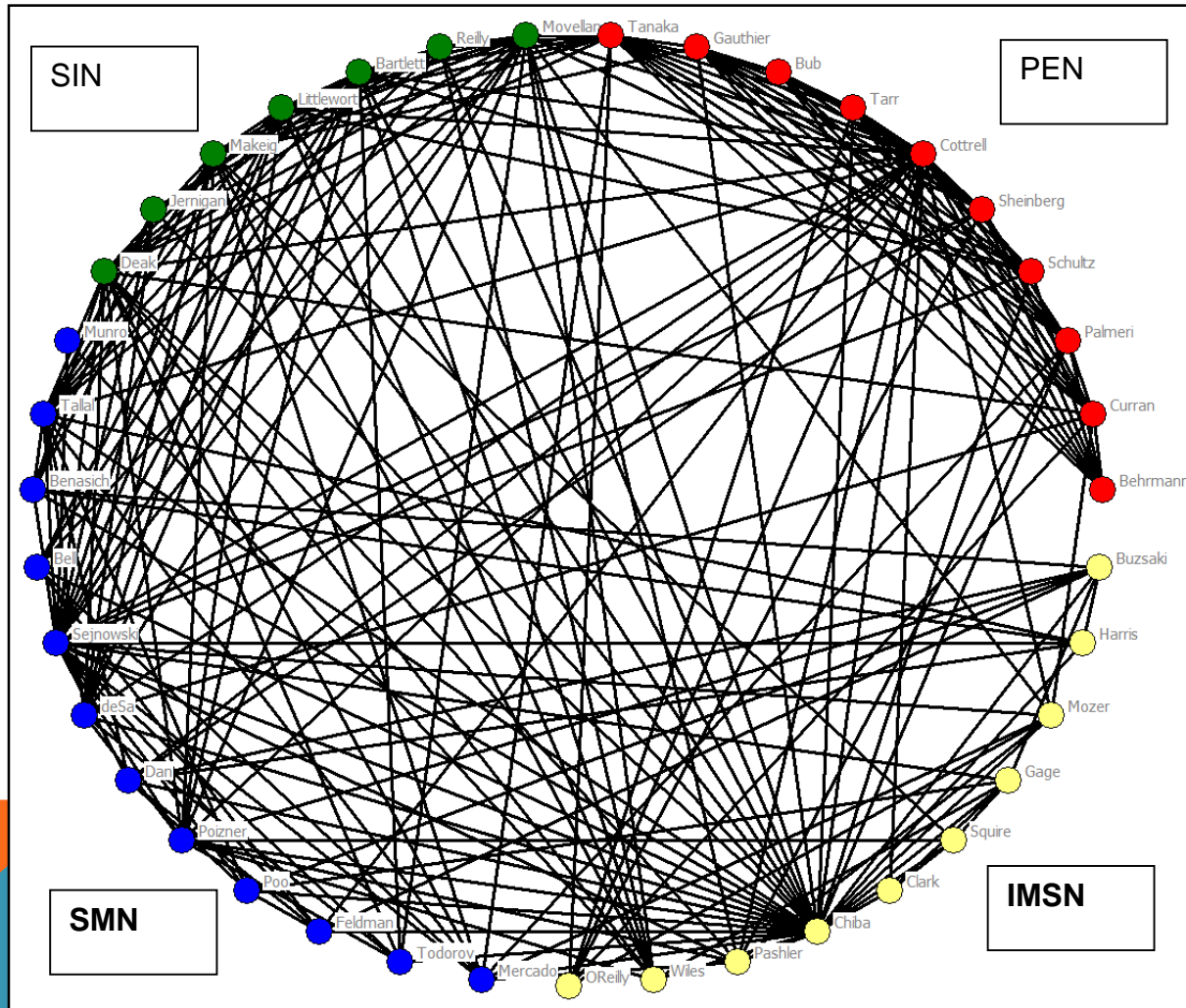
This creates a ***cooperative scientific community.***

AND, IT'S WORKING...



Every line represents an actual collaboration

2011



WHAT IS THE REU PROGRAM?



- This is funded by a grant from the *National Science Foundation* (NSF).
- The goal of the program is to train you in the specific research areas of TDLC, including machine learning, cognitive science, psychology, & neuroscience.
- The core of the program is a participation in a research project in a TDLC lab over the academic year.
- We hope to provide a rigorous research experience to further prepare you for advanced work in your respective fields.
- *My goal* is for you to get your name on a paper! This is the number 1 thing that will get you into grad school.

WHAT TO EXPECT FROM THE REU PROGRAM...



- ✧ **300+ hours of research lab experience**
- ✧ **Monthly, themed dinner seminars & the Year-End Symposium**
- ✧ **Research Ethics Training workshop**
- ✧ **Participation in the UC San Diego Undergraduate Research Conference (URC)**
- ✧ **Funds to travel to an academic conference and TDLC network meeting**
- ✧ **GRE preparation workshop**

WHAT TO EXPECT FROM THE REU PROGRAM...



300+ hours of research lab experience



WHAT TO EXPECT FROM THE REU PROGRAM...



2015-16 Monthly Dinner Seminars

BUT! We plan to start alternating Mondays and Tuesdays so everyone gets a chance...

October 6 th	REU Orientation
November 3 rd	Research Ethics Presentation
December 1 st	Dinner Seminar
January 21-23 rd	Fellows Retreat & All Hands Meeting
February 9 th	Dinner Seminar
March 7 th	Dinner Seminar
April 5 th	Dinner Seminar
May 31 st	Year-End Symposium

WHAT TO EXPECT FROM THE REU PROGRAM...



Undergraduate Research Conference (URC)

- UC San Diego faculty nominate based on outstanding work.
- Encourages undergraduates to pursue doctoral degrees and careers in research and college teaching.
- Organized by discipline-specific roundtable discussions.
- 5-7 students present their research papers with one or more faculty members serving as moderators.
- All participating students are awarded a Research Scholar certificate.
- “How to Present” Seminar: Mid-April, usually a week before conference

WHAT TO EXPECT FROM THE REU PROGRAM...



Travel Funds

- \$1100 combined to travel to an academic conference AND/OR a TDLC network meeting.
- Prepaid airfare can be arranged to avoid out of pocket expenses. Meals, hotel, ground transportation and registration are reimbursed *after* the event. **SAVE ALL RECEIPTS! SUBMIT REQUEST WITHIN 1 WEEK AFTER TRAVEL!**
- Discuss conference(s) of interest with your mentor.
- Regularly check TDLC and REU websites for upcoming meetings.
- All REU Trainees & Affiliates are expected to attend the TDLC *All Hands Meeting*.

WHAT TO EXPECT FROM THE REU PROGRAM...



Travel Funds (continued...)

- E.g., you could get \$550 towards travel to an *academic* conference (*SfN, ERN, iSLC*) and \$550 towards travel to a *TDLC network* meeting (*PEN, SMN, SIN, IMS*), or if necessary, combine it for one meeting.
- Approval from your Mentor and Kate required.
- Start looking into conferences now!

WHAT TO EXPECT FROM THE REU PROGRAM...



GRE Preparation Workshop

- Grad Pros Educational Consulting:
Michael P. Flynn, ED. M.
619-488-2131
gradpros@gmail.com
- Dates of 2015-16 GRE Preparation Workshops:
TBD 4 weekends 9:00 AM – 5:00 PM @SDSU
MUST attend all 4 days!
- Free Practice Test: <http://www.kaptest.com/pages/free-events>

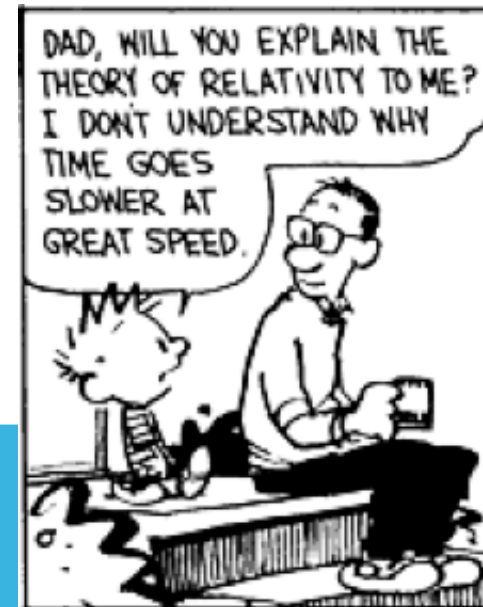
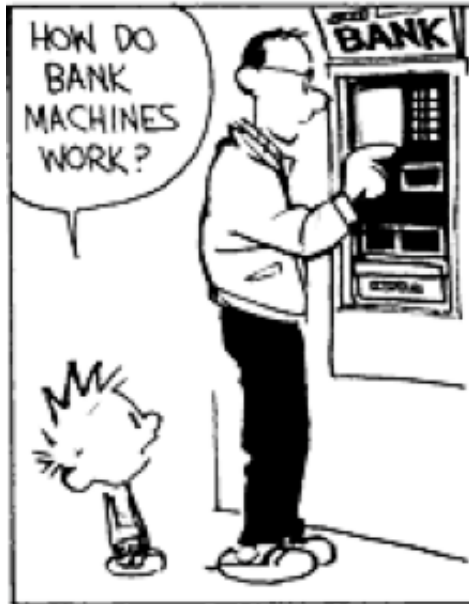
TDLC TRAINEES AND MENTORS...

2015 -16 REU Trainees:



Mary Graves.....	Bob Clark
Abdulaziz Hashi.....	Bob Clark
Scotty Vincent.....	Bob Clark
Nicole Butler	Andrea Chiba & Laleh Quinn
Luisa Schuster.....	Andrea Chiba & Laleh Quinn
Chandrika Kumar.....	Andrea Chiba & Alex Khalil
Emily Kent.....	Andrea Chiba & Alex Khalil
Rachel Pendakur.....	Andrea Chiba & Alex Khalil
Marisabel Coronado.....	Gedeon Deák
McKenna Williams.....	Gedeon Deák
Dara Moghavem.....	Virginia de Sa
Marlene Samano.....	Leanne Chukoskie
Nicole Suarez.....	Leanne Chukoskie
Shuying Yu.....	Christine Smith
Louis Wilkerson.....	Deborah Forster
Karlen Ulubabyan.....	Marga Behrens/Terry Sejnowski

QUESTIONS???



*Life passes in milliseconds,
but what we learn
in those milliseconds
changes us for life.*

